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Coal information



Coal information

with 2017 data **2018**

INTERNATIONAL ENERGY AGENCY

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INTRODUCTION

IEA *Coal Information 2018* is the latest edition of an annual publication providing comprehensive information on coal to policy and market analysts and those employed in all sectors of the coal industry.

This monitoring and reporting of historical trends and current energy market situation provides a strong foundation for policy and market analysis to better inform the decision process towards developing policies that are best suited to meet domestic and/or international objectives.

IEA *Coal Information 2018* brings together in one volume, statistics compiled by the IEA on coal supply, consumption, trade and prices for both member and non-member countries¹. It also includes information on coal by-products.

Part I provides important documentation that will assist the reader in correctly using the data in this publication and to understand the details of the statistical methodology and collection practices related to the coal data.

Part II presents, in tabular form, a statistical overview of world coal market in 2016 and 2017². It covers world coal production, coal trade, world coal supply, and coal consumption for selected end uses.

Part III provides in tabular and graphic form, a more detailed and comprehensive statistical picture of coal developments in the 35 OECD member countries, both by regional aggregate and individually. Detailed information pertinent to specific countries has been compiled these specificities are presented at the end

of Part III, along with a weighted average of the supply-side calorific values used for preparing national energy balances for each applicable fuel.

Part IV covers summary statistics on coal balances and trade (including partner) data for selected years for 22 major non-OECD coal-producing and consuming countries and economies, in addition to several regional aggregates.

Part V and Part VI provide the reference tables to the Part II review on coal production, consumption, trade and prices. It also includes some more specialised end-use tables and selected charts.

OECD data are taken from IEA/OECD databases of Energy Statistics that are based on annual, quarterly and monthly submissions from OECD member countries to the Secretariat. The Energy Data Centre of the IEA Secretariat works closely with national administration to secure consistent time series with particular regard for IEA product definitions and reporting conventions. This work is supplemented by the use of energy industry publications, national statistics reports and other material. Non-OECD data are based upon official information collected by the IEA Secretariat, official national submissions to the United Nations, and national energy publications. The resulting synthesis is published in *World Energy Balances* and *World Energy Statistics*. Users of this publication are directed to the Methodology section of that publication for more detail on individual non-Member countries covered here.

OECD coal balances and statistics, including itemized import and export data, along with world supply data are available on our online data service and CD-ROM. Information on ordering the data service or CD-ROM and other energy statistics publications is available at the end of this book and on the IEA website at www.iea.org/statistics. Moreover, data can also be obtained on a pay-per-view basis. Details are available at <http://data.iea.org>.

1. This publication is without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area. In addition, the term "country" refers to a country or a territory, as the case may be.

2. With the exception of some pricing data, most data for 2017 are provisional. Some provisional data, particularly for non-OECD economies, may have been estimated by the IEA Secretariat.

Price data in Parts II, III and V are derived from the quarterly publication *Energy Prices and Taxes*. Readers should consult this IEA/OECD publication for detailed information on methodology, data coverage and data sources. Country notes and documentation are available online in the *Energy Prices and Taxes* folder at: <http://wds.iea.org/wds/>.

Further information on reporting methodologies is also available on the IEA website.

Within the IEA Secretariat, annual energy data were collected by the Energy Data Centre (EDC) of the IEA Secretariat, headed by Duncan Millard.

The IEA would like to thank and acknowledge the dedication and professionalism of the statisticians working on energy data within national administrations, without whose work, this publication would not be possible.

Within the IEA, for OECD members, data were prepared: by Beatriz Martínez for coal, by Aidan Kennedy, Mark Mateo and Julian Smith for electricity, by Dae Yong Kwon and Samantha Mead for renewables, by Angela Ortega Pastor and Laura Thomson for oil, and by Faidon Papadimoulis and Aitor Soler Garcia for natural gas. OECD fuel data were prepared under the responsibility of Vladimir Kubecek

and Julian Prime for coal, electricity and renewables, and under the responsibility of Erica Robin for oil and natural gas. OECD energy balances data were prepared by Rémi Gigoux, under the responsibility of Roberta Quadrelli. Non-OECD countries statistics were prepared by Nicolas Coënt, Laila El-Ashmawy, Musa Erdogan, Markus Fager-Pintilä, Julia Guyon, Nikolaos Kordevas, Agnieszka Koscielniak, Dae Yong Kwon, Claire Morel, under the responsibility of Céline Rouquette.

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What's new?

New IEA Member: Mexico

Mexico became the International Energy Agency's 30th member country on 17 February 2018. Accordingly, starting with the 2018 edition, Mexico appears in the list of IEA Members and is included in the IEA zone aggregates for data starting in 1971 and for the entire time series.

New Association country: Brazil

Brazil joined the IEA as an Association country in October 2017. Accordingly, Brazil is now included in the IEA and Accession/Association countries aggregate for data starting in 1971 and for the entire time series.

COAL OVERVIEW

Summary

World coal production increased in 2017 by 225 Mt, an increase of 3.1% after falling for three years. At 7 549 Mt 2017 production remained 426 Mt lower than the peak production in 2013.

The growth was influenced by a 3.3% increase in coal production in the People's Republic of China, to 3 376 Mt, still lower than in each of the previous six years except 2016.

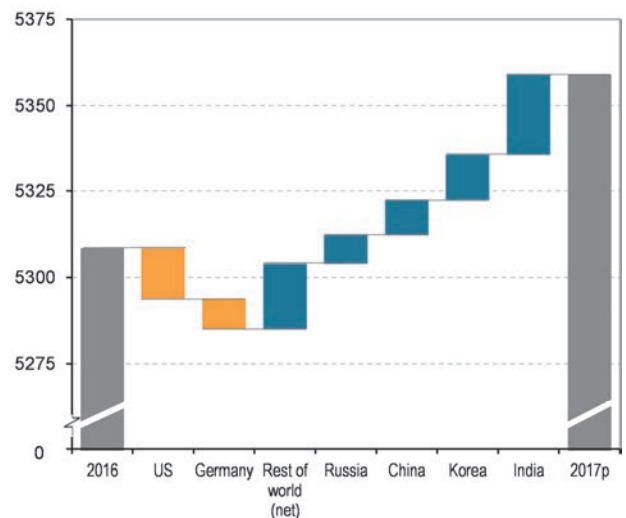
The People's Republic of China remained the largest coal consumer in the world with a 0.4% increase on 2016 levels.

After becoming the second largest consumer in 2015, India continued increasing its consumption in 2017 by 23.6 Mtce, a 4.4% increase compared to 2016 numbers. This growth was mainly driven by a higher coal demand for power generation. Conversely, for the fourth consecutive year, consumption in the United States decreased in 2017, reaching a new low of 473.1 Mtce. India and the United States experienced the largest increase and decrease of coal consumption respectively in 2017 (Figure 1).

An increase in the international demand for US coal, driven by Asian and European countries, offset the US decline in coal consumption, contributing to a higher coal production in 2017.

Indonesia and Australia remained the world's largest coal exporters in 2017, with 28.5% and 27.6% on a tonnage basis, despite Australia witnessing the major decline in coking coal exports in 2017, which led Indonesia to surpass Australian total coal exports

Figure 1: World coal consumption variation 2016-2017 (Mtce)



by 11.6 Mt. Over a quarter (28.9%) of Indonesian coal was exported to the People's Republic of China.

The Russian Federation and Colombia hit record exports in 2017, exceeding 2016 levels by 10.9% and 3.4% respectively.

The major increases in coking coal exports, after the United States (+13.0 Mt), took place in Mongolia and Mozambique, with Mongolia exceeding 2016 levels by 5.3 Mt and Mozambique by 3.1 Mt boosted by the new coal export terminal.

Electricity generation from coal-fired power plants in OECD countries fell by 1.1% to 3 011 TWh continuing with the efforts for the decarbonisation of the power sector, while total gross electricity production remained almost constant at 10 965 TWh.

Production

Total world coal production

World coal production declined in 2014 for the first time this century, which continued through 2015 and accelerated in 2016. However, the trend changed in 2017 showing an increase of 3.1%, 225 Mt higher, mainly boosted by the increase in the steam coal and lignite production. However, this increased level was still 426 Mt (5.3%) lower than the peak production in 2013.

Table 1: Total world coal production¹ (Mt)

	2015	2016	2017p
Steam coal	5 819.7	5 463.4	5 677.9
Coking coal	1 087.6	1 040.1	1 039.9
Lignite	823.7	820.7	831.0
Total² coal	7 731.0	7 324.2	7 548.8
Peat	10.1	9.8	.. ³
Oil Shale/sands	20.0	16.2	.. ³

1. Production includes recovered slurries and similar sources.
2. Total coal comprises steam coal, coking coal and lignite, so excludes peat, and oil shale and oil sands even though they are shown here for completeness.
3. Peat and oil shale and oil sands data are not currently compiled on a provisional basis for non-OECD countries.

Table 2: Major coal producers¹ (Mt)

	2015	2016	2017p
PR of China	3 563.2	3 268.2	3 376.1
India	683.1	711.7	729.8
United States	813.7	660.8	702.3
Australia	512.4	500.3	501.1
Indonesia	454.8	463.5	487.6
Russian Federation	351.7	366.3	387.2
South Africa	255.4	255.3	257.1
Germany	184.7	175.6	175.1
Poland	135.8	131.0	127.0
Kazakhstan	107.3	103.1	106.0
Other	668.9	688.4	699.5
World	7 731.0	7 324.2	7 548.8

1. Production includes recovered slurries and production from other sources.

Data for Australia and India are provided on a fiscal basis.

The People's Republic of China remained the world's leading coal producer, as it has been since 1985, with 3 376.1 Mt of total coal produced, 107.9 Mt (3.3%) higher than in 2016.

After an eight-year decline since 2008, production in the United States increased to 702.3 Mt in 2017, 6.3% higher compared to 2016 levels.

Despite these upturns, there are currently only ten coal producing countries that produce more than 100 Mt/y; the People's Republic of China's increase was more

than the entire 2017 production of Kazakhstan, the world's 10th largest coal producer.

Indonesia, one of the world's leading steam coal producers and exporters, increased production in 2017 by 24.1 Mt. India also saw a noticeable year-on-year increase in production of 18.1 Mt.

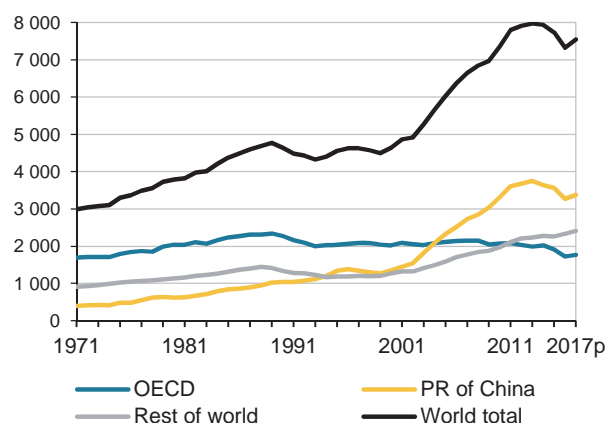
Mongolia and Mozambique occupied the sixth and seventh place of the largest increases in 2017 with an increase of 16.0 Mt, and 5.2 Mt respectively.

Within the general trend of increasing coal production, among the ten largest producers, only two countries, Poland (-4.0 Mt) and Germany (-0.5 Mt) saw lower production in 2017.

Since 2000, coal production in the People's Republic of China has increased by 149.2%, despite falling by 9.9% since 2013. In comparison, the OECD total coal production declined by 14.7% for the same period. The fall in 2016, 185.2 Mt, was the largest annual decline.

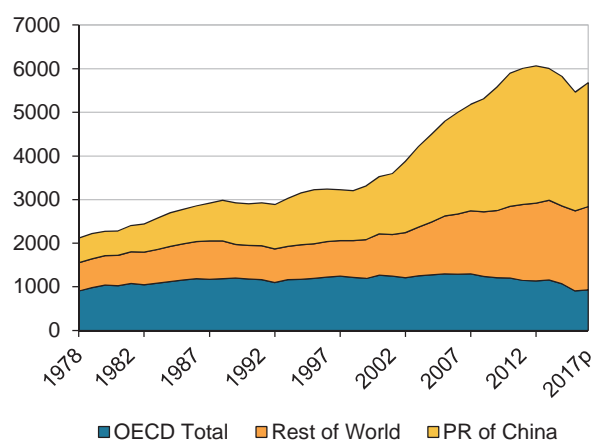
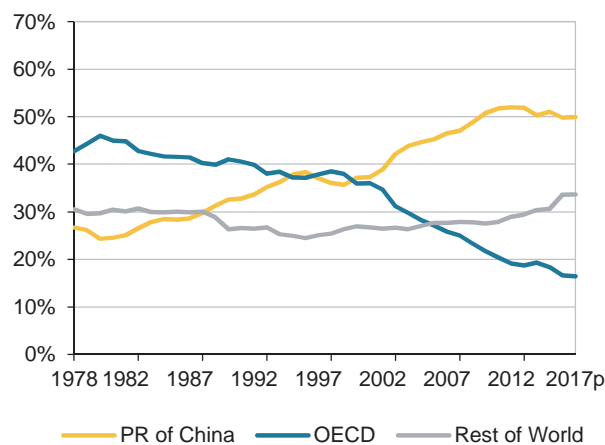
OECD coal production as a percentage of global production has fallen from 56.6% in 1971 to 23.4% in 2017.

Figure 2: World total coal production (Mt)



Steam coal production

In 1978, the OECD accounted for 42.8% of the world steam coal production and this figure remained above 37% until 2000. However, since then its share has declined, as non-OECD countries increased their steam coal production, predominantly led by the expansion of the Chinese coal industry since 2001 and OECD production fall. In 2017, the OECD's share (16.4%) was less than half its 1978 share, and its production decreased to 931.4 Mt, the lowest level since the start of the IEA's data series.

Figure 3: Steam coal production (Mt)

Figure 4: Shares in world steam coal production (%)


Coking coal production

2015 witnessed the first annual decrease in world coking coal production since 2002. This trend continued in 2016 falling to 1 040.1 Mt and remained practically flat in 2017, with world coking coal production reaching 1 040.0 Mt.

Australia, the world's second largest producer of coking coal after the People's Republic of China, saw a slight increase of 0.4% in 2017, after peaking in 2015 at 191.1 Mt and a small fall in 2016.

India showed a major decline of coking coal production in 2017 (-16.2 Mt) whilst increases occurred in the United States (+15.3 Mt), Mongolia (+5.8 Mt) and Mozambique (+3.1 Mt), which were mostly the result of a growth in production intended for export.

However, by far the most prominent story is production and consumption by the People's Republic of China.

Chinese production increased by 334.7% since 2000 to peak at 619.8 Mt in 2014 but subsequently dropped to 539.6 Mt in 2017, 1.4% lower than in 2016. The People's Republic of China increased its share of world production from 37.1% to 50.0% over the same period (2000-2017).

Lignite¹ production

Worldwide, lignite production increased in 2017 by 1.3% to 831.1 Mt. This is 31.4% lower than the peak of 1 210.9 Mt in 1989.

OECD lignite production broke the trend of four consecutive years decreasing with a slight growth of 0.2%, from 526.1 Mt in 2016 to 527.2 Mt in 2017.

Table 3: Major lignite¹ producers (Mt)

	2015	2016	2017p
Germany	178.1	171.5	171.3
Russian Federation	73.6	73.5	75.6
Turkey	56.1	70.2	74.1
United States	64.9	66.3	63.6
Poland	63.1	60.2	61.2
Australia	65.4	61.5	57.3
India	43.8	45.2	47.5
Serbia	37.8	38.4	39.8
Czech Republic	38.1	38.5	39.3
Greece	46.2	32.6	37.4
Other	156.6	162.8	164.0
World	823.7	820.7	831.1

1. Lignite does not include oil shale and oil sands.

Data for Australia and India are provided on a fiscal basis.

One of the main contributors was Turkey, which increased its lignite production to 74.1 Mt outperforming the United States, Poland and Australia, and ranking as the third largest lignite producer. Greece, the tenth largest producer also increased its production by 4.7 Mt, experiencing the largest increase in 2017.

While most of the countries on the top 10 showed increases, the United States and Australia declined its production by 2.7 Mt and 4.2 Mt respectively. Germany, the largest producer, remained its production flat at around the level of 171 Mt.

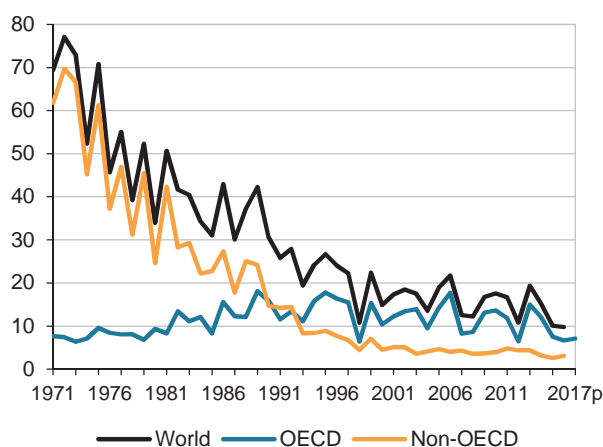
1. Production and consumption of lignite are reported as sub-bituminous coal in Indonesia, and under other bituminous coal (along with sub-bituminous coal) in the People's Republic of China. Both reclassifications significantly affect lignite statistics, as Indonesia has extensive lignite resources and reserves and markets for coals of lower quality exist, while the People's Republic of China is most likely the second largest producer and consumer of lignite globally.

Peat production

Productions (or harvests) can be highly variable and are weather dependent for both access to the peat bogs and for outdoor drying. Disruptions in 2012 for Ireland and Finland were prominent, with Ireland’s production of 1.5 Mt being the lowest since IEA records began in 1960, while peat production in Finland in 1998 dropped to 1.7 Mt from 10.4 Mt in 1997, before returning to 8.1 Mt in 1999.

Despite interannual oscillations, world peat production has followed a relatively steady decline from 69.5 Mt in 1971 to 30.5 Mt in 1990, 14.9 Mt in 2000, and 9.8 Mt in 2016 as non-OECD production fell from 89% of global production in 1971 to 32.1% in 2016.

Figure 5: World peat production (Mt)



Trade

World coal trade

Export trade of all types of coal in the world increased by 3.3% in 2017, from 1 326.9 Mt in 2016 as steam coal exports increased by 26.2 Mt (2.6%) and coking coal exports increased by 13.9 Mt (4.5%). The 2017 level is 27.8% above 2010 level, and total exports have more than doubled (119.5%) since 2000.

Overall, global trade in steam and coking coal, reached 1 192.1 Mt in 2017, 23.5% of coal consumption on an energy basis.

Global trade has been growing faster than global consumption on a relatively consistent basis, as evidenced

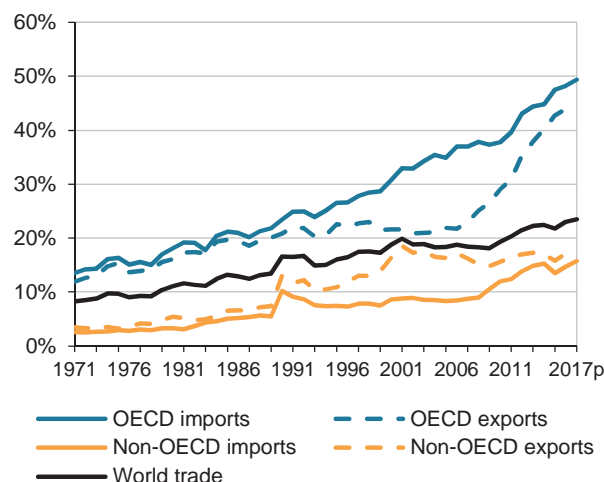
in Figure 6 which shows regional trade as a portion of consumption on an energy basis. However in 2015, world trade decreased slightly to 21.8% of consumption, but increased in 2016 and 2017 to 23.5%, the highest level.

Table 4: World coal trade (Mt)

	2015	2016	2017p
Steam coal exports	990.2	1 003.7	1 029.9
Coking coal exports	305.3	313.2	327.2
Lignite exports	9.5	9.9	13.2
Steam coal imports	1 038.9	1 034.4	1 087.8
Coking coal imports	261.3	278.7	294.0
Lignite imports	5.2	5.2	5.1
Total exports	1 305.0	1 326.9	1 370.3
Total imports	1 305.4	1 318.3	1 386.9
Balancing item	0.3	-8.6	16.6

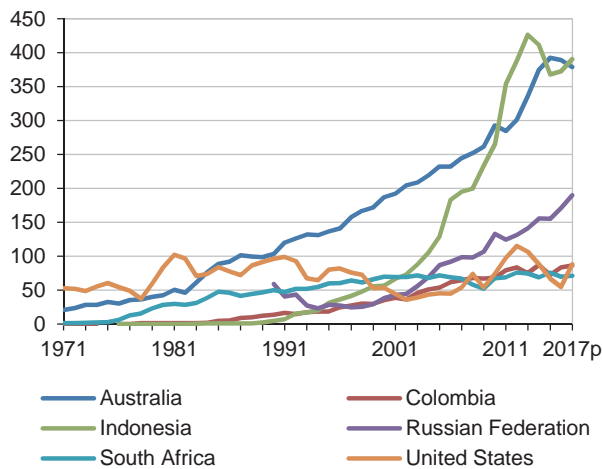
Note: The balancing item is the difference between total coal imports and total coal exports. This is primarily due to the different coal classification methodologies used by the importing and exporting countries, which does not hold on a global basis. It also occurs because of coal in-transit, coal that is unaccounted for, and reporting discrepancies by importing and exporting countries.

Figure 6: Steam and coking coal trade as a percentage of consumption



Exports

Indonesia and Australia remained the world’s largest coal exporters in 2017, with respectively 28.5% and 27.6% of exports on a tonnage basis. After two years as the largest exporter, Australia was overtaken again by Indonesia in 2017 by 11.6 Mt, reflecting their increased imports to the People’s Republic of China. Exports to the People’s Republic of China reached 113.0 Mt representing 28.9% of the total Indonesian exports in 2017. Other main export destination countries for Indonesian coal were India (25.3%), Korea (10.5%) and Japan (8.1%).

Figure 7: Total coal exports by major exporters (Mt)

The Russian Federation and Colombia saw record exports in 2017, exceeding 2016 levels by 10.9% and 3.4% respectively. Despite its increase in domestic consumption, the Russian Federation, the third largest exporter, contributed with 189.7 Mt, representing a share of 13.8%. While coal production and domestic-consumption in Colombia decreased by 1.2% and 22.9% respectively, exports increased to 86.1 Mt, a growth of 3.4% with Colombia exporting 96.3% of its coal production.

Table 5: Major coal exporters (Mt)

	2015	2016	2017p
Indonesia	368.0	372.9	390.6
Australia	392.3	389.3	378.9
Russian Federation	155.2	171.1	189.7
United States	67.1	54.7	88.0
Colombia	72.8	83.3	86.1
South Africa	75.8	69.9	71.0
Mongolia	14.7	24.1	33.4
Canada	30.5	30.3	31.1
Kazakhstan	31.2	26.0	27.1
Netherlands ¹	36.6	34.6	24.4
Other	60.8	70.7	50.0
OECD Americas	98.4	85.9	119.9
OECD Asia Oceania	393.7	390.5	380.1
OECD Europe	54.9	50.7	36.4
OECD Total	547.1	527.1	536.5
Africa + Mid. East	81.5	80.0	83.5
Other Asia Oceania	414.4	437.4	445.3
Oth. Europe + Eurasia	188.2	198.4	218.3
Other Americas	73.7	84.1	86.7
Non-OECD Total	757.9	799.9	833.8
World	1 305.0	1 326.9	1 370.3

1. For 2013 data and onwards, the Netherlands made a conscious decision to stop trying to account for coal in transit. As a consequence there was a very large increase in both their imports and exports leading Netherlands to be the 10th largest coal exporter despite having no indigenous production and the world's 7th largest coal importer.

Data for India and Japan are provided on a fiscal basis.

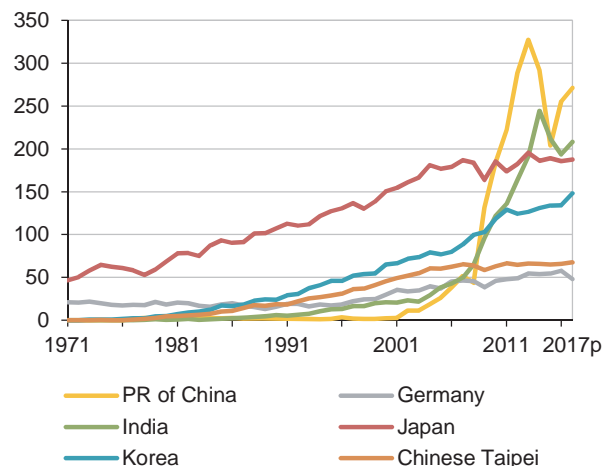
After the decline in 2016 of United States exports, by 52.5% compared to 2012 levels, the United States exported 88.0 Mt of coal in 2017, a 61% increase from the 2016 level.

Steam coal, accounted for most of the increase in United States coal exports in 2017, with India, Korea and Japan as three of the main destinations. India, the largest importer of steam coal from the United States, imported nearly three times as much in 2017 as in 2016, up 6.8Mt.

The combination of the ten largest exporting countries delivered 96.4% of global coal exports during 2017.

Imports

Total world coal imports were 1 386.9 Mt in 2017, a 5.2% increase from 2016. The main contributor to this rise was the People's Republic of China whose imports increased by 6.1% in 2017, to 271.1 Mt, growing for a second consecutive year from the 30.0% drop seen in 2015.

Figure 8: Total coal imports by major importers (Mt)

Traditionally an exporter, Viet Nam turned into an importer in 2005. Imports by Viet Nam have been growing since then to reach 16.5 Mt in 2017. This is 3.3 Mt up compared to 2016. Other countries that experienced an increase in 2017 were Pakistan (+94%) and Poland (+59%) despite the decline in its domestic consumption. In contrast to these increases, the most notably decline in 2017 occurred in Germany (-9.8 Mt), reflecting lower consumption in electricity generation.

In Asia Oceania (including China), imports increased to 1019.7 Mt (73.5% of all imports) from 958.1 Mt, or

72.7% in 2016, with the top five individual importers being from this area, as has been the case since 2009. Although China is responsible for the most significant proportion, Japan, Chinese Taipei and Korea imported significant quantities of steam coal for electricity generation and coking coal for steel production in 2017.

The next five largest importing countries were from Europe or Eurasia. However their combined 2017 imports of 187.0 Mt, were almost equal to the Japan's coal imports.

Table 6: Major coal importers (Mt)

	2015	2016	2017p
PR of China	204.1	255.6	271.1
India	212.1	193.6	208.3
Japan	189.3	186.0	187.5
Korea	134.0	134.5	148.2
Chinese Taipei	64.8	65.6	67.6
Germany	54.5	57.8	48.0
Netherlands ¹	57.1	49.5	40.3
Turkey	34.0	36.2	38.3
Malaysia	25.5	27.2	31.5
Russian Federation	24.1	24.0	29.0
<i>Other</i>	305.9	288.3	317.1
<i>OECD Americas</i>	35.4	35.1	36.1
<i>OECD Asia Oceania</i>	334.8	329.7	344.8
<i>OECD Europe</i>	263.6	237.8	234.0
OECD Total	633.8	602.7	614.8
<i>Africa + Mid. East</i>	14.4	15.2	14.2
<i>Other Asia Oceania</i>	583.7	628.4	674.9
<i>Oth. Europe + Eurasia</i>	47.3	46.7	56.4
<i>Other Americas</i>	26.2	25.3	26.6
Non-OECD Total	671.6	715.6	772.1
World	1 305.4	1 318.3	1 386.9

1. For 2013 data and onwards, the Netherlands made a conscious decision to stop trying to account for coal in transit. As a consequence there was a very large increase in both their imports and exports leading Netherlands to be the 10th largest coal exporter despite having no indigenous production and the world's 7th largest coal importer.

Data for India and Japan are provided on a fiscal basis.

Steam coal trade

In 2017, steam coal imports in the Asia-Oceania market increased by 52.3 Mt to 798.1 Mt, 261.7 Mt of which was to OECD countries. Asia-Oceania imports represented 73.4% of total world steam coal trade in 2017, up from 72.1% in the previous year.

The People's Republic of China's steam coal imports increased by 6.1% to 201.2 Mt in 2017, making it the largest steam coal importer followed by India, which increased by 10.0% to 161.3 Mt. Other major importers in the region were Japan (140.1 Mt – up 1.8%), Korea (112.6 Mt – up 13.5 %) and Chinese Taipei (61.0 Mt – up 3.3 %).

In 2017, the major steam coal suppliers to the Asia Oceania market were Indonesia (383.0 Mt), Australia

(205.6 Mt), the Russian Federation (84.2 Mt), and South Africa (64.9 Mt).

Steam coal imports in the Europe/Eurasian market remained flat at 221.7 Mt in 2017. This market now represents 20.4% of total world steam coal trade, compared to 39.7% in 2000 and 65.4% in 1991, which included new international trade between members of the Former Soviet Union.

Within the region, the major Europe/Eurasian importers were the Netherlands with national imports and transit stocks (36.0 Mt) 20.0% lower than in 2016, Germany (35.1 Mt, down 10.4 Mt) the largest drop in 2017, Turkey (30.4 Mt) continuing with an increasing trend since 2013, the Russian Federation (17.4 Mt) predominantly from Kazakhstan and Italy (13.5 Mt).

The 2017 main steam coal suppliers to this market were the Russian Federation (78.8 Mt), Colombia (50.0 Mt), the United States (18.9 Mt) and South Africa (11.2 Mt).

Coking coal trade

Total world coking coal exports increased by 4.5% to 327.2 Mt in 2017. Australia remained by far the largest exporter of coking coal at 177.2 Mt, accounting for 54.2% of coking coal exports, down from 60.0% in 2016.

Table 7: Major coking coal exporters (Mt)

	2015	2016	2017p
Australia	187.7	188.0	177.2
United States	41.7	37.1	50.1
Canada	28.0	28.0	29.0
Mongolia	12.5	20.4	25.7
Russian Federation	18.5	21.7	22.8
<i>Other</i>	16.9	18.1	22.4
World	305.3	313.3	327.2

Data for Australia are provided on a fiscal basis.

The United States remained, the second largest coking coal exporter with a volume of 50.1 Mt, up by 35.0% from 37.1 Mt in 2016, while third-ranked Canada remained relatively flat exporting 29.0 Mt of coking coal. Exports from Mongolia continued increasing in 2017 by 26.0%, to 25.7 Mt from 20.4 Mt in the previous year, widen the gap with the Russian Federation whose exports increased by 4.7% reaching a volume of 22.8 Mt.

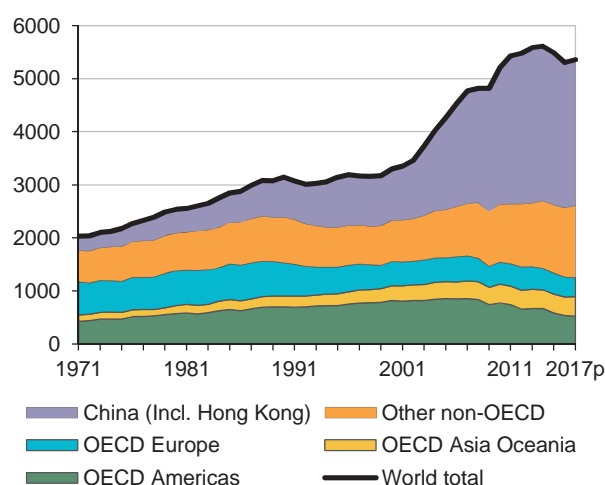
The combined total of the five largest exporters accounted for 93.1% of the global coking coal exports in 2017, one percentage point lower than in 2016. This difference was covered by Mozambique exports, boosted by the new coal export terminal at the port of Nacala-a-Velha, in Mozambique's Nampula province.

Consumption

Total coal consumption²

In 2017, total global coal consumption in energy terms increased by 1.0% or 50.4 Mtce, as OECD consumption decreased by 8.2 Mtce (0.6%) and non-OECD countries increased consumption by 58.6 Mtce (1.4%). The new OECD coal consumption level of 1 257.4 Mtce was the lowest level since 1979 and was 24.4% lower than the maximum coal consumption by OECD countries of 1 664.0 Mtce in 2007.

Figure 9: World coal consumption (Mtce)



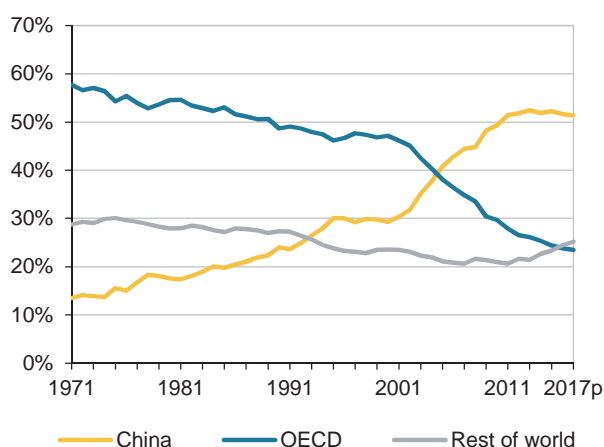
Consumption in the People’s Republic of China rose by 0.4% in 2017, or 10.5 Mtce to 2 743.2 Mtce, its first rise in coal energy consumption since 2013.

Steel production and cement manufacture are industries strongly dependant on coal, and across these industries China is the world’s largest producer. In 2016 the People’s Republic of China produced 449 Mt of coke oven coke (66.9% of world production), 808 Mt of crude steel (49.6% of world production), 698 Mt of pig iron (60.0% of world production), and around 2.40 Gt of cement (58.4% of world production)³.

2. Total coal refers to the sum of anthracite, other bituminous coal, coking coal, sub-bituminous coal and lignite, converted to a common energy unit, million tonnes of coal equivalent (Mtce). Consumption data for the provisional year (2017p) for non-OECD countries, unless supplied, are estimated from production and trade data obtained from partner countries and other secondary sources. Stock changes are usually not accounted for.

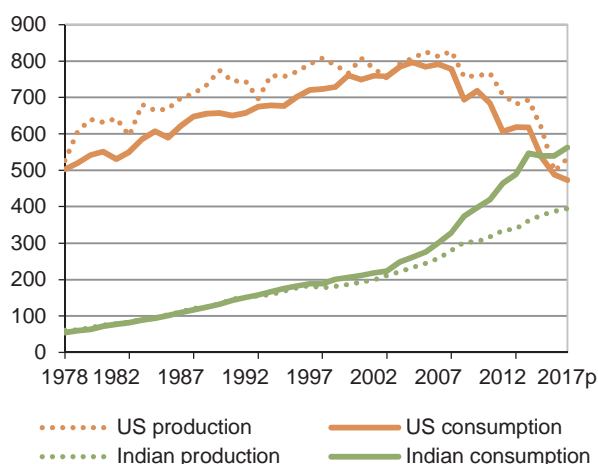
3. Iron and steel data are provided by the World Steel Association and cement data by the United States Geological Survey.

Figure 10: Shares in world coal consumption (%)



India, which became the second largest consumer after having overtaken the United States in 2015, continued increasing its consumption in 2017. The growth was mainly due to the higher use of steam coal that compensated the drop seen for coking coal, with a total increase of coal consumption of nearly 4.4%, or 23.6 Mtce. Conversely, for the fourth consecutive year, consumption in the United States decreased in 2017, reaching its minimum value, 473.0 Mtce, since 1978.

Figure 11: India vs. US coal consumption (Mt)



India and the United States experienced the major increase and decrease of coal consumption respectively in 2017.

Domestic coal consumption in Indonesia increased by 6.9% in 2017 to reach 66.1 Mtce. The country has kept a constant growth pace during the last six years, reflected an increase of 27.7 Mtce or 72.0% since 2011.

Looking at the OECD, the United States, Germany and the United Kingdom together witnessed a decline of 26.8 Mtce. Consumption changes in these three countries counterbalanced the growth of coal consumption in Korea reaching a new high of 129.1 Mtce, an increase of 13.1 Mt compared to 2016 numbers. Despite the remaining OECD countries reporting increased consumption of 5.5 Mtce, overall OECD total consumption decreased by 0.6%.

Steam coal consumption

World steam coal consumption was up 1.4% in 2017, increasing by 79.0 Mt. Steam coal consumption in the OECD decreased by 6.2 Mt to 1 158.0 Mt, including the decrease of 15.6 Mt in the United States and 9.2 Mt in Germany.

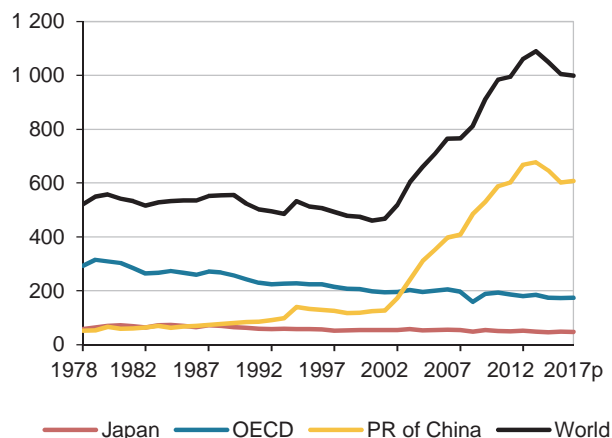
Table 8: Major steam coal¹ consumers (Mt)

	2015	2016	2017p
PR of China	3 141.4	3 041.5	3 046.5
India	745.2	755.0	805.6
United States	633.2	576.1	560.5
South Africa	176.8	182.7	182.9
Japan	143.7	139.0	141.5
Korea	100.6	99.2	114.3
Indonesia	86.8	90.6	97.0
Russian Federation	85.8	85.4	94.9
Kazakhstan	58.3	61.2	61.1
Poland	58.5	61.5	61.1
Chinese Taipei	57.3	58.8	61.0
Australia	47.9	51.6	56.9
Other	506.9	485.1	483.5
World	5 842.4	5 687.7	5 766.8

1. Steam coal comprises anthracite, other bituminous coal and sub-bituminous for all countries.
Data for Australia, India and Japan are provided on a fiscal basis.

Coking coal consumption

Figure 12: World coking coal consumption (Mt)



Global coking coal consumption fell by 6.7 Mt or 0.7% in 2017 to 997.9 Mt, a decrease of 536.5 Mt or 116.3% since 2001. Consumption within the People’s Republic of China accounts for 60.9% of global coking coal consumption.

Coking coal consumption in the OECD increased by 0.7% to 174.5 Mt in 2017, remaining 11.4% below the pre-economic crisis level in 2008.

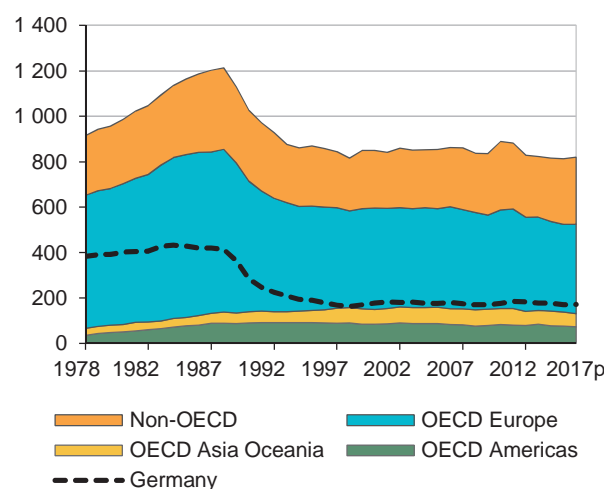
Lignite⁴ consumption

Table 9: Major lignite consumers (Mt)

	2015	2016	2017p
Germany	177.0	171.0	171.4
Turkey	56.7	68.0	71.7
Russian Federation	72.2	69.4	70.3
United States	67.9	67.2	64.3
Poland	63.0	60.4	61.2
Australia	65.4	61.5	57.3
India	42.2	45.2	47.5
Serbia	38.4	39.0	40.2
Czech Republic	37.8	38.2	37.7
Greece	44.3	34.2	37.7
Other	151.7	159.2	161.2
World	816.6	813.5	820.5

Data for Australia and India are provided on a fiscal basis.

Figure 13: World lignite consumption (Mt)



Note: Areas are cumulative. Lines are individual.

4. Production and consumption of lignite are reported as sub-bituminous coal in Indonesia, and under other bituminous coal (along with sub-bituminous coal) in the People’s Republic of China. Both reclassifications significantly affect lignite statistics, as Indonesia has extensive lignite resources and reserves and markets for coals of lower quality exist, while the People’s Republic of China is most likely the second largest producer and consumer of lignite globally.

The 2017 global lignite consumption was 820.5 Mt, decreasing by 7.0 Mt or 0.9% from 2016.

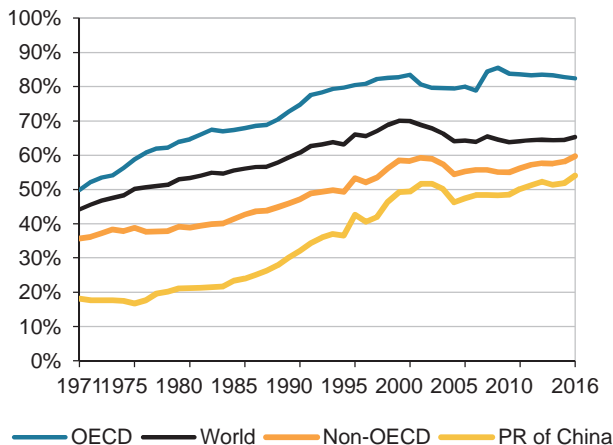
Germany remained the largest producer and consumer of lignite in 2017, using 171.4 Mt, ahead of Turkey (71.7Mt), which became the second largest consumer of lignite in 2017, and the Russian Federation (69.8 Mt). United States consumption decreased by 4.3%, and Australia saw a lignite consumption fall of 4.2 Mt to become the sixth largest consumer.

Lignite consumption in OECD countries fell to its lowest level since 1978 after a new decrease of 0.1% from 2016 to 524.5 Mt.

Uses of coal

Coal continues to be primarily used for the generation of electricity and commercial heat, with 65.3% of primary coal being used for this purpose globally in 2016, rising to 82.4% in OECD countries.

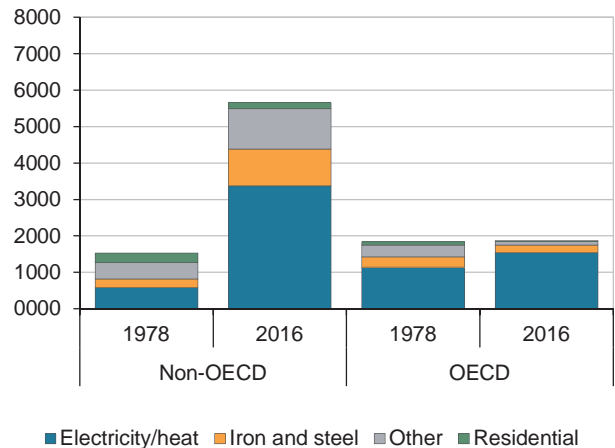
Figure 14: Percentage of primary coal used for electricity and commercial heat production



Coal comprises steam coal, coking coal and lignite. Power and commercial heat produced from derived products is not shown here, and instead counts as consumption in transformation to manufacture the secondary fuel.

The decline in the use of coal for residential and commercial purposes in OECD countries over the past 40 years counterbalanced the increase in power generation. Coal consumption in OECD countries increased by 1.7% compared to 1978 whilst consumption in non-OECD countries nearly tripled over the same period, mainly driven by a higher use of coal for electricity and heat generation and the Iron and steel sector.

Figure 15: Primary coal's OECD and Non-OECD breakdown by broad activity (Mt)



Residential also contains data for the Commercial and public services sector. Iron and steel includes coke oven coke manufacture and PCI/GCI. In addition to other conventional consumption, Other includes non-specified industry, which may contain iron and steel consumption, and also non-energy uses.

In OECD countries in 2017, the share of electricity and heat produced from primary coal as a fuel fell to a new low of 26.9%, down from 27.3% in 2016 and 44.4% in 1985.

Looking at the three OECD regions, we see differing pathways, with OECD Europe declining to 21.0% in 2017 from 49.1% in 1971, while the OECD Americas dropped from 41.0% in 1971 to 26.6% in 2017. Meanwhile in OECD Asia Oceania, generation from coal has risen from 18.0% in 1971 to 39.9% in 2017.

To date, despite the wide variety of factors, the global share of heat and power generated from coal has remained around 40% over the last 40 years as generation outputs have grown from 22.3 Exajoules (EJ) in 1971 to 104.3EJ in 2016. Despite the historical growth, the share of heat and power generated from coal was 38.8%, the lowest share since 2004.

In the non-OECD countries, electricity production from all coal sources contributed 46.5% of total gross electricity production, with steam coal as the leading fuel of electricity.

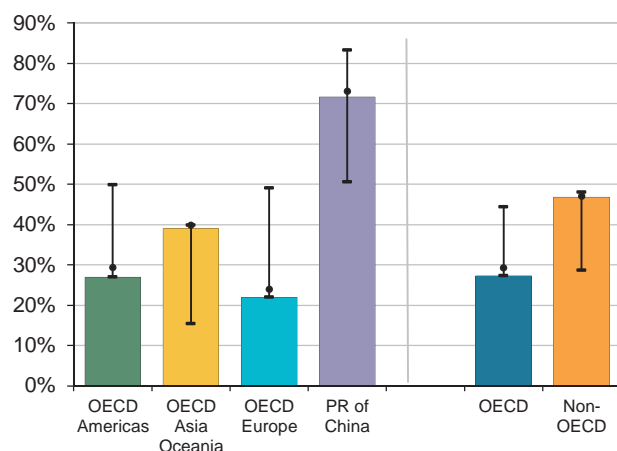
Gross electricity production in 2017 in the OECD (excluding generation from pumped storage plants) remained almost constant at 10 965 TWh, an increase of 0.2% compared to 2016, while the share of electricity generated from coal-fired plants in OECD countries fell by 1.1% to 3 011 TWh due to the efforts for the decarbonisation of the power sector.

Heat produced in combined heat and power (CHP) or heat only plants was 3 159 PJ during this period, down 3.8% from 3 209 PJ, while the share of heat produced from coal-fired plants in OECD countries declined to 716 PJ from 744 PJ in 2016.

If we look at electricity and heat generated in 2017 and adopt 2016 efficiencies, the potential coal inputs in OECD countries for electricity and heat generation fell to 992.7 Mtce – a potential decrease of 12.5 Mtce or 1.2%.

Coal is also essential for the iron and steel industry and its use there has increased substantially during the last 40 years, driven primarily by increased production in China. Non-OECD countries account for 82.9% of the total global consumption of coal within the iron and steel sector.

Figure 16: Share of electricity and heat produced from primary coal in 2016 (%)



Each vertical line illustrates the historical highest-lowest value (top-bottom). The round point corresponds to 2015 level.

Pulverised coal injection (PCI)

The latest available data for 2016 shows that total PCI consumption increased by 1.6% or 0.8 Mt. This was driven by the increase in several countries, amongst them, Finland with an increase of 0.3 Mt, the United States with +0.6Mt and the Russian Federation, 1.2 Mt, close to the drop seen in Korea consumption (-1.3 Mt).

The top five reported PCI consumers (Japan, Korea, the Russian Federation, Germany, and India) accounted for 70.7% of all PCI consumption, down from 72.1% in 2015.

Countries which are listed in Table 10 are starting to use PCI techniques as it is the case of Finland since autumn of 2015. Other emerging economies are injecting

metallurgical quality coal, but are not yet providing statistics in this area. For example, reasonable estimates for the magnitude of PCI use in the People’s Republic of China could outweigh the entire table above.

Table 10: PCI used in blast furnaces (major consumers in thousand tonnes)

	2014	2015	2016
Japan	14 207	14 005	14 043
Korea	8 827	9 592	8 266
Russian Federation	4 020	5 080	6 264
Germany	4 650	4 881	4 841
India	3 237	3 390	3 390
France	2 840	2 423	2 359
Chinese Taipei	2 190	2 161	2 066
United States	1 207	870	1 462
Netherlands	1 398	1 496	1 459
United Kingdom	1 513	1 544	1 364
Belgium	1 080	1 035	1 243
Italy	1 021	672	855
Spain	780	879	819
Austria	230	764	805
Turkey	651	690	660
Slovak Republic	655	608	586
Sweden	396	313	441
Czech Republic	276	300	319
Finland	..	53	304
Poland	184	270	283
Serbia	37	56	74
Australia	37	60	73
Norway	190	60	55
World	49 695	51 216	52 031

Data for Australia, India and Japan are provided on a fiscal basis.

Data for OECD countries are shown here as submitted, and this may differ from consumption data available elsewhere where portions may have been moved from blast furnace transformation to consumption in the iron and steel industry as part of the IEA blast furnace model.

See Table 4.4 in Part VI for other countries and historical data. Includes granular coal injection for some countries. Data for PR China are not available.

Coal resources and reserves

Coal reserve estimates

In its 2017 study⁵, the German Federal Institute for Geosciences and Natural Resources (BGR) estimates that proven economically recoverable global coal reserves were 1 032.1 billion tonnes, an increase of 3.1 billion tonnes from its 2016 study.

5. *Reserves, Resources and Availability of Energy Resources*, Federal Institute for Geosciences and Natural Resources, Hanover, Germany, 2017.

Table 11: Changes in production at current levels over time. World and China (Gt)

Coal Edition	Proven reserves		Production		Years	
	World	China	World	China	World	China
2003	984.5	114.5	4.86	1.45	202.6	79.0
2004	907.3	114.5	4.91	1.54	184.8	74.4
2005	909.1	114.5	5.27	1.82	172.5	62.9
2006	989.5	114.5	5.66	2.09	174.8	54.8
2007	934.9	133.2	6.02	2.32	155.3	57.4
2008	1 019.3	192.0	6.37	2.52	160.0	76.2
2009	989.9	192.0	6.64	2.72	149.1	70.6
2010	997.2	191.6	6.84	2.84	145.8	67.5
2011	1 000.5	191.6	6.97	3.04	143.5	63.0
2012	1 003.8	191.6	7.35	3.32	136.6	57.7
2013	1 037.6	191.6	7.80	3.61	133.0	53.1
2014	1 052.1	191.6	7.92	3.68	132.8	52.1
2015	968.2	128.0	7.97	3.75	121.5	34.1
2016	984.6	131.6	7.93	3.64	124.2	36.2
2017	1 029.0	133.7	7.73	3.56	133.1	37.6
2018	1 032.1	135.9	7.28	3.24	141.8	41.9

Reserves data from 2003 to 2005 are from the World Energy Council, while other data are provided by BGR.

Reserve data are as submitted in initial publications. Production data are inclusive of current country revisions.

These proven reserves represent 141.8 years of production at current levels, up from 133.5 years in 2016 as reserves increased by 0.3% and production decreased by 5.6%. Overall, the long-term trend showed a decreasing number of years available at given

production up to 2013 with sustained recovery in the past three years.

Current world hard coal total resources are estimated to be 17.7 trillion tonnes, or over 17 times current proven reserves, while lignite resources amount to another 4.4 trillion tonnes. So taking the example of the People's Republic of China, proven reserves are deemed to currently constitute just 2.5% of their total hard coal resources (5.3 Tt).

Geographic location of proven coal reserves

Although coal resources are widely distributed around the world⁶, proven coal reserves tend to be concentrated in the countries which rely on coal for domestic energy or export revenue.

The People's Republic of China accounts for 13.2% of proven reserves while India accounts for a 9.5%. OECD countries controlled 48.3% of the proven total coal reserves in 2016, with United States as the main contributor with a 24.3% in 2016.

Proven reserves in the top five producing countries account for 525 Gt of hard coal and nearly 127 Gt of lignite, for 73.4% and 40.1% respectively of global proven reserves. If you then include the 6th largest producer, the Russian Federation, this becomes 83.1% of hard coal reserves and 68.8% of lignite reserves.

6. The range of definitions of coal resources and reserves and an overview of the national classification systems is provided in an Appendix to *Major Coalfields of the World*, IEA Coal Research, London, June 2000.

PART I

EXPLANATORY NOTES

1. DEFINITIONS OF PRODUCTS AND FLOWS

The energy statistics tables provide a set of commodity balances for all sources of energy (“products”): primary coal and coal products, peat, natural gas primary oil and oil products, solid biofuels, liquid biofuels, biogases, waste, as well as electricity and heat, which are derived from various sources.

Each commodity balance is divided into three main blocks of “flows”: from top to bottom, the first showing *supply*, the second showing the *transformation processes* and *energy industries*, and the third showing *final consumption*, broken down into the various end-use sectors.

The definitions of products and flows presented in this chapter are based on those of the *Joint IEA/Eurostat/UNECE annual energy questionnaires*¹, and on the United Nations *International Recommendations on Energy Statistics*.²

Products

Coal

Coal is a family name for a variety of solid organic fuels and refers to a whole range of combustible sedimentary rock materials spanning a continuous quality scale. For convenience, this continuous series is often divided into two main categories, which are themselves divided into two subcategories:

- Hard coal
 - Anthracite

- Bituminous coal
 - Coking coal
 - Other bituminous coal
- Brown coal
 - Sub-bituminous coal
 - Lignite

In cases where data are presented in Mtoe or Mtce in this book and sourced to OECD/IEA *World Energy Balances*, the term “Coal” includes all primary coal types listed above, and coal products (patent fuel, coke oven coke, gas coke, coal tar, BKB, coke oven gas, gas works gas, blast furnace gas, and other recovered gases). For simplicity in some cases, coal, peat for energy use, peat products and oil shale and oil sands are shown together as coal.

Classifying different types of coal into practical categories for use at an international level is difficult for two reasons:

Divisions between coal categories vary between classification systems, both national and international, based on calorific value, volatile matter content, fixed carbon content, caking and coking properties, or some combination of two or more of these criteria.

Although the relative value of the coals within a particular category depends on the degree of dilution by moisture and ash and contamination by sulphur, chlorine, phosphorous and certain trace elements, these factors do not affect the divisions between categories.

Coal quality can vary and it is not always possible to ensure that the available descriptive and analytical information is truly representative of the body of coal to which it refers.

1. www.iea.org/statistics/resources/questionnaires/annual/.
2. http://unstats.un.org/unsd/energy/ires/IRES_Whitecover.pdf.

The International Coal Classification of the Economic Commission for Europe (UNECE) recognises two broad categories of coal:

- i) **Hard coal:** Coal of gross calorific value not less than 5 732 kcal/kg (24 GJ/t) on an ash-free but moist basis and with a mean random reflectance of vitrinite of at least 0.6 percent.
- ii) **Brown coal:** Non-agglomerating coal with a gross calorific value less than 5 732 kcal/kg (24 GJ/t) and with a mean random reflectance of vitrinite of less than 0.6 percent.

The IEA has adopted the basis of these definitions of hard coal and brown coal in this book and in other publications for presenting statistics relating to coal production, trade and consumption throughout the history of these publications.

Over 20 international organisations including the International Energy Agency, Eurostat and the United Nations Statistics Division have been collaborating since 2005 under the umbrella of the Intersecretariat Working Group on Energy Statistics (InterEnerStat) to harmonise a collective energy vocabulary between organisations and anticipate future needs. This work was also to feed into the UN's International Recommendations for Energy Statistics:

<http://unstats.un.org/unsd/energy/ires/default.htm>.

The harmonised suite of product and energy flow definitions are available at:

www.iea.org/interenerstat_v2/meetings.asp.

It should be stressed that this classification system is based on the inherent qualities of the coal in question and not on the final use of the coal. In this way the classification system attempts to be objective and simple to apply, which should also minimise the differences between reported data from consumer and producer nations or producers and consumers on a national basis.

Some countries however may still choose to report consumption by classification based on or guided by usage, so data presented in this book may differ from those presented in the national publications of individual countries because the countries may have adopted a different coal classification and reporting system that better suits their particular national needs. As far as possible, national coal statistics reported by the IEA in this book and in other publications have been adjusted to be consistent with the IEA definitions noted above, however this may not always be the case.

In order to improve the information base for coal market analysis and projections, these two main categories of coal have been further sub-divided in IEA/OECD Coal Statistics from 1978 as follows:

Hard coal

Hard coal is calculated as the sum of anthracite and all bituminous coals.

- **Anthracite** is a high-rank, hard coal used mainly for industrial and residential heat raising.
- **Bituminous coal** is a medium- to high-rank coal used for gasification, industrial coking and heat raising and residential heat raising:
 - Bituminous coal that can be used in the production of a porous coke capable of supporting a blast furnace charge is known as **coking coal**.
 - **Other bituminous coal**, not included under coking coal, may also be commonly known as thermal coal; however this less formal grouping increasingly tends to include a range of brown coals. Also included in other bituminous coal statistics are recovered slurries, middlings and other low-grade, higher-rank coal products not further classified by type.

Due to the differing nature of the criteria for these coal types, in some cases it is possible to fulfil some, but not all criteria. In this case a judgement call needs to be made. As a general rule, para-bituminous and ortho-bituminous coals tend to be classed as other bituminous coal despite failing to meet one of the calorific or vitrinite mean random reflectance criteria requisite for hard coal classification.

Primary coal used in pulverised (or granular) coal injection in blast furnaces is commonly abbreviated to PCI (or GCI) coal. In this book PCI includes GCI. The IEA does not have a separate product classification for PCI as the term defines a particular end-use for coal. In IEA statistics, PCI is generally included in steam coal, with the exception of Japan, Korea, the Netherlands, Poland, the Slovak Republic, Turkey (for some years) and the United Kingdom, where it is included with coking coal. This also means that production and trade of PCI suitable coal are not available in this book.

Note: In editions prior to Coal Information 2014, for the following countries, hard coal data also contained sub-bituminous coal: Australia, Belgium, Chile, Finland, France, Iceland, Japan, Korea, Mexico, New Zealand,

Portugal and the United States. Prior to 1978, where only hard coal and brown coal are available as classification breakdowns, hard coal data for these countries may still contain sub-bituminous coal data.

Brown coal

Brown coal is calculated as the sum of sub-bituminous coal and lignite. Until *Coal Information* 2013, oil shale mined and combusted directly was reported as lignite, while shale oil was reported as other hydrocarbons in *Oil Information*. Since the 2014 edition, oil shale and oil sands have their own category, while shale oil continues to be reported as other hydrocarbons in *Oil Information*.

Definitions for sub-bituminous coal and lignite are as follows:

- **Sub-bituminous coal:** non-agglomerating coals with a gross calorific value between 4 777 kcal/kg (20 GJ/t) and 5 732 kcal/kg (24 GJ/t) on an ash-free but moist basis.
- **Lignite:** non-agglomerating coal with a gross calorific value less than 4 777 kcal/kg (20 GJ/t) on an ash-free but moist basis.

Note: In the 2014 edition, the calorific floor for sub-bituminous coal (on an adjusted basis) was raised from 4 165 kcal/kg to 4 777 kcal/kg. Very little product re-classification from sub-bituminous coal to lignite occurred as a result of this change in requirements.

Steam Coal

In addition to the other coal aggregates, we also provide data for steam coal. While coking coal tends to have more specific applications, a more general use of coal is combustion to provide heat, often with the specific use of raising steam in a boiler.

Steam coal in this publication contains all anthracite, other bituminous coal and sub-bituminous coal, but not lignite or coking coal.

Prior to the 2012 publication, all hard coals that were not coking coal (including the sub-bituminous coal from the excepted countries listed above) were classed as steam coal. This also included by necessity countries (not listed) where sub-bituminous coal was unable to be separated from other bituminous coal data for reporting purposes.

For the *Coal Information* 2012 publication onwards, the definition of steam coal was adjusted to include all sub-bituminous coals. This move was done to achieve

greater congruence with practical, formal and informal definitions of steam (thermal) coal in the market and coal industry at large.

The definitions of hard coal and brown coal as aggregates in terms of their component parts remain unchanged and consistent with the UNECE guidelines above and InterEnerStat definitions. This means hard coal can no longer be calculated by adding steam coal data to coking coal data.

Coal products

The primary coal types mentioned above may be directly consumed or transformed into another fuel or energy source. Derived solid fuels and liquids are products resulting from the transformation from hard coal, brown coal or other primary solid fuels, sometimes with the addition of other materials.

Coke oven coke

Coke oven coke is the solid product obtained from the carbonisation of coal, principally coking coal, at high temperature. It is low in moisture content and volatile matter. Coke oven coke is used mainly in the iron and steel industry, acting as an energy source and a chemical agent. Also included are semi-coke (a solid product obtained from the carbonisation of coal at a low temperature), lignite coke (a semi-coke made from lignite), coke breeze and foundry coke. The heading *other energy industry own use* includes the consumption at the coking plants themselves. Consumption in the *iron and steel industry* does not include coke converted into blast furnace gas. To obtain the total consumption of coke oven coke in the iron and steel industry, the quantities converted into blast furnace gas have to be added (these are included in *blast furnaces*).

Gas coke

Gas coke is a solid by-product of coal used for the production of town gas in gas works. Gas coke is used for heating purposes.

Patent fuel

Patent fuel is a composition fuel manufactured from coal fines by shaping with the addition of a binding agent such as pitch. The amount of patent fuel produced may, therefore, be slightly higher than the actual amount of coal consumed in the transformation process. Consumption of patent fuels during the patent fuel manufacturing process is included under *other energy industry own use*.

Brown coal briquettes (BKB)

BKB is a composition fuel manufactured from lignite or sub-bituminous coal, produced by briquetting under high pressure with or without the addition of a binding agent. These figures include peat briquettes, dried lignite fines and dust. The heading *other energy industry own use* includes consumption by briquetting plants.

Coal tar

Coal tar is a result of the destructive distillation of bituminous or of the low-temperature carbonisation of brown coal. Coal tar from bituminous coal is the liquid by-product of the distillation of coal to make coke in the coke oven process. Coal tar can be further distilled into different organic products (e.g. benzene, toluene, naphthalene), which normally would be reported as a feedstock to the petrochemical industry.

Quite a few countries are currently unable to report coal tar data. For these countries, coke oven transformation losses will likely appear larger than they actually are, while consumption data will obviously be missing from the relevant end-use sector.

Manufactured Gases

Manufactured gases created outside of refineries, sourced primarily from solid hydrocarbons are reported on the coal questionnaire. They include purpose built products like gas works gas, whose manufacture is the main purpose of the transformation process, and products like coke oven gas and blast furnace gas which are useful energy by-products of another process.

Coke oven gas

Coke oven gas is obtained as a by-product of solid fuel carbonisation and gasification operations carried out by coke producers and iron and steel plants. It is calorifically rich, and when cleaned is predominantly H₂.

Gas works gas

Gas works gas covers all types of gas produced in public utility or private plants, whose main purpose is the manufacture, transport and distribution of gas, regardless of process. It includes gas produced by carbonisation (potentially including gas produced by coke ovens and transferred to gas works), by total gasification (with or without enrichment from oil products) and by reforming and simple mixing of gases, which may include air.

Coal seam gas is reported on the natural gas questionnaire as colliery gas, as most likely will be the case for underground coal gasification (UGC).

Note: In terms of aggregated data for fossil-fuel families, starting with the 2011 edition, gas works gas is included as a coal product for the years 1990 and beyond. Before 1990, gas works gas is included with natural gas.

Blast furnace gas

Blast furnace gas is obtained as a by-product from operating blast furnaces. It is recovered upon leaving the furnace and used partly within the plant and partly in other steel industry processes; or used in power stations equipped to burn it. It is mainly nitrogen (N₂), with roughly equal amounts of carbon dioxide and carbon monoxide, and will contain other trace gases. Off gases from direct reduced iron and other similar processes may also be reported here.

Other recovered gases

Other recovered gases were previously known as oxygen steel furnace gas, which is most commonly obtained as a by-product of the production of steel in an oxygen-fired furnace; and is recovered upon leaving the furnace. This gas can also be known as converter gas, LD gas or BOS gas. Other off-gases of similar nature (generally free of N₂) are also reported in this category, hence the change of name to be intrinsically more inclusive of other processes, metallurgy and industries.

Peat

A solid formed from the partial decomposition of dead vegetation under conditions of high humidity and limited air access (initial stage of coalification). It is available in two main forms *for use as a fuel* - sod peat and milled peat. Peat is not considered a renewable resource as its regeneration period is considerable.

Peat has a considerable amount of non-energy purposes. Non-energy consumption, and production of peat which is consumed in non-energy use are not included in IEA peat statistics.

Peat products

Sod peat can be pressed into briquettes. Milled peat can also be made into briquettes or pellets for fuel use. Briquettes are significantly denser and contain much less water, so have a higher calorific value than peat. They can be used on residential or industrial scale.

Oil shale and oil sands

Oil shale should not be confused with shale oil. Shale oil (often obtained by in situ thermally enhanced mining practices) is reported as an oil product.

Oil shale is a sedimentary rock which contains organic matter in the form of kerogen – a waxy hydrocarbon-rich material regarded as a precursor of petroleum. In solid form, it contains more inert matter than coal, while the sand in oil sands may often be in the form of sandstone. Oil shale may be burned directly, or retorted to extract shale oil, the process of which is reported as coal liquefaction transformation.

Regarding the data as marshalled by the EDC, while supply and demand data for oil shale and oil sands exist in the *Coal Information* publication, data for shale oil (as part of Other hydrocarbons) exist in the *Oil Information* publication. Whether this is the result of in-situ extraction technologies (*Oil Information* only); transformation of oil shale via liquefaction technologies (inputs exist in *Coal Information*, outputs in *Oil Information*, combined with other data); or deeming that primary supply begins with the saleable product and that therefore, above-ground retorts are part of the extraction process rather than a transformation process, thereby treating the second case as the first.

Shale gas, like colliery gas, is not reported on the Solid Fossil-fuels and Manufactured Gases questionnaire or included in this publication, but is included in the *Natural Gas Information* publication.

Historical production and consumption of oil shale and oil sands occurred to varying degrees in a wider range of countries than are currently reporting data.

Electricity and heat

Data for electricity are expressed in gigawatt hours and heat are expressed in terajoules.

Data for electricity and heat includes disaggregated data on inputs and outputs of ‘combined heat and power’ and on ‘district heating’. Data on heat became available in different years for different countries and thus aggregated country data should be used with caution.

Total electricity production includes production from both main activity producers (formerly known as public) and autoproducers. Generally, the split of total electricity production between main activity producers and autoproducers is available only after 1973.

Electricity

Gross electricity production is measured at the terminals of all alternator sets in a station; it therefore includes the energy taken by station auxiliaries and losses in transformers that are considered integral parts of the station.

The difference between gross and net production is generally estimated as 7% for conventional thermal stations, 1% for hydro stations, and 6% for nuclear, geothermal and solar stations. Production in hydro stations includes production from pumped storage plants.

Heat

Heat production includes all heat produced by main activity producer CHP and heat plants, as well as heat sold by autoproducer CHP and heat plants to third parties.

Fuels used to produce quantities of heat for sale are included in transformation processes under the rows *CHP plants* and *heat plants*. The use of fuels for heat which is not sold is included under the sectors in which the fuel use occurs.

Flows: energy balance

Coal balances are presented in detail in Parts III and IV. In Part III, Table 1 presents uses in the rows and selected years in the columns. Data are presented in millions of tonnes of coal equivalent (Mtce). One tonne of coal equivalent is 7 million kilocalories.

Each table is divided into three main parts: the first shows supply elements such as trade and production, the second shows the transformation processes and energy industries, while the third shows final consumption broken down into various end-use sectors.

Both primary fuels such as coal and peat, and derived fuels such as coke oven coke and blast furnace gas are included in the calculations. However, derived products manifest themselves as positive outputs in the relevant transformation process used to create them. Generally they should be less than the inputs, which result in a net negative entry in the transformation flow. Given that this balance is restricted to coal and associated products, inputs from other fuel types (such as pitch for patent fuels, or oil, gas and renewable inputs to blast furnaces) are not shown, nor is electricity generated, which differs from a full energy balance.

The energy balance flows detailed below have the following functions, and may also appear in other tables:

Supply

The first block of the energy commodity balances shows the following elements of supply:

$$\begin{aligned}
 & \text{Production} \\
 & + \text{Imports} \\
 & - \text{Exports} \\
 & \pm \text{Stock changes} \\
 & = \text{Total primary energy supply (TPES)}
 \end{aligned}$$

Note, exports and stock changes incorporate the algebraic sign directly in the number.

Production

Production is the production of primary energy, i.e. hard coal, brown coal, peat, shale oil, etc. Production is calculated after the removal of impurities on the bases which it is provided for sale. It is important to note that derived products such as coke oven coke and patent fuel, while included in the balances, do not appear in production as they are not primary products.

Imports and exports

Imports and exports comprise amounts having crossed the national territorial boundaries of the country, whether or not customs clearance has taken place. Imports and exports comprise the amount of fuels obtained from or supplied to other countries, whether or not there is an economic or customs union between the relevant countries. Coal in transit should not be included.

Stock changes

Stock changes reflects the difference between opening stock levels on the first day of the year and closing levels on the last day of the year of stocks on national territory held by producers, importers, energy transformation industries and large consumers. A stock build is shown as a negative number and a stock draw as a positive number. It is presented this way as this is how it affects the domestic supply, as opposed to how it describes the changes in stocks.

Total primary energy supply

Total primary energy supply (TPES) consists of production + imports - exports \pm stock changes. Given that exports and stock builds both are represented as negative numbers, in reality TPES = production + imports + exports + stock changes. Marine and aviation bunkers also are not counted in TPES.

Statistical difference

Statistical difference is essentially the difference between supply and demand. It includes the sum of the

unexplained statistical differences for individual fuels, as they appear in the basic energy statistics. It also includes the statistical differences that arise because of the variety of conversion factors in the coal and oil columns. See the introduction to *World Energy Statistics* for further details.

For countries that are unable to collect stock change data, stock builds and draws will contribute to statistical differences.

Transformation processes

Transformation processes record the transformation of one kind of fuel or energy into another with both inputs and outputs being measured. This may bridge several transformation processes. For instance:

Coking coal used to manufacture coke oven coke would be reported as a negative input to the coke oven transformation process.

- The resulting coke oven coke, coal tar and coke oven gas would be reported as a positive output to the coke oven transformation process flow.
- Energy inputs from other sources, including electricity, will not be reported in this particular instance of an exclusive coal and coal products balance. Therefore, numbers may not be indicative of true efficiencies, but rather map the flow of coal.
- The coke oven coke will largely be used to produce pig-iron in a blast furnace. Therefore, it will be reported where it is used – mainly as an input to the blast furnace transformation process.
- The by-product blast furnace gas will appear as an output in the blast furnace transformation flow. However, a significant amount of energy is lost in the process of making the pig-iron, so the net negative value in the blast furnace transformation flow will tend to be approximately 60% of the total energy inputs.
- The blast furnace gas (and coal tar and coke oven gas) will likewise be reported where used. Some of this will appear in the relevant consumption flows, other parts might be used to generate electricity and appear in electricity transformation.
- In a complete energy balance, the electricity generated would be converted to the appropriate energy unit and reported as a positive output in the applicable electricity transformation flow. This is not the case in the coal balance, so the number displayed in the electricity transformation flow is the fuel input, not the process efficiency loss.

The main transformation processes reported either create a derived coal product or by-product, and have been described earlier in the Energy sources section or are mentioned below.

Electricity and heat generation

Electricity and heat generation can refer to electricity plants, combined heat and power plants (CHP), or heat plants. Both main activity producer³ and auto-producer⁴ plants are included here.

Electricity plants are plants which are designed to produce electricity only. If one or more units of the plant is a CHP unit (and the inputs and outputs cannot be distinguished on a unit basis), then the whole plant is designated as a CHP plant.

Note that for autoproducer CHP plants, all fuel inputs used to generate electricity are taken into account. However, only the part of the fuel inputs used to produce the heat that is sold is shown. Fuel inputs for the production of heat that is consumed within the auto-producer's establishment are not included here but are included in the final consumption of fuels in the appropriate consumption sector.

Heat plants (including heat pumps and electric boilers) are designed to produce heat only, which is sold to a third party under the provisions of a contract. Heat pumps that are operated within the residential sector, where the heat is not sold, are not considered a transformation process and are not included here, despite the fact that equivalent electricity consumption will appear as residential use.

Blast furnaces

Blast furnaces covers the quantities of fuels used for the production of recovered gases (e.g. blast furnace gas and oxygen steel furnace gas). The production of pig-iron from iron ore in blast furnaces uses fuels for supporting the blast furnace charge and providing heat and carbon for the reduction of the iron ore. Accounting for the calorific content of the fuels entering the process is a complex matter as transformation (into blast furnace gas) and consumption (heat of combustion) occur simultaneously. Some carbon is also

retained in the pig-iron; almost all of this reappears later in the oxygen steel furnace gas (or converter gas) when the pig-iron is converted to steel. In the 1992/1993 annual questionnaires, member countries were asked for the first time to report in *transformation processes* the quantities of all fuels (e.g. pulverised coal injection [PCI] coal, coke oven coke, natural gas and oil) entering blast furnaces and the quantity of blast furnace gas and oxygen steel furnace gas produced. The IEA Secretariat then needed to split these inputs into the transformation and consumption components. The transformation component is shown in the row *blast furnaces* in the column appropriate for the fuel, and the consumption component is shown in the row *iron and steel*, in the column appropriate for the fuel. Originally, the IEA Secretariat assumed that there was a transformation efficiency of 100%, which meant that the energy going into the transformation process was equal to the energy coming out i.e. equivalent to the energy content of the gases produced). However, when the IEA data were used to calculate CO₂ emissions from fuel combustion using the Intergovernmental Panel on Climate Change (IPCC) methodology, as published in the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*,⁵ the blast furnaces were showing a carbon gain. Starting with the 1998 edition, the IEA Secretariat decided to assume a transformation efficiency such that the carbon input into the blast furnaces should equal the carbon output. This is roughly equivalent to assuming an energy transformation efficiency of 40%.

Gas works

Gas works covers the quantities of fuels used for the production of town gas. Note, this item also includes other gases blended with natural gas.

Coke/patent fuel/BKB/PB plants

Coke/patent fuel/BKB/PB plants covers the use of fuels for the manufacture of coke, coke oven gas, patent fuels, BKB and peat briquettes (PB).

Other transformation

Other transformation covers non-specified transformation and transformations not shown elsewhere, such as coal liquefaction.

3. Main activity producer generate electricity and/or heat for sale to third parties, as their primary activity. They may be privately or publicly owned. Note that the sale need not take place through the public grid.

4. Autoproducer undertakings generate electricity and/or heat, wholly or partly for their own use as an activity which supports their primary activity. They may be privately or publicly owned.

5. The 2006 IPCC Guidelines for National Greenhouse Gas Inventories are available from the IPCC National Greenhouse Gas Inventories Programme at www.ipcc-nggip.iges.or.jp.

Energy industry own use

Energy industry own use contains the primary and secondary energy consumed by transformation industries for heating, pumping, traction and lighting purposes [ISIC⁶ 05, 06, 19 and 35, Group 091 and Classes 0892 and 0721]. These quantities are shown as negative figures. Included here is, for example, own use of energy in coal mines.

Fuel mining and extraction

Fuel mining and extraction includes both coal mining and oil and gas extraction. For hard coal and lignite mining, this represents the energy which is used directly within the coal industry. It excludes coal burned in pithead power stations (included under electricity plants in transformation processes) and free allocations to miners and their families (considered as part of household consumption and therefore included under residential). For oil and gas extraction, flared gas is not included.

Other energy industry own use

Other energy industry own use (including own consumption in patent fuel plants, coke ovens, gas works, blast furnaces, BKB, peat briquette and lignite coke plants, coal liquefaction plants, gas-to-liquids plants, charcoal production plants, nuclear plants as well as use in non-specified energy industries).

Losses

Losses includes losses in gas distribution, flaring or venting of manufactured gases, electricity transmission and coal transport.

Consumption

Total final consumption (TFC) is the sum of consumption by the different end-use sectors.

Industry consumption is specified in the following sub-sectors. Note that energy used for transport by industry is not included here but is reported under transport.

Also note that if a particular industry makes another energy product, either as part of the industrial process (e.g. coke oven coke manufacture in an integrated iron and steel plant), or as an autoproducer (which may still be part of the industrial process), consumption does not

appear within the particular industry, but instead appears within the relevant transformation flow.

Iron and steel industry

Iron and steel industry [ISIC Group 241 and Class 2431];

Chemical and petrochemical industry

Chemical and petrochemical industry [ISIC Divisions 20 and 21] excluding petrochemical feedstocks;

Non-ferrous metals

Non-ferrous metals basic industries [ISIC Group 242 and Class 2432];

Non-metallic minerals

Non-metallic minerals such as glass, ceramic, cement, etc. [ISIC Division 23];

Transport equipment

Transport equipment [ISIC Divisions 29 and 30];

Machinery

Machinery: fabricated metal products, machinery and equipment other than transport equipment [ISIC Divisions 25 to 28];

Mining and quarrying

Mining (excluding fuels) and quarrying [ISIC Divisions 07 and 08 and Group 099];

Food and tobacco

Food and tobacco [ISIC Divisions 10 to 12];

Paper, pulp and printing

Paper, pulp and printing [ISIC Divisions 17 and 18];

Wood and wood products

Wood and wood products (other than pulp and paper) [ISIC Division 16];

Construction

Construction [ISIC Divisions 41 to 43];

Textile and leather

Textile and leather [ISIC Divisions 13 to 15];

Non-specified (Industry)

Non-specified (any manufacturing industry not included above) [ISIC Divisions 22, 31 and 32].

6. International Standard Industrial Classification of All Economic Activities, Series M, No. 4 / Rev. 4, United Nations, New York, 2008.

Note: Most countries have difficulties supplying an industrial breakdown for all fuels. In these cases, the *non-specified* industry row has been used. Regional aggregates of industrial consumption should therefore be used with caution.

Non-energy use covers those fuels that are used as raw materials in the different sectors and are not consumed as a fuel or transformed into another fuel.

Transport includes all fuels used for the transport [ISIC Divisions 49 to 51] of goods or persons between points of departure and destination within the national territory irrespective of the economic sector within which the activity occurs.

Other

Residential

Residential includes consumption by households, excluding fuels used for transport. It includes households with employed persons [ISIC Divisions 97 and 98] which is a small part of total residential consumption.

Commercial and public services

Commercial and public services [ISIC Divisions 33, 36-39, 45-47, 52, 53, 55, 56, 58-66, 68-75, 77-82, 84 (excluding Class 8422), 85-88, 90-96 and 99].

Agriculture/forestry

Agriculture/forestry includes deliveries to users classified as agriculture, hunting and forestry by the ISIC, and therefore includes energy consumed by such users whether for traction (excluding agricultural highway use), power or heating (agricultural and domestic) [ISIC Divisions 01 and 02].

Fishing

Fishing includes fuels used for inland, coastal and deep-sea fishing. Fishing covers fuels delivered to ships of all flags that have refuelled in the country (including international fishing) as well as energy used in the fishing industry [ISIC Division 03]. *Prior to the 2007 edition, fishing was included with agriculture/forestry and this may continue to be the case for some countries.*

Non-specified

Non-specified includes all fuel use not elsewhere specified as well as consumption in the above-designated categories for which separate figures have not been provided. Military fuel use for all mobile and stationary consumption is included here

(e.g. ships, aircraft, road and energy used in living quarters) regardless of whether the fuel delivered is for the military of that country or for the military of another country.

Non-energy use

Non-energy use covers those fuels that are used as raw materials in the different sectors and are not consumed as a fuel or transformed into another fuel. Non-energy use is shown separately within final consumption.

Coal resources and reserves

Quantifying mineable coal is based on a consideration of geological, mining and economic criteria. The amount of coal in place and, in some cases, the amount of mineable coal is influenced by national resource measurement criteria. The basis for computing these resources varies from country to country and, therefore, it must be borne in mind that for this reason, direct comparisons are sometimes not possible. During the 1990s, there was a considerable discussion on the adoption of internationally recognised standards for reporting reserves. This largely stems from the requirements of capital markets for improved transparency in reserve estimation where project financing is being sought. However, to date, while there has been adoption of some international recommendations incorporated into national or regional standards, there has not been the adoption of one set of universal international standards. There are, however, some generally recognised definitions that can be applied.

Resources

Resources refer to the amount of coal that may be present in a deposit or a coalfield subject to some broad restrictions as to its viability as a potential resource. Resources can be measured, indicated or inferred, based upon the level of understanding.

Calculation of total resources does not take into account the feasibility of mining the coal under current technological and economic conditions. Not all resources are recoverable using current technology, and not all resources are recoverable under current market conditions.

Reserves constitute that subset of resources that are either known to be recoverable, or estimated to be recoverable with a medium to high level of confidence.

Reserves

Reserves may be further defined further in terms of proven (or measured) reserves, and probable (or indicated) reserves, based on exploration results and the degree of confidence in those results. Probable reserves have been estimated with a lower degree of confidence than proven reserves. Estimates take account of coal-fields' geological characteristics, in particular the regularity, thickness and quality of seams, the spacing of exploration boreholes and other exposures, and geological discontinuities such as faults or folding, all of which affect the practical recoverability of the coal.

Proven reserves

Proven reserves are those reserves that are not only confidently considered to be recoverable, but can also be recovered economically under current market conditions. In other words, they take into account what current mining technology can achieve, as well as the economics of recovery (mining, transportation and other relevant recovery costs, such as government royalties, and coal prices). Proven reserves will, therefore, fluctuate according to economic pressures, especially price.

Units and conversions

Balance units

Most IEA/OECD publications showing inter-fuel relations and projections present such information in a common energy unit, the tonne of oil equivalent (toe). A tonne of oil equivalent is defined as 10^7 kcal (41.868 GJ), a convenient measure because it is approximately the net heat content of one ton of average crude oil. This unit is used by the IEA/OECD in the majority of its energy balances.

The change from using the original unit to tonne of oil equivalent implies choosing coefficients of equivalence between different forms and sources of energy. This problem can be approached in many different ways. For example, one could adopt a single equivalence for each major primary energy source in all countries, e.g. 29 307 kJ/kg (7 000 kcal/kg) for hard coal, 41 868 kJ/kg (10 000 kcal/kg) for oil.

The main objection to this method is that it results in distortions since there is a wide spread in calorific values between types of coal and individual coal products, and between calorific values of these fuels in different countries.

The Secretariat has, therefore, obtained specific calorific factors supplied by the national administrations

for the main categories of each quality of coal and for each main flow or use (i.e. production, imports, exports, electricity generation, coke ovens, blast furnaces and industry). The supply side average of this particular set of national calorific values, that allow for the conversion of energy sources from original (physical) units to joules, are presented later in Part III.

The balances are expressed in terms of net calorific value. The difference between net and gross predominantly being the latent heat of vaporisation of any moisture and the water produced during combustion of any hydrogen within the fuel. For coal and oil products, net calorific value is usually around 5% less than gross, and for most forms of hydrogen-rich natural and manufactured gas, the difference is 9-10%. The use of net calorific value is consistent with the practice of the Statistical Offices of the European Communities and the United Nations.

Note that throughout this publication, 1 tonne means 1 metric tonne or 1000 kg. Billion refers to 1 thousand million (10^9). Also, in many cases, totals shown in the tables may not be the exact sum of their components due to independent rounding.

Conversion (to toe and tce)

In this report some data are reported in terms of tonnes of coal equivalent (tce) because this unit is more widely used in the international coal industry. A tonne of coal equivalent is defined as 7 million kilocalories (29.3076 GJ). The relation between tonne of oil equivalent (toe) and tonne of coal equivalent (tce) is therefore:

$$1 \text{ tce} = 0.7 \text{ toe}$$

Units for gases

In the IEA/OECD publication *World Energy Statistics* all data on gases are expressed in terajoules (TJ), on the basis of their gross calorific value.

$$1 \text{ terajoule} = 0.0002388 \text{ Mtoe.}$$

To calculate the net heat content of a gas from its gross heat content, multiply the gross heat content by the appropriate following factor:

Gas	Ratio of NCV to GCV
Natural gas	0.9
Gas works gas	0.9
Coke oven gas	0.9
Blast furnace gas	1.0
Other recovered gases	1.0

Please note that this means in order to calculate gross from net, if necessary, you must divide the net value by 0.9 (rather than multiply by 1.1).

2. SOURCES AND NOTES

General notes

Energy data for OECD countries are submitted to the IEA Secretariat in a common reporting format and methodology to allow for international comparisons to be made.

Energy data for member countries reported for 2017 (shown as 2017p) are provisional data based on the submissions received in early 2018 and on quarterly submissions to the IEA. In some instances it has been necessary for the IEA to estimate some data. Explanations of these estimates are provided in the country notes. Final 2017 data on solid fuels and manufactured gases will be submitted by OECD member countries to the Secretariat in annual questionnaires in late 2018. As a result, final data for 2017 and provisional 2018 data will be published in the 2019 edition of *Coal Information*.

Additional information on methodologies and reporting conventions are included in the notes in *World Energy Balances 2018* edition and *World Energy Statistics 2018* edition.

Qualifiers

Data marked as “e” are estimates of the IEA Secretariat. Data marked as “c” mean that the data are confidential due to country specific regulations. Data marked as “..” mean that data are not available (either not collected or not submitted by national government). Data marked as “x” mean that the data point is not applicable or there is no meaningful explanation of a value there. For example, the price cannot be shown if the consumption in the country is forbidden or the country itself did not exist as an independent

entity at a given point in time. The year marked as “p” (e.g. 2017p) refers to provisional data.

Treatment of blast furnace coke and PCI data

Data on coke used in and pulverised coal injected into blast furnaces (PCI), are harmonized for all OECD countries in order to ensure that blast furnace transformation data are consistently presented and that comparisons between countries for consumption are meaningful. The main effect of these revisions has been, where necessary, to revise the reported consumption of coal in the iron and steel industry and in blast furnace transformation, so discrepancies between IEA and national accounts may ensue. In effect, inputs to blast furnaces may be calibrated to be proportionate to production of blast furnace gas and some inputs to blast furnace consumption may be reported as consumption in the iron and steel industry if there are lower than normal outputs of blast furnace gas.

It should be noted that in IEA statistics of coal trade and consumption, PCI is not separately specified as a product in its own right. Rather it is included in some form of hard coal. This methodology is based on the fact that pulverised coal injection is a process, and this process, unlike for coke oven coke manufacture, is somewhat independent of coal type.

For Japan and Korea, PCI consumption is reported in this book as a coking coal to be consistent with the national practice of including imports of PCI coal with coking coal without regard to coal type. Other countries that report some usage of coking coal as inputs to blast furnaces (the Netherlands, Poland, the Slovak Republic, Turkey and the United Kingdom) may do so for this reason, or because of the respective coal quality.

People's Republic of China

General notes

The People's Republic of China (China) joined the IEA as an Association country in November 2015.

Revisions of China's 2000 - 2010 energy data

In early 2016, the National Bureau of Statistics (NBS) of the People's Republic of China (China) supplied the IEA with detailed energy balances for 2000 to 2010 and the IEA revised its data accordingly.

In September 2015, the NBS published China's energy statistics for 2013, as well as revised statistics for the years 2011 and 2012. These have already been taken into account by the IEA in the "Special data release with revisions for the People's Republic of China" in November 2015.

All revisions show significant changes both on the supply and demand side for a number of energy products, resulting in breaks in time series between 1999 and 2000. Most importantly, the previously significant statistical difference for coal has now been allocated in industrial consumption based on findings from a national economic census.

Methodology

In this edition, the National Bureau of Statistics (NBS) changed the definition of cleaned coal and other washed coal. Now, only the coal used for coking is called cleaned coal. This might result in breaks in time series in coking coal between 2015 and 2016. As this change of methodology resulted in uncertainty on the use of cleaned coal, the IEA Secretariat estimated the use of coking coal in transformation and final consumption sectors.

In this edition, based on new information, coal consumption in rail was revised for the whole time series to reflect the fact that coal is used for other usages than transport in the Rail sector. The IEA Secretariat has allocated part of the coal reported under rail to other non-specified sectors for the period 1990-2003. For the period 2004-2016 the IEA Secretariat allocated the total amount of coal reported under rail to other non-specified sectors.

In this edition, based on new information, coal inputs to main activity heat plants and part of coal inputs to main activity electricity plants were allocated to main activity CHP plants for the period 2005-2016.

Net calorific values (NCV) for coal inputs to power generation from 2000 are estimated by applying assumptions used by China on the average thermal efficiency of coal-fired power stations in these years. NCVs are also estimated for bituminous coal production from 2000 as well as for inputs to main activity heat plants from 2008.

NBS and IEA collaborate to provide additional detail on energy production, transformation and consumption of all five different types of coal (e.g. anthracite, coking coal, other bituminous, sub-bituminous and lignite). At the moment NBS only provides quantities of raw coal and washed coal in their energy balances and the IEA Secretariat has attributed these quantities to coking coal and other bituminous coal. It is expected that the continuing work to provide disaggregated data on the five different coals will result in greater detail in future editions.

Since 2000, imports and exports of cleaned coal are no longer reported in the national energy balance of China. The IEA Secretariat has used secondary sources of information to report this coking coal trade and corresponding quantities have been removed from bituminous coal trade. Consumption of this coking coal is assumed to be in coke ovens.

The IEA data of coal stocks for the years 1985 and 1990 as well as coal production for the years 1997-1999 are estimates and do not represent official data released by the Chinese government. Those estimates were based on the assumption that coal consumption statistics are more reliable than coal production statistics and that the production-consumption relationship should maintain a balance over time.

Observations

In recent years, China has reported large increases in stocks for crude oil, oil products and for different types of coal. These stock increases are seen as consistent with trends in economic growth and development in China; however, information is currently lacking on the scale of the infrastructure available for this magnitude of stock increases.

Starting with 2010 data, NBS increased the level of detail of the national energy balance regarding oil products and coal gases. Breaks in time series may occur between 2009 and 2010.

Data for coal trade in this publication may not match data from secondary sources of information.

Sources 1990 to 2016:

- *China Energy Statistical Yearbook*, National Bureau of Statistics, Beijing, various editions up to 2016.
- Direct communication with the China National Renewable Energy Centre (CNREC), National Energy Administration (NEA), Beijing.
- China Electricity Council, online statistics, various editions up to 2014.
- Zhang G., *Report on China's Energy Development 2010*, China's National Energy Administration, Beijing, editions 2009 to 2011.
- IEA Secretariat estimates.

Sources up to 1990:

- *Electric Industry in China in 1987*, Ministry of Water Resources and Electric Power, Department of Planning, Beijing, 1988.
- *Outline of Rational Utilization and Conservation of Energy in China*, Bureau of Energy Conservation State Planning Commission, Beijing, June 1987.
- *China Coal Industry Yearbook*, Ministry of Coal Industry, People's Republic of China, Beijing, 1983, 1984, 1985 and 2000.
- *Energy in China 1989*, Ministry of Energy, People's Republic of China, Beijing, 1990.
- *China: A Statistics Survey 1975-1984*, State Statistical Bureau, Beijing, 1985.
- *Almanac of China's Foreign Economic Relations and Trade*, The Editorial Board of the Almanac, Beijing, 1986.

Other sources

Quarterly energy statistics

Readers who are interested in more recent data should consult the OECD/IEA publication *Oil, Gas, Coal and Electricity Quarterly Statistics* which is published in January, April, July and October each year.

This book provides current, accurate and detailed statistics on quarterly production, supply and demand and trade of the major energy forms mainly in, but not limited to, the OECD area.

Coal quarterly data include

- World steam and coking coal, and lignite production;
- World steam coal and coking coal trade; and
- Coking coal and steam coal imports and exports for major OECD countries.

OECD Main Economic Indicators

OECD Main Economic Indicators is a monthly compilation of a range of indicators on recent economic developments for the 35 OECD member countries, which contains detailed notes regarding the selected indicators.

Price data

Energy prices are published quarterly in the IEA/OECD *Energy Prices and Taxes*, where complete notes on prices may be obtained.

IEA data on coal prices are managed in two sub-systems, which vary not only in content, but also with respect to the data collection methods.

Import and export unit values

Import and export unit values are calculated quarterly (March, June, September and December) from national customs statistics import and export volumes and values. The basic data are collected from monthly national trade sources (Chile, Japan, Korea, United States, Australia and Canada) or provided monthly to the IEA by the Statistical Office of the European Communities (Eurostat).

Values recorded at the import stage are the sum of cost, insurance and freight (CIF – cost including freight/fees), but exclude import duties. Values recorded at the export stage (FOB – free on board), exclude seaborne or international transport, but include inland transport costs of the exporting country.

As far as possible, the concept of ‘general imports and exports’ is used. This includes coal imports for re-export with or without processing, but excludes transit trade.

The definitions of coal categories and the volume and value units used in each of the above source systems vary considerably. A certain amount of regrouping and unit conversions is necessary once the basic data are compiled.

The rules for regrouping coal categories are consistent with the definitions used in the annual IEA/OECD coal statistics. Prices are compiled for steam coal and for coking coal. Definitions and the correspondence to national and European classifications are discussed in detail in the quarterly IEA publication *Energy Prices and Taxes*. Comments in *Energy Prices and Taxes* on certain data items, as well as general background information, are developed systematically. Data comments relate mainly to calorific values of specific coal trade flows and to national coal definitions. Background information covers duties and trade regulations.

End-user prices

End-user prices are collected quarterly from national administrations and other relevant bodies and supplemented with data extracted from national publications. Although a standard approach to reporting the data has been developed, differences in definitions between countries are explained in the notes published in *Energy Prices and Taxes*.

The standard approach to reporting end-use prices can be summarised as follows:

- includes transport costs to the consumer;
- shows prices actually paid, i.e. net of rebates; and
- includes taxes which have to be paid by the consumer as part of the transaction and which are not refundable. This excludes value added taxes paid in many European countries by industry (including electric power stations) for all goods and services (including energy). In these cases, value added taxes are refunded to the customer, usually in the form of a tax credit. Therefore, it is not shown as part of the prices.

A standard coal quality for all international comparisons of end-use prices is not possible given the wide variety of coal qualities in domestic and international coal trade. As a result, only average prices covering a range of different qualities are collected, along with the calorific value of these averaged sales. If average prices are not available, prices of a selected coal may be chosen. Accordingly, international comparisons of coal end-use prices may be misleading if read at face value. Detailed notes concerning these price series are published in *Energy Prices and Taxes*. Also, please refer to *Energy Prices and Taxes* for the detailed description of price mechanisms in each country and country specific notes.

Derived price data

The information collected on prices is converted by the IEA Secretariat into a variety of secondary data in order to facilitate its analysis. Inter-fuel price comparisons for one country are usually made on the basis of prices per heat unit such as a tonne of coal equivalent. In the end-user price tables, the conversion factor used for converting gross calories to net calories for natural gas is 0.9.

Inter-country price comparisons are made on the basis of a standard currency unit, e.g. US dollars. Prices for regional totals are calculated as the weighted average only of the available price data in the region and, therefore, prices shown should be considered as only indicative.

For coal exports and imports, customs unit values are prices reported by OECD member countries.

Customs unit values are average values derived from customs' administrations total volume and total value data. These data indicate broad price movements as they are averages of all qualities of coal without regard to the end-use of the coal or to the contract terms and conditions under which the trade occurs.

End-user prices are those paid by end-users in the power sector and in industry and are reported by member countries in a quarterly reporting system which the IEA's Standing Group on Long Term Co-operation initiated in 1981. Data received are published in the IEA quarterly publication *Energy Prices and Taxes*.

Unless otherwise stated, prices are reported in US dollars in the year specified (i.e. current US dollars).

In addition to the official price statistics presented, coal price statistics published in the industry press are used to summarise short-term spot steam and coking coal price trends. Although not "official" in that they are not provided by member countries, there is a high correlation between prices published by the industry press and national coal price statistics.

Conversion to euro

Prices and taxes prior to the date of entry into the Economic and Monetary Union (EMU) have been converted from the former national currency using the appropriate irrevocable conversion rate. The irrevocable conversion rate on 1 January 1999 was used for all countries, except Greece (fixed rate as of 1 January 2001), Slovenia (fixed rate as of 1 January 2007), Malta and Cyprus¹ (both fixed rate as of 1 January 2008), the Slovak Republic (fixed rate as of 1 January 2009), and Estonia (fixed rate as of 1 January 2012).

Country	Rate	Country	Rate
Austria	13.7603	Italy	1936.27
Belgium	40.3399	Luxembourg	40.3399
Cyprus ¹	0.585274	Malta	0.4293
Estonia	15.6466	Netherlands	2.20371
Finland	5.94573	Portugal	200.482
France	6.55957	Slovak Republic	30.126
Germany	1.95583	Slovenia	239.64
Greece	340.75	Spain	166.386
Ireland	0.787564		

This methodology facilitates comparisons within a country over time and ensures that the historical

1. Please refer to Part I Section 3, Geographical Coverage.

evolution (i.e. growth rate) is preserved. However, pre-EMU Euro are notional units and are not normally suitable to form area aggregates or to carry out cross-country comparisons.

Sources

Most of the prices are submitted on a quarterly basis to the IEA Secretariat by administrations; others are taken from national publications or web sites.

Energy end-use prices in US dollars

In general, country differentials between national end-use prices expressed in US dollars are heavily influenced by exchange rate differentials. However, world market prices of primary fuels in US dollars are an important parameter for the pricing of final energy consumption, particularly for countries which rely heavily on energy imports.

The difference between world market prices and national end-use prices in US dollars correspond to the remaining pricing parameters, i.e. transformation and distribution costs, non-internationally tradable energy sources (mainly hydro-power, but also natural gas), market structures (e.g. mix of large- and small-purchase lots), and the pricing policies of central or

local authorities, which naturally include the national tax policies.

Household energy prices in US dollars: purchasing power parities versus exchange rates

Over time, there have been wide fluctuations in exchange rates and there has been some concern regarding international price comparisons based on exchange rates which may not reflect the *relative purchasing power* in each currency.

An alternative method of comparison is provided by Purchasing Power Parities (PPPs) which are the rates of currency conversion that equalise the purchasing power of different currencies. A given sum of money, when converted into different currencies at the PPP rates, buys the same basket of goods and services in all countries. In other words, PPP's are the rates of currency conversion which eliminate the differences in price levels between different countries.

The Purchasing Power Parities used here were developed jointly by the OECD statistics directorate and Eurostat (the Statistical Office of the European Communities) to enable international price comparisons to be made for GDP and its components. (For more information on the methodology, see www.oecd.org/std/ppp.)

3. GEOGRAPHICAL COVERAGE

The **Organisation for Economic Co-Operation and Development (OECD)** includes Australia; Austria; Belgium; Canada; Chile; the Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hungary; Iceland; Ireland; Israel; Italy; Japan; Korea; Latvia¹; Luxembourg; Mexico; the Netherlands; New Zealand; Norway; Poland; Portugal; the Slovak Republic; Slovenia; Spain; Sweden; Switzerland; Turkey; the United Kingdom; the United States..

Lithuania was not an OECD Member at the time of preparation of this publication. Accordingly, Lithuania does not appear in the list of OECD Members and is not included in the zone aggregates.

Estonia, Latvia and Slovenia are included starting in 1990. Prior to 1990, Estonia and Latvia are included in Former Soviet Union and Slovenia is included in Former Yugoslavia.

Within the **OECD**:

- **Australia** excludes the overseas territories;
- **Denmark** excludes Greenland and the Faroe Islands, except prior to 1990, where data on oil for Greenland were included with the Danish statistics. The administration is planning to revise the series back to 1974 to exclude these amounts;
- **France** includes Monaco and excludes the following overseas departments: Guadeloupe; French Guiana; Martinique; Mayotte; and Réunion; and collectivities: New Caledonia; French Polynesia; Saint Barthélemy; Saint Martin; Saint Pierre and Miquelon; and Wallis and Futuna;
- **Germany** includes the new federal states of Germany from 1970 onwards;

- The statistical data for **Israel** are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.
- **Italy** includes San Marino and the Holy See;
- **Japan** includes Okinawa;
- **Netherlands** excludes Suriname, Aruba and the other former Netherlands Antilles (Bonaire, Curaçao, Saba, Saint Eustatius and Sint Maarten);
- **Portugal** includes the Azores and Madeira;
- **Spain** includes the Canary Islands;
- **Switzerland** includes Liechtenstein for oil data; data for other fuels do not include Liechtenstein;
- Shipments of coal and oil to the Channel Islands and the Isle of Man from the **United Kingdom** are not classed as exports. Supplies of coal and oil to these islands are, therefore, included as part of UK supply. Exports of natural gas to the Isle of Man are included with the exports to Ireland;
- **United States** includes the 50 states and the District of Columbia but generally excludes all territories, and all trade between the US and its territories. Oil statistics include Guam, Puerto Rico² and the United States Virgin Islands; trade statistics for coal include international trade to and from Puerto Rico and the United States Virgin Islands.

OECD Americas includes Canada; Chile; Mexico and the United States.

OECD Asia Oceania includes Australia; Israel; Japan; Korea and New Zealand.

1. Latvia is included starting in 1990. Prior to 1990, data for Latvia are included in Former Soviet Union.

2. Natural gas and electricity data for Puerto Rico are included under Other Non-OECD Americas.

OECD Europe³ includes Austria; Belgium; the Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hungary; Iceland; Ireland; Italy; Latvia¹; Luxembourg; the Netherlands; Norway; Poland; Portugal; the Slovak Republic; Slovenia; Spain; Sweden; Switzerland; Turkey and the United Kingdom.

World includes OECD Total; Africa; Non-OECD Americas; Non-OECD Asia (excluding China); China (People's Republic of China and Hong Kong, China); Non-OECD Europe and Eurasia; Middle East; World aviation bunkers and World marine bunkers. It is also the sum of Africa, Americas, Asia, Europe, Oceania, World aviation bunkers and World marine bunkers.

Africa includes Algeria; Angola; Benin; Botswana; Burkina Faso; Burundi; Cabo Verde; Cameroon; Central African Republic; Chad; Comoros; the Republic of the Congo (Congo); Côte d'Ivoire; the Democratic Republic of the Congo; Djibouti; Egypt; Equatorial Guinea; Eritrea; Ethiopia; Gabon; Gambia; Ghana; Guinea; Guinea-Bissau; Kenya; Lesotho; Liberia; Libya; Madagascar; Malawi; Mali; Mauritania; Mauritius; Morocco; Mozambique; Namibia; Niger; Nigeria; Réunion; Rwanda; Sao Tome and Principe; Senegal; the Seychelles; Sierra Leone; Somalia; South Africa; South Sudan (from 2012); Sudan; Swaziland; the United Republic of Tanzania (Tanzania); Togo; Tunisia; Uganda; Zambia; Zimbabwe.

Americas includes Antigua and Barbuda; Argentina; Aruba; the Bahamas; Barbados; Belize; Bermuda; the Plurinational State of Bolivia (Bolivia); Bonaire (from 2012); the British Virgin Islands; Brazil; Canada; the Cayman Islands; Chile; Colombia; Costa Rica; Cuba; Curaçao⁴; Dominica; the Dominican Republic; Ecuador; El Salvador; the Falkland Islands (Malvinas); Guatemala; French Guiana; Grenada; Guadeloupe; Guyana; Haiti; Honduras; Jamaica; Martinique; Mexico; Montserrat; Nicaragua; Panama; Paraguay; Peru; Puerto Rico (for natural gas and electricity)⁵; Saba

3. Lithuania was not an OECD Member at the time of preparation of this publication. Accordingly, Lithuania does not appear in the list of OECD Members and is not included in the zone aggregates.

4. The Netherlands Antilles was dissolved on 10 October 2010 resulting in two new 'constituent countries' (Curaçao and Sint Maarten) with the other islands joining The Netherlands as "special municipalities". However, due to lack of detailed data the IEA Secretariat's data and estimates under the "Netherlands Antilles" still refer to the whole territory of the Netherlands Antilles as it was known prior to 10 October 2010 up to the end of 2011. Data refer only to the island of Curaçao from 2012. The other islands of the former Netherlands Antilles are added to Other non-OECD Americas from 2012.

5. Oil statistics as well as coal trade statistics for Puerto Rico are included under the United States.

(from 2012); Saint Kitts and Nevis; Saint Lucia; Saint Pierre and Miquelon; Saint Vincent and the Grenadines; Sint Eustatius (from 2012); Sint Maarten (from 2012); Suriname; Trinidad and Tobago; the Turks and Caicos Islands; the United States; Uruguay; the Bolivarian Republic of Venezuela (Venezuela).

Asia (from 1990) includes Afghanistan; Armenia; Azerbaijan; Bahrain; Bangladesh; Bhutan; Brunei Darussalam; Cambodia; the People's Republic of China; Cyprus⁶; Georgia; Hong Kong, China; India; Indonesia; the Islamic Republic of Iran; Iraq; Israel⁷; Japan; Jordan; the Democratic People's Republic of Korea; Korea; Kazakhstan; Kuwait; Kyrgyzstan; Lao People's Democratic Republic; Lebanon; Macau, China; Malaysia; the Maldives; Mongolia; Myanmar; Nepal; Oman; Pakistan; the Philippines; Qatar; Saudi Arabia; Singapore; Sri Lanka; the Syrian Arab Republic; Tajikistan; Chinese Taipei; Thailand; Timor-Leste; Turkey; Turkmenistan; the United Arab Emirates; Uzbekistan; Viet Nam; and Yemen.

Europe (from 1990) includes Albania; Austria; Belarus; Belgium; Bosnia and Herzegovina; Bulgaria; Croatia; the Czech Republic; Denmark; Estonia; Finland; the Former Yugoslav Republic of Macedonia; France; Germany; Gibraltar; Greece; Hungary; Iceland; Ireland; Italy; Kosovo⁸; Latvia; Lithuania; Luxembourg; Malta; the Republic of Moldova (Moldova); Montenegro; the Netherlands; Norway; Poland; Portugal; Romania; the Russian Federation; Serbia⁹; the Slovak Republic; Slovenia; Spain; Sweden; Switzerland; Ukraine; the United Kingdom.

6. Note by Turkey:

The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

Note by all the European Union member states of the OECD and the European Union:

The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

7. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

8. This designation is without prejudice to positions on status, and is in line with United Nations Security Council Resolution 1244/99 and the Advisory Opinion of the International Court of Justice on Kosovo's declaration of independence.

9. Serbia includes Montenegro until 2004 and Kosovo until 1999.

Oceania includes Australia; New Zealand; Cook Islands; Fiji; French Polynesia; Kiribati; New Caledonia; Palau; Papua New Guinea; Samoa; the Solomon Islands; Tonga; Vanuatu.

The **International Energy Agency (IEA)** includes Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Estonia¹⁰, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Korea, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States.

The **IEA and Accession/Association countries** includes: IEA member countries: Australia; Austria; Belgium; Canada; the Czech Republic; Denmark; Estonia⁷; Finland; France; Germany; Greece; Hungary; Ireland; Italy; Japan; Korea; Luxembourg; Mexico; the Netherlands; New Zealand; Norway; Poland; Portugal; the Slovak Republic; Spain; Sweden; Switzerland; Turkey; the United Kingdom and the United States; Accession country: Chile; Association countries: Brazil; the People's Republic of China; India; Indonesia; Morocco; Singapore; Thailand.

Non-OECD Europe and Eurasia includes Albania; Armenia; Azerbaijan; Belarus; Bosnia and Herzegovina; Bulgaria; Croatia; Cyprus⁶; the Former Yugoslav Republic of Macedonia; Georgia; Gibraltar; Kazakhstan; Kosovo⁸; Kyrgyzstan; Lithuania³; Malta; the Republic of Moldova (Moldova); Montenegro; Romania; the Russian Federation; Serbia⁹; Tajikistan; Turkmenistan; Ukraine; Uzbekistan; the Former Soviet Union; the Former Yugoslavia.

Non-OECD Asia excluding China includes Bangladesh; Brunei Darussalam; Cambodia (from 1995); India; Indonesia; the Democratic People's Republic of Korea; Malaysia; Mongolia (from 1985); Myanmar; Nepal; Pakistan; the Philippines; Singapore; Sri Lanka; Chinese Taipei; Thailand; Viet Nam; **Other non-OECD Asia**.

China includes the (People's Republic of) China and Hong Kong, China.

Non-OECD Americas includes Argentina; the Plurinational State of Bolivia (Bolivia); Brazil; Colombia; Costa Rica; Cuba; Curaçao¹¹; the Dominican Republic; Ecuador; El Salvador; Guatemala; Haiti; Honduras; Jamaica; Nicaragua; Panama; Paraguay; Peru; Suriname (from 2000), Trinidad and Tobago; Uruguay; the Bolivarian Republic of Venezuela (Venezuela) and **Other Non-OECD Americas**.

Middle East includes Bahrain; the Islamic Republic of Iran; Iraq; Jordan; Kuwait; Lebanon; Oman; Qatar; Saudi Arabia; the Syrian Arab Republic; the United Arab Emirates and Yemen.

Other Africa includes Botswana (until 1980); Burkina Faso; Burundi; Cabo Verde; Central African Republic; Chad; Comoros; Djibouti; Equatorial Guinea; Gambia; Guinea; Guinea-Bissau; Lesotho; Liberia; Madagascar; Malawi; Mali; Mauritania; Namibia (until 1990); Niger (until 1999); Réunion; Rwanda; Sao Tome and Principe; the Seychelles; Sierra Leone; Somalia; Swaziland; Uganda.

Other non-OECD Americas includes Anguilla, Antigua and Barbuda; Aruba; the Bahamas; Barbados; Belize; Bermuda; Bonaire (from 2012); the British Virgin Islands; the Cayman Islands; Dominica; the Falkland Islands (Malvinas); the French Guiana; Grenada; Guadeloupe; Guyana; Martinique; Montserrat; Puerto Rico (for natural gas and electricity)⁵; Saba (from 2012); Saint Eustatius (from 2012); Saint Kitts and Nevis; Saint Lucia; Saint Pierre and Miquelon; Saint Vincent and the Grenadines; Sint Maarten (from 2012); Suriname (until 1999); the Turks and Caicos Islands.

Other non-OECD Asia includes Afghanistan; Bhutan; Cambodia (until 1994); Cook Islands; Fiji; French Polynesia; Kiribati; Lao People's Democratic Republic; Macau, China; the Maldives; Mongolia (until 1984); New Caledonia; Palau (from 1994); Papua New Guinea; Samoa; the Solomon Islands; Timor-Leste; Tonga; Vanuatu.

10. Estonia is included starting in 1990. Prior to 1990, data for Estonia are included in Former Soviet Union.

11. The Netherlands Antilles was dissolved on 10 October 2010 resulting in two new "constituent countries" (Curaçao and Sint Maarten) with the other islands joining The Netherlands as "special municipalities". However, due to lack of detailed data the IEA Secretariat's data and estimates under the "Netherlands Antilles" still refer to the whole territory of the Netherlands Antilles as it was known prior to 10 October 2010 up to the end of 2011. Data refer only to the island of Curaçao from 2012. The other islands of the former Netherlands Antilles are added to Other Non-OECD Americas from 2012.

The **European Union - 28 (EU-28)** includes Austria; Belgium; Bulgaria; Croatia; Cyprus⁶; the Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hungary; Ireland; Italy; Latvia; Lithuania; Luxembourg; Malta; the Netherlands; Poland; Portugal; Romania; the Slovak Republic; Slovenia; Spain; Sweden and the United Kingdom.

Please note that in the interest of having comparable data, all these countries are included since 1990 despite different entry dates into the European Union.

Please note that the following countries have not been considered due to lack of data:

- **Non-OECD Europe and Eurasia:** Andorra; Faroe Islands; Liechtenstein¹² (except for oil data); the Palestinian Authority; Svalbard; Jan Mayen Islands;

Africa: British Indian Ocean Territory; French Southern and Antarctic Lands; Mayotte; Saint Helena; Western Sahara;

- **Non-OECD Americas:** Bouvet Island; Saint Barthélemy; Greenland (after 1990); Saint Martin (French Part); South Georgia and the South Sandwich Islands;

- Antarctica;

Non-OECD Asia excluding China: American Samoa; Cocos (Keeling) Islands; Christmas Island; Heard Island and McDonald Islands; Marshall Islands; Micronesia (Federated States of); Nauru; Niue; Norfolk Island; Northern Mariana Islands; Pitcairn; Tokelau; Tuvalu; United States Minor Outlying Islands; Wallis and Futuna Islands.

12. Oil data for Liechtenstein are included under Switzerland.

4. ABBREVIATIONS AND CONVERSION FACTORS

Units and technical abbreviations

t	: metric ton = tonne = 1000 kg
kt	: thousand tonnes
Mt	: million tonnes
toe	: tonne of oil equivalent
Mtoe	: million tonnes of oil equivalent
tce	: tonne of coal equivalent (= 0.7 toe)
Mtce	: million tonnes of coal equivalent
kcal	: kilocalories (10^3 calories)
MBtu	: million British thermal units
GWh	: million kilowatt hours
USD	: US dollars
CCS	: carbon capture and storage
CIF	: cost, insurance and freight
FAS	: free alongside ship
FOB	: free on board
GDP	: Gross Domestic Product
GCV	: gross calorific value
PCI	: pulverised coal injection
TPES	: Total primary energy supply
EU	: European Union
FSU	: Former Union of Soviet Socialist Republics/Soviet Union
OECD	: Organisation for Economic Co-operation and Development
UNECE	: United Nations Economic Commission for Europe
0 or 0.0	: negligible
p	: provisional (shown for the year)
c	: confidential
e	: estimated
..	: not available
-	: nil
x	: not applicable

General conversion factors for energy

To:	TJ	Gcal	Mtoe	MBtu	GWh
From:	multiply by:				
terajoule (TJ)	1	2.388x10 ²	2.388x10 ⁻⁵	9.478x10 ²	2.778x10 ⁻¹
gigacalorie (Gcal)	4.187x10 ⁻³	1	1.000x10 ⁻⁷	3.968	1.163x10 ⁻³
million tonnes of oil equivalent (Mtoe)	4.187x10 ⁴	1.000x10 ⁷	1	3.968x10 ⁷	1.163x10 ⁴
million British thermal units (MBtu)	1.055x10 ⁻³	2.520x10 ⁻¹	2.520x10 ⁻⁸	1	2.931x10 ⁻⁴
gigawatt hour (GWh)	3.600	8.598x10 ²	8.598x10 ⁻⁵	3.412x10 ³	1

Conversion factors for mass

To:	kg	t	lt	st	lb
From:	multiply by:				
kilogramme (kg)	1	1.000x10 ⁻³	9.842x10 ⁻⁴	1.102x10 ⁻³	2.205
tonne (t)	1.000x10 ³	1	9.842x10 ⁻¹	1.102	2.205x10 ³
long ton (lt)	1.016x10 ³	1.016	1	1.120	2.240x10 ³
short ton (st)	9.072x10 ²	9.072x10 ⁻¹	8.929x10 ⁻¹	1	2.000x10 ³
pound (lb)	4.536x10 ⁻¹	4.536x10 ⁻⁴	4.464x10 ⁻⁴	5.000x10 ⁻⁴	1

Conversion factors for volume

To:	gal US	gal UK	bbl	ft ³	l	m ³
From:	multiply by:					
US gallon (gal)	1	8.327x10 ⁻¹	2.381x10 ⁻²	1.337x10 ⁻¹	3.785	3.785x10 ⁻³
UK gallon (gal)	1.201	1	2.859x10 ⁻²	1.605x10 ⁻¹	4.546	4.546x10 ⁻³
Barrel (bbl)	4.200x10 ¹	3.497x10 ¹	1	5.615	1.590x10 ²	1.590x10 ⁻¹
Cubic foot (ft ³)	7.481	6.229	1.781x10 ⁻¹	1	2.832x10 ¹	2.832x10 ⁻²
Litre (l)	2.642x10 ⁻¹	2.200x10 ⁻¹	6.290x10 ⁻³	3.531x10 ⁻²	1	1.000x10 ⁻³
Cubic metre (m ³)	2.642x10 ²	2.200x10 ²	6.290	3.531x10 ¹	1.000x10 ³	1

Decimal prefixes

10 ¹	deca (da)	10 ⁻¹	deci (d)
10 ²	hecto (h)	10 ⁻²	centi (c)
10 ³	kilo (k)	10 ⁻³	milli (m)
10 ⁶	mega (M)	10 ⁻⁶	micro (μ)
10 ⁹	giga (G)	10 ⁻⁹	nano (n)
10 ¹²	tera (T)	10 ⁻¹²	pico (p)
10 ¹⁵	peta (P)	10 ⁻¹⁵	femto (f)
10 ¹⁸	exa (E)	10 ⁻¹⁸	atto (a)

The conversion factors shown above are available online with greater precision at: www.iea.org/statistics/resources/unitconverter/.

Coal classification

The definitions of products presented are based on those of the *Joint IEA/Eurostat/UNECE annual energy questionnaires*, and on the United Nations *International Recommendations on Energy Statistics*.

The IEA collects statistics on coal production, trade and consumption according to a technically precise classification based on the quality of coal as follows:

- Anthracite is a high rank, non-agglomerating coal with a gross calorific value not less than 24 000 kJ/kg (5 732 kcal/kg) on an ash-free but moist basis and with a mean random reflectance of vitrinite of at least 2.0;
- Coking coal is hard coal suitable for the production of coke which can support a blast furnace charge;
- Other bituminous coal is an agglomerating coal with a gross calorific value not less than 24 000 kJ/kg (5 732 kcal/kg) on an ash-free but moist basis and with a mean random reflectance of vitrinite of at least 0.6;
- Sub-bituminous coal is a non-agglomerating coal with a gross calorific value between 20 000 kJ/kg (4 777 kcal/kg) and 24 000 kJ/kg (5 732 kcal/kg) and with a mean random reflectance of vitrinite of less than 0.6; and
- Lignite is a non-agglomerating coal with a gross calorific value less than 20 000 kJ/kg (4 777 kcal/kg).

However, when publishing these data, the IEA sometimes adopts a simplified classification of hard coal, steam coal and brown coal. The correspondence is as follows:

- Total coal is the sum of hard coal and brown coal;
- Hard coal is the sum of coking coal, anthracite and other bituminous coal for all countries, plus, prior to 1978, this may include sub-bituminous coal for Australia, Belgium, Chile, Finland, France, Iceland, Japan, Korea, Mexico, New Zealand, Portugal and the United States;
- Brown coal contains lignite and sub-bituminous coal for all countries barring the exceptions prior to 1978 above; and Steam coal consists of anthracite, other bituminous coal and sub-bituminous coal.

The term *total coal* also refers to the sum of hard coal and brown coal after conversion to a common energy unit (tonne of coal equivalent - tce). The conversion is done by multiplying the calorific value of the coal in question (the conversion factors are submitted by national administrations to the IEA Secretariat each year) by the total volume of hard and brown coal used, measured in physical units, i.e. in tonnes. One tce has an energy content of 29.3 Gigajoules (GJ) or 7 000 kcal and corresponds to 0.7 tonnes of oil equivalent (toe).

Defining coal consumption

Energy statistics are compiled and presented to take account of the complexity in the way fuels are used and to avoid double counting. Misunderstandings can arise when statistics on coal consumption are used because of the particular terminology used by energy statisticians.

Coal is used in four possible ways:

- As a primary input to produce electricity or a secondary/tertiary fuel that is used elsewhere or sold - this is referred to as use in transformation processes;
e.g. coking coal used to produce coke in a coke oven or steam coal used to produce electricity.
- As a fuel used to support a transformation process - this is referred to as energy industry own use;
e.g. coke oven gas used to heat the coke oven or steam coal used to operate the power plant.
- As a fuel consumed in manufacturing, industry, mining and construction, in transport, in agriculture, in commercial and public services and in households - this is referred to as use in the final consumption sectors;
e.g. steam coal used to produce heat in cement kilns, steam coal used to produce industrial process steam.
- As a raw material - this is referred to as non-energy use;
e.g. coal tar used as a chemical feedstock.

In the wider community, the term “consumption” is commonly understood to include all of the above end-uses. In Parts III and IV of this book, the term “consumption” refers only to use in the *final consumption* sectors (i.e. in the third item above). In Parts II and VI, “consumption”, unless otherwise specified, refers to Total Primary Energy Supply as defined in the section in *Flows: energy balance* in Part I, Definitions.

PART II

WORLD AND OECD COAL OVERVIEW

Table 1: World energy balance in 2016

Million tonnes of oil equivalent											
SUPPLY AND CONSUMPTION	Coal ¹	Crude oil ²	Oil products	Natural gas	Nuclear	Hydro	Geotherm./Solar/etc.	Biofuels/Waste	Electricity	Heat	Total
Production	3657.19	4473.27	-	3032.41	679.65	349.22	225.63	1344.87	-	1.76	13763.99
Imports	795.23	2379.32	1329.40	915.52	-	-	-	23.92	62.11	0.01	5505.50
Exports	-833.43	-2354.63	-1414.63	-932.53	-	-	-	-19.44	-62.25	-0.01	-5616.91
Stock changes	111.90	-15.32	-7.21	19.55	-	-	-	-0.06	-	-	108.86
TPES	3730.89	4482.63	-92.43	3034.95	679.65	349.22	225.63	1349.29	-0.14	1.77	13761.45
Transfers	-1.36	-233.00	262.09	-	-	-	-	-	-	-	27.73
Statistical differences	28.63	11.25	14.35	-11.26	-	-	0.09	0.84	-1.14	-0.35	42.41
Electricity plants	-1672.04	-40.48	-178.55	-868.18	-672.06	-349.22	-177.96	-120.97	1811.30	-0.72	-2268.88
CHP plants	-623.84	-0.01	-17.99	-314.57	-7.59	-	-2.56	-60.58	335.99	239.30	-451.86
Heat plants	-23.38	-0.83	-10.95	-61.70	-	-	-1.56	-13.13	-0.46	102.63	-9.39
Blast furnaces	-207.69	-	-0.05	-0.01	-	-	-	-0.04	-	-	-207.78
Gas works	-13.32	-	-2.17	5.42	-	-	-	-0.27	-	-	-10.34
Coke/pat.fuel/BKB/PB plants	-89.82	-	-2.32	-0.03	-	-	-	-0.12	-	-	-92.29
Oil refineries	-	-4246.76	4165.65	-	-	-	-	-	-	-	-81.11
Petrochemical plants	-	35.90	-35.37	-	-	-	-	-	-	-	0.53
Liquefaction plants	-12.08	15.16	-	-16.47	-	-	-	-	-	-	-13.40
Other transformation	-0.30	10.75	-0.54	-13.01	-	-	-	-90.54	-	-0.68	-94.32
Energy industry own use	-75.28	-11.24	-208.00	-296.17	-	-	-0.00	-13.46	-181.96	-36.50	-822.61
Losses	-4.91	-8.69	-0.47	-18.71	-	-	-0.01	-0.14	-169.65	-22.26	-224.84
TFC	1035.50	14.68	3893.25	1440.26	-	-	43.63	1050.88	1793.94	283.18	9553.32
INDUSTRY	826.95	6.66	299.71	537.77	-	-	0.92	198.33	746.69	135.57	2752.60
Iron and steel	293.80	-	6.65	51.93	-	-	-	3.43	95.81	13.70	465.32
Chemical and petrochemical	119.29	0.04	57.95	120.65	-	-	0.00	2.18	106.98	57.16	464.26
Non-ferrous metals	23.79	-	5.02	16.67	-	-	0.00	0.10	92.26	4.16	142.00
Non-metallic minerals	221.58	0.00	36.05	52.22	-	-	0.00	8.96	52.34	2.83	373.98
Transport equipment	2.53	-	2.00	12.59	-	-	0.00	0.03	25.06	3.84	46.05
Machinery	11.63	-	6.07	25.72	-	-	0.00	0.20	79.07	9.67	132.37
Mining and quarrying	7.58	-	21.97	7.98	-	-	0.00	0.18	27.61	2.15	67.46
Food and tobacco	30.57	0.01	10.19	47.92	-	-	0.00	31.78	44.65	11.22	176.34
Paper pulp and printing	16.86	0.01	3.95	24.14	-	-	0.11	60.22	38.81	12.18	156.28
Wood and wood products	1.92	-	2.18	3.00	-	-	0.00	8.84	9.09	2.33	27.36
Construction	4.35	-	29.91	8.29	-	-	0.00	0.37	16.39	0.91	60.21
Textile and leather	12.02	0.01	3.09	7.23	-	-	0.00	0.27	30.06	9.66	62.34
Non-specified	81.02	6.59	114.67	159.45	-	-	0.80	81.75	128.57	5.77	578.62
TRANSPORT	0.07	0.01	2533.20	101.89	-	-	-	81.97	30.73	-	2747.87
World aviation bunkers	-	-	186.31	-	-	-	-	-	-	-	186.31
Domestic aviation	-	-	118.95	-	-	-	-	-	-	-	118.95
Road	-	-	1926.98	41.97	-	-	-	81.57	4.38	-	2054.90
Rail	0.06	-	28.68	-	-	-	-	0.31	21.06	-	50.11
Pipeline transport	-	0.01	0.36	59.69	-	-	-	-	2.75	-	62.81
World marine bunkers	-	-	212.15	0.05	-	-	-	-	-	-	212.19
Domestic navigation	-	-	50.31	0.10	-	-	-	0.09	-	-	50.50
Non-specified	0.01	0.01	9.45	0.07	-	-	-	0.01	2.54	-	12.09
OTHER	152.78	0.02	423.17	631.82	-	-	42.71	770.58	1016.51	147.61	3185.21
Residential	72.73	-	209.30	431.24	-	-	31.64	728.60	488.44	99.20	2061.15
Comm. and public services	33.90	-	85.72	187.45	-	-	7.88	28.28	395.52	36.99	775.73
Agriculture/forestry	16.08	0.01	104.20	9.66	-	-	2.07	9.84	52.79	3.21	197.87
Fishing	0.00	-	5.68	0.06	-	-	0.05	0.01	0.55	0.05	6.41
Non-specified	30.08	0.01	18.27	3.42	-	-	1.06	3.84	79.21	8.16	144.05
NON-ENERGY USE	55.70	8.00	637.17	168.78	-	-	-	-	-	-	869.64
in industry/transf./energy	55.38	8.00	595.49	168.78	-	-	-	-	-	-	827.64
of which: chem./petrochem.	3.47	7.95	447.24	167.62	-	-	-	-	-	-	626.28
in transport	-	-	9.77	-	-	-	-	-	-	-	9.77
in other	0.32	-	31.91	-	-	-	-	-	-	-	32.23
Electricity and Heat Output											
Electr. Generated - TWh	9594.34	130.17	801.18	5793.90	2605.99	4061.47	1411.78	570.57	-	3.63	24973.02
Electricity plants	7293.16	130.16	736.32	4513.76	2579.29	4061.47	1401.83	345.79	-	2.69	21064.47
CHP plants	2301.18	0.01	64.86	1280.14	26.69	-	9.95	224.78	-	0.94	3908.55
Heat Generated - PJ	6053.21	19.06	597.46	6091.67	26.63	-	450.67	1053.86	11.38	85.98	14389.92
CHP plants	5200.63	0.15	205.26	3939.71	26.63	-	26.11	620.64	0.48	43.37	10062.97
Heat plants	852.59	18.90	392.19	2151.97	-	-	424.57	433.22	10.90	42.61	4326.95

1. Includes peat and oil shale.

2. Includes crude oil, NGL, refinery feedstocks, additives and other hydrocarbons.

Source: IEA/OECD World Energy Balance

Table 2: Total OECD energy balance in 2016

Million tonnes of oil equivalent											
SUPPLY AND CONSUMPTION	Coal ¹	Crude oil ²	Oil products	Natural gas	Nuclear	Hydro	Geotherm./ Solar/ etc.	Biofuels/ Waste	Electricity	Heat	Total
Production	820.54	1093.97	-	1092.36	512.24	121.45	116.93	305.34	-	0.72	4063.54
Imports	380.43	1442.50	630.67	661.55	-	-	-	21.83	40.91	0.01	3177.90
Exports	-347.32	-421.59	-672.12	-349.44	-	-	-	-14.06	-41.12	-0.01	-1845.67
Intl. marine bunkers	-	-	-77.13	-0.05	-	-	-	-	-	-	-77.18
Intl. aviation bunkers	-	-	-99.13	-	-	-	-	-	-	-	-99.13
Stock changes	39.26	-1.74	0.82	17.14	-	-	-	-0.17	-	-	55.31
TPES	892.90	2113.14	-216.89	1421.57	512.24	121.45	116.93	312.93	-0.22	0.73	5274.78
Transfers	-	-96.02	110.46	-	-	-	-	-	-	-	14.44
Statistical differences	2.00	-1.91	17.76	-0.35	-	-	0.09	0.52	1.35	-0.42	19.02
Electricity plants	-629.40	-2.40	-41.39	-424.01	-505.16	-121.45	-103.12	-50.78	844.34	-0.41	-1033.77
CHP plants	-74.75	-	-11.93	-109.31	-7.07	-	-2.56	-47.78	96.58	57.20	-99.62
Heat plants	-3.84	-	-1.08	-8.35	-	-	-1.53	-7.65	-0.46	18.71	-4.20
Blast furnaces	-52.61	-	-0.05	-0.01	-	-	-	-	-	-	-52.66
Gas works	-2.20	-	-1.85	3.20	-	-	-	-0.26	-	-	-1.11
Coke/pat. fuel/BKB/PB plants	-11.31	-	-0.93	-0.03	-	-	-	-0.12	-	-	-12.39
Oil refineries	-	-2048.87	2017.96	-	-	-	-	-	-	-	-30.91
Petrochemical plants	-	32.13	-32.23	-	-	-	-	-	-	-	-0.10
Liquefaction plants	-1.15	0.68	-	-	-	-	-	-	-	-	-0.47
Other transformation	-0.16	9.18	-0.00	-9.33	-	-	-	-0.22	-	-0.68	-1.22
Energy industry own use	-15.53	-0.11	-108.39	-135.72	-	-	-0.00	-1.01	-66.37	-8.58	-335.72
Losses	-1.34	-	-0.05	-1.74	-	-	-0.01	-0.05	-57.33	-6.61	-67.12
TFC	102.59	5.81	1731.38	735.92	-	-	9.79	205.60	817.89	59.94	3668.93
INDUSTRY	81.45	0.03	89.13	264.25	-	-	0.47	74.15	260.62	25.00	795.10
Iron and steel	33.70	-	2.50	24.96	-	-	-	0.06	27.55	0.70	89.48
Chemical and petrochemical	10.45	0.02	18.56	74.60	-	-	0.00	2.01	38.94	11.63	156.21
Non-ferrous metals	2.13	-	1.61	11.73	-	-	0.00	0.09	24.17	0.24	39.97
Non-metallic minerals	18.84	-	14.01	27.22	-	-	0.00	6.17	14.74	0.24	81.21
Transport equipment	0.35	-	1.08	8.55	-	-	0.00	0.02	13.42	0.73	24.15
Machinery	0.18	-	2.81	18.25	-	-	0.00	0.18	31.03	0.66	53.10
Mining and quarrying	0.40	-	10.31	4.55	-	-	0.00	0.13	10.46	0.12	25.95
Food and tobacco	5.62	0.00	4.38	38.29	-	-	0.00	4.70	22.64	1.96	77.59
Paper, pulp and printing	4.76	-	2.36	20.13	-	-	0.11	49.74	25.46	3.07	105.63
Wood and wood products	0.07	-	1.48	2.47	-	-	-	7.94	4.90	0.73	17.59
Construction	0.03	-	16.12	3.09	-	-	0.00	0.35	8.36	0.05	28.02
Textile and leather	0.87	0.01	0.64	4.63	-	-	0.00	0.11	6.18	0.68	13.12
Non-specified	4.05	-	13.25	25.81	-	-	0.36	2.64	32.76	4.19	83.07
TRANSPORT	0.01	-	1146.52	26.10	-	-	-	55.41	9.77	-	1237.81
Domestic aviation	-	-	76.70	-	-	-	-	-	-	-	76.70
Road	-	-	1031.12	4.18	-	-	-	55.01	0.58	-	1090.89
Rail	0.01	-	17.44	-	-	-	-	0.31	7.47	-	25.22
Pipeline transport	-	-	0.05	21.78	-	-	-	-	0.71	-	22.53
Domestic navigation	-	-	20.40	0.10	-	-	-	0.08	-	-	20.58
Non-specified	-	-	0.81	0.05	-	-	-	0.01	1.01	-	1.88
OTHER	18.21	-	175.77	407.93	-	-	9.32	76.05	547.51	34.94	1269.72
Residential	11.87	-	73.82	250.86	-	-	5.67	63.15	254.38	22.84	682.59
Comm. and public services	5.21	-	51.11	150.28	-	-	2.68	8.61	260.39	11.66	489.94
Agriculture/forestry	1.09	-	43.40	5.78	-	-	0.84	3.20	12.31	0.23	66.84
Fishing	0.00	-	4.13	0.04	-	-	0.05	0.01	0.40	0.04	4.66
Non-specified	0.04	-	3.31	0.96	-	-	0.08	1.09	20.03	0.18	25.68
NON-ENERGY USE	2.93	5.78	319.97	37.63	-	-	-	-	-	-	366.30
in industry/transf./energy	2.74	5.78	305.39	37.63	-	-	-	-	-	-	351.54
of which: chem./petrochem.	1.73	5.78	231.27	37.63	-	-	-	-	-	-	276.41
in transport	-	-	7.68	-	-	-	-	-	-	-	7.68
in other	0.18	-	6.90	-	-	-	-	-	-	-	7.08
Electricity and Heat Output											
Electr. generated - TWh	3043.76	11.72	231.25	3003.49	1965.45	1412.47	920.25	353.31	-	1.28	10942.97
Electricity plants	2755.70	11.72	187.97	2416.21	1938.76	1412.47	910.30	185.32	-	0.69	9819.13
CHP plants	288.06	-	43.28	587.28	26.69	-	9.95	167.99	-	0.59	1123.84
Heat generated - PJ	744.30	-	165.45	1336.85	5.04	-	87.09	818.52	8.85	42.44	3208.53
CHP plants	613.20	-	134.17	1053.38	5.04	-	26.11	562.94	0.48	19.48	2414.79
Heat plants	131.10	-	31.28	283.47	-	-	60.98	255.57	8.38	22.97	793.74

1. Includes peat and oil shale.

2. Includes crude oil, NGL, refinery feedstocks, additives and other hydrocarbons.

Source: IEA/OECD World Energy Balances

Table 3: World total coal supply and end use 2016
(million tonnes)¹

	Production	Imports	Exports	End-use sectors			
				Power and heat plants	Steel industry	Residential	Other Sectors
Total OECD	1745.3	602.8	527.1	1560.3	207.2	18.7	117.9
Australia ²	500.3	0.0	389.3	110.0	3.7	x	3.9
Austria	x	3.4	x	0.7	2.6	0.0	0.2
Belgium	0.0	3.5	0.1	0.1	3.1	0.1	0.3
Canada	61.3	6.3	30.3	34.4	3.1	0.0	1.4
Czech Republic	45.5	3.7	4.4	37.1	3.3	1.7	3.6
Denmark	x	2.9	0.0	3.4	x	x	0.2
Finland	3.0	4.1	x	7.9	1.5	0.0	1.0
France	x	11.8	x	3.3	6.8	0.0	1.6
Germany	175.6	57.8	0.3	196.8	18.9	0.1	17.7
Greece	32.6	0.3	x	34.2	x	0.0	0.3
Hungary	9.2	1.6	0.2	8.9	1.2	0.4	0.1
Ireland	3.2	1.9	0.0	4.5	x	0.6	0.6
Italy	x	16.7	x	13.4	3.2	x	0.5
Japan ²	1.3	186.0	0.0	111.3	66.5	x	13.2
Korea	1.7	134.5	x	89.6	37.2	x	7.9
Mexico	12.6	8.3	0.0	16.2	2.0	x	2.2
Netherlands	x	49.5	34.6	12.1	4.4	x	0.1
New Zealand	2.9	0.5	1.2	0.2	0.9	0.0	1.2
Poland	131.0	8.6	9.3	103.7	13.2	10.7	7.4
Portugal	x	4.9	x	4.8	0.0	x	x
Spain	1.8	13.8	0.5	16.6	2.9	0.1	0.3
Turkey	73.0	36.2	0.1	78.3	6.9	4.1	16.7
United Kingdom	4.2	8.5	0.4	12.3	3.2	0.6	1.9
United States	660.8	8.9	54.7	618.4	16.4	x	28.4
<i>Other OECD</i> ³	<i>25.2</i>	<i>29.0</i>	<i>1.8</i>	<i>42.2</i>	<i>6.0</i>	<i>0.1</i>	<i>7.2</i>
Non-OECD Europe and Eurasia	642.0	46.8	198.6	337.1	104.7	8.1	39.2
Kazakhstan	103.1	0.0	26.0	43.8	14.4	2.1	18.3
Russian Federation	367.5	24.0	171.2	138.1	68.9	3.5	6.8
Ukraine	40.4	15.7	0.5	32.2	19.3	0.4	2.4
<i>Oth. non-OECD Eur. and Eurasia</i>	<i>131.0</i>	<i>7.1</i>	<i>0.8</i>	<i>123.0</i>	<i>2.1</i>	<i>2.0</i>	<i>11.7</i>
Non-OECD Asia	4597.2	628.5	437.4	2895.3	874.9	98.7	1117.4
China, People's Republic of	3268.2	255.6	8.7	1989.0	736.3	89.3	905.0
Hong Kong, China	x	11.2	x	9.1	x	x	2.1
India ²	711.7	193.6	0.9	656.3	125.7	6.5	113.5
Indonesia	463.5	3.9	372.9	75.4	0.4	x	18.7
DPR of Korea	31.1	1.2	22.6	1.2	x	x	8.5
Taipei, Chinese	x	65.6	0.0	44.0	11.1	x	10.8
<i>Other Asia</i>	<i>122.8</i>	<i>97.3</i>	<i>32.3</i>	<i>120.2</i>	<i>1.5</i>	<i>2.9</i>	<i>58.9</i>
Non-OECD Africa and Middle East	267.1	15.2	80.0	134.8	8.0	5.0	61.3
South Africa	255.3	0.5	69.9	122.3	5.7	5.0	54.8
<i>Other Africa / Middle East</i>	<i>11.8</i>	<i>14.7</i>	<i>10.0</i>	<i>12.4</i>	<i>2.3</i>	<i>0.0</i>	<i>6.5</i>
Non-OECD Americas	98.6	25.3	84.1	16.2	17.5	0.1	6.7
Brazil	7.0	19.5	x	9.4	13.8	x	2.5
Colombia	90.5	x	83.3	2.4	3.1	0.1	2.9
<i>Other non-OECD Americas</i>	<i>1.0</i>	<i>5.8</i>	<i>0.8</i>	<i>4.5</i>	<i>0.6</i>	<i>0.0</i>	<i>1.3</i>
Total non-OECD	5604.9	715.7	800.0	3383.4	1005.2	111.9	1224.5
Total World	7350.2	1318.5	1327.1	4943.8	1212.4	130.5	1342.5

1. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite, peat and, oil shale and oil sands.

2. Fiscal year. See the explanatory notes and definitions in Part I.

3. Chile, Estonia, Iceland, Israel, Latvia, Luxembourg, Norway, Slovak Republic, Slovenia, Sweden and Switzerland.

Note: Steel industry consumption includes consumption in coke ovens. Power and heat stations column includes hard coal used in electricity and CHP production by public utilities and autoproducers, and in district heating. Other sectors includes consumption in non-ferrous industries, non-energy use, other transformation, losses and consumption in other sectors.

Source: IEA/OECD World Energy Statistics

Table 3: World total coal supply and end use 2017p
(million tonnes)¹

	Production	Imports	Exports	End-use sectors			
				Power and heat plants	Steel industry	Residential	Other Sectors
Total OECD	1792.6	614.9	536.5	x	x	x	x
Australia ²	501.1	0.1	378.9	x	x	x	x
Austria	x	3.6	x	x	x	x	x
Belgium	0.0	3.6	0.1	x	x	x	x
Canada	61.4	7.5	31.1	..	..	..	..
Czech Republic	45.0	3.8	3.4	x	x	x	x
Denmark	x	3.1	x	x	x	x	x
Finland	3.1	4.2	0.0	x	x	x	x
France	x	14.1	x	x	x	x	x
Germany	175.1	48.0	0.2	x	x	x	x
Greece	37.4	0.4	0.0	x	x	x	x
Hungary	8.0	1.7	0.0	x	x	x	x
Ireland	3.6	2.0	0.0	x	x	x	x
Italy	x	15.4	0.0	x	x	x	x
Japan ²	1.3	187.5	0.0	x	x	x	x
Korea	1.5	148.2	x	x	x	x	x
Mexico	11.8	10.4	0.0	x	x	x	x
Netherlands	x	40.3	24.4	x	x	x	x
New Zealand	2.9	0.5	1.2	x	x	x	x
Poland	127.0	13.7	7.3	x	x	x	x
Portugal	x	5.7	x	x	x	x	x
Spain	2.8	19.2	0.3	x	x	x	x
Turkey	76.6	38.3	0.1	x	x	x	x
United Kingdom	3.0	8.5	0.5	x	x	x	x
United States	702.3	7.1	88.0	x	x	x	x
<i>Other OECD</i> ³	<i>28.7</i>	<i>28.3</i>	<i>1.0</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>
Non-OECD Europe and Eurasia	658.6	56.5	218.4	x	x	x	x
Kazakhstan	106.0	0.1	27.1	..	..	..	..
Russian Federation	388.2	29.1	189.8	..	..	..	..
Ukraine	28.6	19.8	0.6	..	..	..	..
<i>Oth. non-OECD Eur. and Eurasia</i>	<i>135.9</i>	<i>7.5</i>	<i>0.8</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>
Non-OECD Asia	4754.8	674.9	448.0	x	x	x	x
China, People's Republic of	3376.1	271.1	10.7	..	..	..	..
Hong Kong, China	x	10.5	x	x	x	x	x
India ²	729.8	208.3	1.5	..	..	..	..
Indonesia	487.6	3.7	390.6	x	x	x	x
DPR of Korea	18.9	0.7	2.7	x	x	x	x
Taipei, Chinese	x	67.6	0.0	x	x	x	x
<i>Other Asia</i>	<i>142.4</i>	<i>112.9</i>	<i>42.5</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>
Non-OECD Africa and Middle East	276.0	14.2	83.5	x	x	x	x
South Africa	257.1	x	71.0	x	x	x	x
<i>Other Africa / Middle East</i>	<i>18.9</i>	<i>14.2</i>	<i>12.6</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>
Non-OECD Americas	95.3	26.6	86.7	x	x	x	x
Brazil	4.8	21.0	x	..	..	..	..
Colombia	89.4	x	86.1	x	x	x	x
<i>Other non-OECD Americas</i>	<i>1.1</i>	<i>5.6</i>	<i>0.6</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>
Total non-OECD	5784.7	772.1	836.6	x	x	x	x
Total World	7577.3	1387.0	1373.1	x	x	x	x

1. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite. Peat, oil shale and oil sands are also included for OECD countries and the Russian Federation.

2. Fiscal year. See the explanatory notes and definitions in Part I.

3. Chile, Estonia, Iceland, Israel, Latvia, Luxembourg, Norway, Slovak Republic, Slovenia, Sweden and Switzerland.

Note: Steel industry consumption includes consumption in coke ovens. Power and heat stations column includes hard coal used in electricity and CHP production by public utilities and autoproducers, and in district heating. Other sectors includes consumption in non-ferrous industries, non-energy use, other transformation, losses and consumption in other sectors.

Source: IEA/OECD World Energy Statistics
INTERNATIONAL ENERGY AGENCY

Table 4: World coal¹ production
(thousand tonnes)

	1973	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p
Australia	79604	104504	160726	204562	241807	306722	370590	435876	512431	500343	501056
Austria	3328	2865	3081	2448	1298	1249	-	-	-	-	-
Belgium	10362	8018	7666	2357	637	375	109	16	15	14	16
Canada	20472	36688	60853	68332	74981	69163	70028	67894	62385	61331	61364
Chile	1435	1165	1326	2183	1038	366	544	619	3143	2525	2495
Czech Republic	103745	116807	121037	101398	74901	65162	62026	55367	46531	45543	45013
France	29114	22750	18894	13532	9896	4100	617	261	-	-	-
Germany	470816	484218	522886	434021	251614	205067	205925	183511	184714	175625	175122
Greece	13301	23198	35888	51896	57662	63887	69398	56520	46246	32638	37383
Hungary	27111	26025	24092	17830	14772	14033	9570	9113	9261	9216	7954
Ireland	64	60	57	25	1	-	-	-	-	-	-
Italy	1190	1286	1892	1014	172	14	95	101	81	-	-
Japan	25190	18054	16381	7985	6317	2964	1249	1145	1265	1288	1322
Korea	13571	18625	22543	17217	5720	8300	2832	2084	1764	1726	1486
Mexico	2578	3089	5193	6933	9320	11344	13475	15304	10677	12567	11776
Netherlands	1829	-	101	-	-	-	-	-	-	-	-
New Zealand	2468	2138	2526	2578	3577	3459	5267	5331	3389	2870	2941
Norway	415	288	507	303	292	632	1471	1935	1106	818	131
Poland	195845	229987	249388	215320	200713	162815	159540	133238	135814	131029	127045
Portugal	221	177	237	281	-	-	-	-	-	-	-
Slovak Republic	5804	5796	5731	4766	3759	3648	2511	2378	1939	1847	1836
Slovenia	x	x	x	5583	4884	4480	4540	4430	3168	3349	3356
Spain	12994	28292	39663	35682	28305	23471	19481	8430	3064	1800	2777
Sweden	12	18	13	11	-	-	-	-	-	-	-
Turkey	12396	18625	39997	47428	55073	63268	58340	73399	58414	73004	76644
United Kingdom	131985	130097	94111	92762	53037	31198	20498	18346	8598	4178	3041
United States	543012	752961	801636	933561	937098	971591	1038591	996107	813690	660760	702268
IEA Total	1707427	2034566	2235099	2262242	2030952	2012462	2111613	2066356	1901384	1716597	1759175
OECD Total	1708862	2035731	2236425	2270008	2036874	2017308	2116697	2071405	1907695	1722471	1765026
Algeria	333	3	23	-	-	-	-	-	-	-	-
Botswana	..	..	437	794	898	947	985	988	2085	1877	2222
Dem. Rep. of Congo	130	138	121	126	-	-	-	-	-	-	-
Egypt	-	-	-	-	-	58	25	-	-	-	-
Ethiopia	-	-	-	-	-	-	-	36	-	-	-
Morocco	565	680	775	526	650	31	12	-	-	-	-
Mozambique	394	207	35	40	38	16	3	38	6601	6066	11260
Niger	..	..	..	..	..	158	182	275	226	247	247
Nigeria	327	176	140	90	20	3	8	38	47	46	46
South Africa	62352	115120	173500	174800	206211	224200	244986	254522	255425	255309	257107
Tanzania	-	1	15	4	44	79	31	-	257	276	563
Zambia	940	570	511	377	152	196	150	1	164	328	328
Zimbabwe	2806	2768	3104	5345	4693	4484	3621	2870	4336	1636	2928
Other Africa	160	567	317	314	342	427	496	543	196	200	200

Table 4: World coal¹ production (continued)
(thousand tonnes)

	1973	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p
Argentina	451	390	400	276	305	259	25	65	34	23	23
Brazil	2339	5242	7712	4595	5199	6806	6255	5415	8029	7005	4818
Colombia	2834	4164	8766	21375	25651	38242	59064	74350	85548	90512	89439
Peru	33	41	127	97	51	17	43	88	243	251	301
Venezuela	50	42	40	2189	4064	7885	7195	2730	830	749	749
Bangladesh	-	-	-	-	-	-	178	705	676	1022	1161
India	79908	116110	158508	225258	290426	335675	437267	570427	683072	711680	729791
Indonesia	149	304	1908	10230	41828	79377	170541	325000	454772	463477	487607
DPR of Korea	30198	44106	52000	46353	31300	29743	34610	25500	27490	31060	18893
Malaysia	-	-	-	111	135	384	788	2397	2559	2259	2885
Mongolia	..	..	6523	7157	5019	5185	7516	25213	22250	32166	48145
Myanmar	10	38	86	78	35	580	554	686	751	550	550
Nepal	-	-	-	-	-	17	12	15	19	21	21
Pakistan	1143	1569	2238	2746	3637	3094	4871	3451	4141	4088	4441
Philippines	39	326	1256	1232	1293	1357	2880	6650	7378	11211	11578
Chinese Taipei	3327	2574	1858	472	235	83	-	-	-	-	-
Thailand	361	1525	5188	12421	18421	17708	20878	18344	15151	16979	16280
Viet Nam	2990	5200	5594	4638	8350	11609	34093	44835	41484	38527	40382
Other Asia	2441	4496	151	108	97	463	740	1754	6243	15991	16982
PR of China	417000	620150	837272	1039820	1338746	1354886	2317325	3316101	3563165	3268207	3376058
Albania	811	1420	2150	2071	80	30	45	10	99	6	139
Bosnia and Herzegovina	x	x	x	19670	1640	7439	9119	10985	12173	13644	14029
Bulgaria	26810	30213	30880	31675	30830	26432	24695	29424	35910	31283	34317
Croatia	x	x	x	174	82	-	-	-	-	-	-
F.Y.R. of Macedonia	x	x	x	6644	7249	7516	6881	6724	5937	5152	5043
Georgia	x	x	x	1103	34	7	5	105	306	297	272
Kazakhstan	x	x	x	131443	84494	77444	87197	110929	107319	103074	105965
Kosovo	x	x	x	..	..	4989	6554	8649	8241	8801	7575
Kyrgyzstan	x	x	x	3635	463	425	335	575	1929	1851	1851
Montenegro	x	x	x	..	..	..	1297	1938	1773	1398	1475
Romania	24851	35164	46581	38183	41121	29285	31106	31127	25493	22980	25675
Russian Federation	x	x	x	371899	245728	240324	282881	298698	351662	366347	387240
Serbia	x	x	x	45937	40595	37094	35100	37976	37826	38440	39759
Tajikistan	x	x	x	925	41	22	99	200	1042	1361	1760
Ukraine	x	x	x	152763	76298	62403	60394	57659	34958	39862	28560
Uzbekistan	x	x	x	6400	3054	2570	3076	3630	4356	4349	4000
Former Soviet Union	667600	716000	726000	x	x	x	x	x	x	x	x
Former Yugoslavia	32450	41301	68472	x	x	x	x	x	x	x	x
Islam. Rep. of Iran	903	925	1106	835	1084	1148	1556	1089	1095	1115	1115
Non-OECD Total	1364705	1751530	2143794	2374929	2520633	2621097	3905674	5282755	5823291	5601723	5783780
World	3073567	3787261	4380219	4644937	4557507	4638405	6022371	7354160	7730986	7324194	7548806

1. Coal comprises primary coals (anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite).

For further information, see the explanatory notes and definitions in Part I.

Source: IEA/OECD World Energy Statistics

Table 5: World coal¹ production
(kilotonnes of coal equivalent)

	1973	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p
Australia	57501	74140	119913	151576	182605	235112	287969	352234	426545	417187	419847
Austria	1455	1203	1324	911	483	418	-	-	-	-	-
Belgium	9178	6726	6745	1687	436	294	82	12	12	11	12
Canada	16714	28924	48205	54182	58352	49153	49362	48493	43958	42891	43381
Chile	1369	1115	1273	2073	986	348	385	362	1803	1448	1431
Czech Republic	54023	57642	58983	51877	39390	35784	33671	29752	24158	23028	22139
France	25766	19108	15573	11809	8603	3546	547	232	-	-	-
Germany	202003	204491	207193	173842	112722	86571	80655	65580	61434	56750	56425
Greece	2419	4219	6911	10169	10729	11745	12197	10451	8108	5675	6500
Hungary	8647	9059	8202	6034	4665	4133	2497	2276	2169	2089	1803
Ireland	65	60	51	22	0.9	-	-	-	-	-	-
Italy	425	459	676	393	61	5.0	86	92	74	-	-
Japan	25576	15577	14144	6163	4923	2174	954	875	925	942	967
Korea	9500	11707	14170	10822	3521	5197	1801	1370	1121	1097	945
Mexico	2147	2475	3894	5346	6460	8114	10115	11437	8249	9943	9461
Netherlands	1623	-	93	-	-	-	-	-	-	-	-
New Zealand	1647	1632	1868	2033	3086	2962	4520	4482	2765	2331	2381
Norway	415	288	507	291	280	606	1410	1855	1060	784	126
Poland	143895	171922	175068	141385	130101	101855	98367	79116	76952	74726	70983
Portugal	189	104	139	165	-	-	-	-	-	-	-
Slovak Republic	2428	2424	2397	1995	1452	1455	910	876	708	645	642
Slovenia	x	x	x	1929	1703	1517	1691	1709	1232	1346	1348
Spain	9251	14035	19098	16779	14505	11380	8950	4709	1780	1052	1477
Sweden	12	8.7	6.3	5.3	-	-	-	-	-	-	-
Turkey	7445	8790	15248	16268	16664	18604	15107	23915	18284	22140	23077
United Kingdom	108416	105652	76771	76593	45820	26654	17237	15486	7307	3574	2601
United States	476228	639884	664373	774742	756835	766936	807545	759771	616117	497806	533064
IEA Total	1166965	1380530	1461552	1515086	1401694	1372697	1433984	1413014	1301724	1162670	1195829
OECD Total	1168334	1381644	1462825	1519087	1404382	1374561	1436060	1415084	1304759	1165463	1198608
Algeria	299	2.9	22	-	-	-	-	-	-	-	-
Botswana	..	..	352	639	723	763	793	796	1679	1511	1789
Dem. Rep. of Congo	117	119	104	109	-	-	-	-	-	-	-
Egypt	-	-	-	-	-	51	22	-	-	-	-
Ethiopia	-	-	-	-	-	-	-	32	-	-	-
Morocco	507	599	620	421	520	25	9.6	-	-	-	-
Mozambique	336	177	30	34	32	14	2.6	32	6153	5596	10364
Niger	..	..	..	..	..	64	74	112	92	100	100
Nigeria	293	155	123	79	18	2.6	7.0	34	41	41	41
South Africa	50203	95366	142506	143090	168597	181323	197664	205634	206475	206507	208124
Tanzania	-	0.9	13	3.6	39	70	27	-	226	243	496
Zambia	792	481	431	318	128	165	126	0.8	138	277	277
Zimbabwe	2585	2550	2859	4923	4323	4130	3335	2644	3994	1507	2697
Other Africa	144	499	279	276	301	376	437	478	173	176	176

Table 5: World coal¹ production (continued)
(kilotonnes of coal equivalent)

	1973	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p
Argentina	380	329	337	233	257	218	21	55	29	19	19
Brazil	1257	3560	5059	2759	2931	3759	3548	3007	4381	3765	2763
Colombia	2632	3867	8140	19848	23819	35510	54845	69039	79437	84046	83050
Peru	33	41	127	97	51	17	43	88	243	251	301
Venezuela	52	44	42	2283	4238	8223	7503	2847	866	781	781
Bangladesh	-	-	-	-	-	-	127	503	483	730	829
India	46771	68348	93785	133343	168261	186625	233298	304106	376453	387450	395097
Indonesia	134	248	1557	8353	34133	64935	140329	266162	350097	355495	374248
DPR of Korea	25018	36338	42618	38026	25424	24153	28383	20723	24101	27262	16162
Malaysia	-	-	-	100	122	346	710	2159	2305	2034	2598
Mongolia	..	..	3438	3805	3091	2582	5218	21701	18752	27884	43343
Myanmar	9.0	21	55	51	20	458	455	585	636	374	374
Nepal	-	-	-	-	-	15	10	13	16	18	18
Pakistan	731	896	1278	1568	2077	1767	2652	1955	2480	2505	2565
Philippines	17	246	946	928	974	1022	2171	5014	5563	8453	8730
Chinese Taipei	2994	2280	1646	418	208	74	-	-	-	-	-
Thailand	119	588	2149	5146	7634	7336	8650	7600	5511	6151	5898
Viet Nam	2392	4160	4475	3710	6680	9287	27148	35868	33187	30822	32306
Other Asia	1295	2408	133	95	85	322	527	1349	3684	8484	8971
PR of China	295410	443884	584359	740559	962323	1019291	1752902	2460699	2689624	2455577	2532602
Albania	406	710	1075	696	27	10	15	3.4	48	2.9	59
Bosnia and Herzegovina	x	x	x	5969	498	3512	4210	5001	4522	5029	5171
Bulgaria	6646	7412	7546	7690	7554	6135	5969	7057	8359	7288	7990
Croatia	x	x	x	144	68	-	-	-	-	-	-
F.Y.R. of Macedonia	x	x	x	1735	1893	1732	1755	1706	1252	1065	1042
Georgia	x	x	x	944	20	4.2	3.0	63	178	172	158
Kazakhstan	x	x	x	82873	53068	48757	54692	69353	67300	64578	66413
Kosovo	x	x	x	..	..	1328	1745	2303	2194	2343	2017
Kyrgyzstan	x	x	x	2018	256	226	173	298	1011	959	959
Montenegro	x	x	x	..	..	..	410	609	557	439	464
Romania	8644	11575	14698	12355	11266	8002	8276	8433	6730	6049	6758
Russian Federation	x	x	x	273224	185302	182946	224334	237295	285771	298392	316506
Serbia	x	x	x	14531	12643	11931	10658	10327	10287	10287	10640
Tajikistan	x	x	x	526	22	12	61	123	653	856	1109
Ukraine	x	x	x	121864	60584	51760	49326	48021	28822	32492	22605
Uzbekistan	x	x	x	3227	1537	1294	1548	1824	2227	2223	2050
Former Soviet Union	451456	476897	439907	x	x	x	x	x	x	x	x
Former Yugoslavia	10926	13748	22226	x	x	x	x	x	x	x	x
Islam. Rep. of Iran	810	883	1056	797	1029	1087	1446	1039	1038	1056	1056
Non-OECD Total	913407	1178431	1383991	1639807	1752775	1871658	2835657	3806688	4237766	4051289	4179713
World	2081740	2560075	2846816	3158895	3157157	3246220	4271717	5221772	5542525	5216752	5378321

1. Coal comprises all primary coals (anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite).

For further information, see the explanatory notes and definitions in Part I.

Source: IEA/OECD World Energy Statistics

Table 6: World coal¹ consumption
(thousand tonnes)

	1973	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p ²
Australia	51413	67316	78360	95289	102491	128123	139601	134035	117182	116666	117715
Austria	6184	6145	7046	6663	5135	5105	5319	3840	3762	3526	3425
Belgium	17169	17099	15851	16429	12589	11046	7551	5684	4156	3660	3719
Canada	25614	37272	48175	49146	52634	62968	61705	48482	39495	37114	36410
Chile	1772	1718	1827	3720	3391	4590	4571	8351	12193	12959	12697
Czech Republic	103745	103759	105884	91832	66480	61089	56843	52179	45702	46104	44702
Denmark	3146	9669	11935	9992	11003	6641	6293	6496	3136	3387	2652
Estonia	x	x	x	382	85	87	56	60	29	27	45
Finland	3035	5692	5318	5648	6540	5193	4598	6980	4052	4896	4384
France	43064	50650	38925	30885	24127	22156	21178	17385	13037	12841	13876
Germany	478298	488138	525987	451015	269035	238905	241918	231418	238519	231531	222176
Greece	13651	23237	37964	53433	58442	65685	70659	58318	44548	34563	38037
Hungary	29033	27544	25626	20305	16931	15173	11588	10989	10705	10581	9618
Iceland	1	12	69	65	65	101	117	106	116	124	122
Ireland	822	1066	1586	3198	2689	2938	2988	2001	2315	2245	1788
Israel	-	-	2927	3720	6568	10591	12124	12310	11036	9185	8279
Italy	12902	18409	23935	22416	17642	18043	24248	21767	19459	17044	15334
Japan	81790	87726	109391	114967	133533	153187	178231	186554	190530	187256	188830
Korea	16329	27790	42505	44776	44634	71799	82272	120048	133890	134910	150461
Latvia	x	x	x	920	252	97	120	167	81	71	70
Luxembourg	305	374	199	197	217	172	122	102	73	81	68
Mexico	2894	3973	5317	7376	10621	12570	21186	23354	19154	20392	20588
Netherlands	4814	6129	10379	12884	14278	12742	13006	11894	18040	16513	14748
New Zealand	2460	1976	2074	2243	2138	2096	4286	2645	2832	2403	2411
Norway	772	951	1118	749	1018	999	795	706	788	712	832
Poland	156379	199086	214135	187622	171019	142859	142027	141381	134968	135108	135646
Portugal	805	604	1050	4397	5708	6154	5476	2702	5504	4801	5450
Slovak Republic	18618	21412	21593	18360	12551	8869	8290	7214	6363	6086	6085
Slovenia	x	x	x	6090	5239	4925	5192	4917	3584	3759	3753
Spain	16322	31222	48440	46823	42542	45654	44498	14661	24414	19192	22555
Sweden	1060	2138	4158	3709	3444	2861	3070	2859	2802	2673	2602
Switzerland	258	315	640	494	253	179	218	230	207	181	175
Turkey	12237	20431	41490	54372	61020	79932	76736	94809	92514	106531	112750
United Kingdom	133527	123610	105980	106722	75916	59839	61779	51377	37594	17883	14373
United States	505515	650167	744671	815949	863552	966391	1029721	949702	718794	657698	640711
IEA Americas	534023	691412	798163	872471	926807	1041929	1112612	1021538	777443	715204	697709
IEA Asia Oceania	151992	184808	232330	257275	282796	355205	404390	443282	444434	441235	459417
IEA Europe	1056146	1157680	1249239	1148527	878664	812321	809256	745052	712687	680166	675040
OECD Americas	535795	693130	799990	876191	930198	1046519	1117183	1029889	789636	728163	710406
OECD Asia Oceania	151992	184808	235257	260995	289364	365796	416514	455592	455470	450420	467696
OECD Europe	1056147	1157692	1249308	1155602	884220	817444	814685	750242	716468	684120	678985
IEA Total	1742161	2033900	2279732	2278273	2088267	2209455	2326258	2209872	1934564	1836605	1832166
OECD Total	1743934	2035630	2284555	2292788	2103782	2229759	2348382	2235723	1961574	1862703	1857087

Table 6: World coal¹ consumption (continued)
(thousand tonnes)

	1973	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p ²
Algeria	63	93	1226	1005	632	689	950	-	11	-	-
Benin	-	-	-	-	-	-	-	-	41	120	-
Botswana	..	..	466	815	912	1040	1002	932	1836	1672	2127
Dem. Rep. of Congo	170	167	156	169	-	-	-	-	-	-	-
Egypt	487	894	1192	1340	1540	1820	1810	987	341	257	598
Ethiopia	-	-	-	-	-	-	-	50	411	442	487
Kenya	70	16	90	151	156	107	145	268	566	557	529
Mauritius	-	-	34	56	63	222	379	661	804	926	1431
Morocco	582	635	1110	1774	2665	4018	4762	4230	6734	6490	6745
Mozambique	587	288	106	58	56	-	-	10	741	17	17
Namibia	..	..	..	..	16	3	20	13	4	34	6
Niger	..	..	..	..	..	158	177	273	230	247	247
Nigeria	289	151	94	55	20	3	8	38	47	46	125
Senegal	-	-	-	-	-	-	152	287	606	737	613
South Africa	60408	86961	125870	124900	147205	157135	175403	189401	180114	185895	186142
Tanzania	-	1	15	4	44	79	31	-	257	276	563
Tunisia	33	21	21	15	-	-	-	-	-	-	-
Zambia	941	618	471	375	148	130	140	1	164	328	328
Zimbabwe	2758	2614	3026	5355	4494	4496	3673	2904	3480	3087	2652
Other Africa	233	648	361	351	373	597	638	896	799	815	778
Argentina	1072	1425	1247	1367	1439	1058	1383	1504	1579	1237	1176
Brazil	4122	9142	16861	15436	17120	20270	20003	21707	27413	25647	26027
Colombia	2859	2801	3142	4825	5608	4231	4173	6202	9189	9206	7094
Costa Rica	1	1	1	-	-	1	2	1	1	1	-
Cuba	63	95	126	153	77	22	22	23	7	2	2
Dominican Republic	-	-	224	17	80	90	787	829	1113	1085	1041
Guatemala	-	22	-	-	-	215	409	492	1535	1803	1996
Haiti	-	-	61	12	-	-	-	-	-	-	-
Honduras	-	-	-	-	-	135	241	107	113	164	172
Jamaica	-	-	-	52	55	53	58	51	98	73	122
Panama	13	-	32	32	51	60	-	-	339	300	87
Peru	86	74	107	149	389	708	1075	1182	1119	1150	1179
Uruguay	32	4	-	1	-	1	1	4	4	5	4
Venezuela	53	42	42	355	7	181	52	273	187	169	437
Oth. non-OECD Americas	1	1	-	-	-	125	148	155	206	210	744
Bangladesh	243	235	98	563	642	660	845	1622	4556	3403	3831
Cambodia	..	..	..	..	-	-	-	27	1235	1429	2382
Hong Kong (China)	12	3	5523	8928	9109	6058	10824	10324	11184	11161	10503
India	77172	107796	156229	220707	294875	357009	463510	683027	885996	901921	941606
Indonesia	129	236	925	6320	11892	22720	42031	60055	89827	94460	100771
DPR of Korea	30580	44456	54200	48453	31940	29383	31806	20947	8580	9714	9714
Malaysia	13	84	574	2150	2558	3661	10926	23161	27787	29861	33567
Mongolia	..	..	6167	6649	5204	5212	5473	6957	7068	8274	8757
Myanmar	74	248	266	118	38	580	554	686	751	974	838
Nepal	78	83	17	81	123	430	413	505	929	1149	932
Pakistan	1270	1667	2954	4246	4722	4044	7714	7718	9026	9253	14480
Philippines	40	558	2419	2576	3004	8603	9909	13125	21769	24708	27066
Singapore	1	1	2	2	-	-	1	-	649	681	732
Sri Lanka	-	-	1	8	5	-	93	95	1966	2082	2270
Chinese Taipei	3572	5956	11085	17230	26229	46780	59716	63415	63902	65320	67590

Table 6: World coal¹ consumption (continued)
(thousand tonnes)

	1973	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p ²
Thailand	362	1619	5344	12707	20801	21270	29525	35419	35821	34517	34106
Viet Nam	2770	4052	4990	3951	5917	7808	14812	26146	44763	49808	54665
Other Asia	2548	4857	345	303	244	575	727	1886	7082	16842	17952
PR of China	414180	626010	803907	1055667	1312632	1289609	2307285	3444796	3787600	3642772	3653700
Albania	899	1580	2370	2145	80	73	54	177	201	87	196
Armenia	x	x	x	552	3	-	-	1	1	2	-
Azerbaijan	x	x	x	200	6	-	-	-	-	-	-
Belarus	x	x	x	2389	1125	504	168	79	680	618	647
Bosnia and Herzegovina	x	x	x	19670	1640	7437	9457	12090	12994	15037	15329
Bulgaria	32447	36703	38934	37824	34316	29223	29231	32598	36857	31902	35136
Croatia	x	x	x	1893	331	703	1140	1171	996	1070	649
Cyprus ³	-	-	74	97	20	49	53	27	6	-	5
F.Y.R. of Macedonia	x	x	x	6937	7435	7769	7473	6939	6055	5431	5398
Georgia	x	x	x	1323	44	27	18	113	424	382	432
Kazakhstan	x	x	x	89249	64825	44090	63767	78029	76488	79308	78971
Kosovo	x	x	x	..	..	5163	6619	8903	8336	9054	7728
Kyrgyzstan	x	x	x	6154	792	1129	1307	1688	2621	2203	3018
Lithuania	x	x	x	1303	372	131	287	300	252	247	252
Malta	-	-	192	300	52	-	-	-	-	-	-
Republic of Moldova	x	x	x	4510	1315	181	183	186	171	125	223
Montenegro	x	x	x	..	..	..	1287	1908	1720	1361	1383
Romania	26180	39373	53109	46223	45700	31962	36002	31606	27032	24013	25616
Russian Federation	x	x	x	374080	245331	230479	214594	200817	223189	217482	227889
Serbia	x	x	x	45937	40605	37324	35391	37679	38641	39181	40299
Tajikistan	x	x	x	1494	41	29	103	207	1055	1371	1761
Turkmenistan	x	x	x	670	-	-	-	-	-	-	-
Ukraine	x	x	x	147423	89898	66680	64056	66095	49832	53848	46748
Uzbekistan	x	x	x	8940	3028	3543	3185	3713	4335	4328	4000
Former Soviet Union	647358	692140	700445	x	x	x	x	x	x	x	x
Former Yugoslavia	33896	44306	73306	x	x	x	x	x	x	x	x
Islam. Rep. of Iran	948	1783	1444	1061	1546	1781	2074	1025	1310	1346	1125
Jordan	-	-	-	-	-	-	-	-	253	315	156
Lebanon	1	1	-	-	180	200	200	225	253	257	262
Syrian Arab Republic	1	1	-	-	-	-	-	-	-	-	-
United Arab Emirates	-	-	-	-	-	-	236	970	2576	2781	1516
Yemen	-	-	-	-	-	-	-	170	134	121	409
Non-OECD Total	1349697	1720462	2081001	2349855	2451770	2470526	3690693	5120108	5746992	5643197	5728079
World	3093631	3756092	4365556	4642643	4555552	4700285	6039075	7355831	7708566	7505900	7585166

- Coal comprises all coals from anthracite through lignite, however excludes peat, oil shale and oil sands and all derived products. For further information, see the explanatory notes and definitions in Part I.
- Consumption data for 2017p are supplied by OECD member countries. Non-OECD country data are calculated from production and net trade data from varied sources. Stock changes are generally not accounted for, for non-OECD countries, but may be provided or sourced on an ad hoc basis.
- Please refer to the Geographical notes in Part I.

Source: IEA/OECD World Energy Statistics

Table 7: World coal¹ consumption
(thousand tonnes of coal equivalent)

	1973	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p ²
Australia	32250	38985	43154	50936	54267	69020	73542	72459	62066	62970	65871
Austria	4311	4078	4742	4990	3959	4103	4367	3642	3592	3363	3266
Belgium	15207	15702	14802	15194	11781	10364	7017	5311	3927	3478	3542
Canada	21724	29143	36447	34934	35797	44980	42163	31795	25247	23510	23033
Chile	1695	1651	1759	3532	3219	4358	3825	6419	9425	10201	10009
Czech Republic	54023	50091	50258	46376	33760	31290	29163	26296	23097	23235	22282
Denmark	2697	8288	10334	8653	9236	5654	5271	5417	2476	2695	2110
Estonia	x	x	x	332	74	79	52	56	27	25	42
Finland	2732	5123	4786	5083	5886	4691	4186	6151	3626	4413	3966
France	38773	44811	34150	28005	21972	20328	19520	15945	12290	12002	12929
Germany	205035	206438	211043	185078	127448	115689	113839	109190	111875	109519	100641
Greece	2992	4649	8616	11481	11972	12910	12812	11232	8009	6242	6874
Hungary	9784	10441	9688	7908	6596	5643	4239	4226	3667	3631	3509
Iceland	0.9	11	62	64	62	97	112	101	111	119	117
Ireland	828	1072	1619	2918	2508	2564	2654	1705	2027	1914	1524
Israel	-	-	2639	3235	5711	9210	10538	10537	9399	7796	7027
Italy	12067	17541	21980	20845	17069	17405	22837	19704	17155	15002	13519
Japan	83146	86700	107436	110094	123089	138307	156721	163397	166115	162457	163662
Korea	11603	19214	32003	36262	38014	59927	70622	104305	115098	116046	129114
Latvia	x	x	x	892	245	94	107	149	66	58	57
Luxembourg	298	359	199	164	181	145	104	87	62	68	57
Mexico	2460	3334	4088	5780	7803	9215	17005	18569	15678	16614	16751
Netherlands	4290	5477	9808	12013	13154	11194	11711	10594	15797	14709	13178
New Zealand	1641	1465	1430	1692	1624	1581	3135	1874	1955	1649	1648
Norway	772	951	1118	718	976	958	762	677	756	683	798
Poland	109512	144229	141978	116130	103636	83565	83244	85087	75681	77237	77522
Portugal	690	510	975	3929	5178	5482	4780	2365	4647	4054	4601
Slovak Republic	10095	11381	11689	10549	7596	6003	5989	5203	4721	4524	4596
Slovenia	x	x	x	2180	1913	1794	2141	2043	1496	1612	1618
Spain	12000	17736	27488	27157	26464	30446	29997	11269	18849	15054	17489
Sweden	1015	2019	3760	3566	3332	2832	3034	2839	2761	2636	2567
Switzerland	247	302	613	469	240	167	192	196	172	149	144
Turkey	7356	9975	17141	22186	22745	32010	31548	44425	48978	54170	57463
United Kingdom	109682	100725	88659	90098	67371	52310	53518	44870	33056	15805	12816
United States	443017	541605	607159	657139	676424	760600	796294	718170	535523	487903	473026
IEA Americas	467201	574082	647694	697854	720025	814795	855462	768535	576449	528026	512810
IEA Asia Oceania	128640	146364	184023	198984	216995	268835	304020	342036	345234	343123	360296
IEA Europe	604407	661895	675446	623843	503137	455834	450837	416486	397245	374606	365435
OECD Americas	468896	575733	649453	701385	723244	819152	859288	774953	585874	538227	522819
OECD Asia Oceania	128640	146364	186662	202219	222707	278045	314558	352573	354633	350919	367323
OECD Europe	604408	661906	675508	626980	505357	457818	453197	418780	398918	376393	367226
IEA Total	1200248	1382341	1507163	1520681	1440157	1539464	1610319	1527057	1318928	1245755	1238541
OECD Total	1201944	1384003	1511623	1530584	1451308	1555016	1627042	1546306	1339425	1265540	1257368

Table 7: World coal¹ consumption (continued)
(thousand tonnes of coal equivalent)

	1973	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p ²
Algeria	57	89	1180	967	608	663	914	-	11	-	-
Benin	-	-	-	-	-	-	-	-	36	106	-
Botswana	..	..	375	656	734	837	807	750	1478	1346	1713
Dem. Rep. of Congo	151	144	134	145	-	-	-	-	-	-	-
Egypt	428	785	1047	1177	1353	1599	1590	867	300	226	525
Ethiopia	-	-	-	-	-	-	-	44	362	389	429
Kenya	63	14	79	133	137	94	128	236	498	490	466
Mauritius	-	-	30	49	55	195	334	582	708	815	1260
Morocco	522	559	947	1595	2417	3784	4488	3988	6349	6119	6360
Mozambique	501	246	90	49	48	-	-	8.5	711	15	15
Namibia	..	..	..	..	12	2.3	15	10	3.1	26	4.7
Niger	..	..	..	..	..	64	72	111	93	100	100
Nigeria	259	133	83	48	18	2.6	7.0	33	41	40	110
Senegal	-	-	-	-	-	-	134	254	536	652	542
South Africa	48346	68117	96486	95056	111564	116825	131339	143565	134553	140154	140224
Tanzania	-	0.9	13	3.6	39	70	27	-	226	243	496
Tunisia	30	18	18	13	-	-	-	-	-	-	-
Zambia	793	521	397	316	125	110	118	0.8	138	277	277
Zimbabwe	2540	2408	2787	4933	4140	4141	3383	2675	3206	2844	2443
Other Africa	209	570	318	309	328	526	562	789	703	717	685
Argentina	1030	1350	1204	1366	1367	1014	1363	1455	1525	1198	1170
Brazil	3163	8022	14334	13882	15248	17074	17043	18974	22936	21676	22795
Colombia	2655	2601	2918	4480	5207	3929	3875	5759	8533	8548	6587
Costa Rica	0.9	0.9	0.9	-	-	0.9	1.8	0.9	0.9	0.9	0.9
Cuba	57	86	114	139	70	20	20	21	6.4	1.8	1.8
Dominican Republic	-	-	197	15	70	79	693	730	980	955	916
Guatemala	-	19	-	-	-	189	360	433	1351	1587	1757
Haiti	-	-	54	11	-	-	-	-	-	-	-
Honduras	-	-	-	-	-	119	212	94	99	144	151
Jamaica	-	-	-	46	48	47	51	45	86	64	107
Panama	12	-	28	28	45	53	-	-	298	264	77
Peru	86	74	107	149	389	708	1075	1182	1119	1150	1179
Uruguay	29	3.5	-	0.9	-	0.9	0.9	3.5	3.5	4.4	3.5
Venezuela	55	44	44	370	7.3	189	54	285	195	176	456
Oth. non-OECD Americas	0.9	0.9	-	-	-	110	130	136	181	185	655
Bangladesh	174	168	70	402	458	471	603	1158	3243	2430	2718
Cambodia	..	..	..	..	-	-	-	18	838	970	1616
Hong Kong (China)	11	2.6	4862	7859	8019	5333	9529	9088	9845	9825	9246
India	45019	63298	93304	132278	175028	206139	260808	397878	539578	539411	562880
Indonesia	116	193	735	5024	9043	17156	31610	45485	58617	61875	66124
DPR of Korea	25360	36683	44759	40087	26072	23836	25828	16573	6844	7779	7779
Malaysia	10.0	76	517	1936	2304	3297	9840	20858	25025	26892	30230
Mongolia	..	..	3263	3556	3182	2595	3219	4156	4475	5232	5537
Myanmar	66	206	214	86	23	457	455	585	636	546	491
Nepal	67	71	15	69	105	369	354	433	796	985	799
Pakistan	822	988	1951	2859	3097	2660	5332	5979	7088	7377	12035
Philippines	17	407	1755	1869	2436	7121	8101	10715	17812	20106	22161
Singapore	0.3	0.4	0.8	0.8	-	-	0.9	-	571	600	644
Sri Lanka	-	-	0.9	7.0	5.0	-	93	95	1966	2082	2270
Chinese Taipei	3220	5529	10285	16102	24515	42395	54422	58055	56479	57897	59667

Table 7: World coal¹ consumption (continued)
(thousand tonnes of coal equivalent)

	1973	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p ²
Thailand	120	673	2317	5386	9737	10601	16350	23115	23986	21958	21929
Viet Nam	2216	3242	3992	3161	4734	6246	11723	20917	35630	39471	43138
Other Asia	1391	2642	304	267	215	489	603	1624	4423	9233	9825
PR of China	292827	446734	559341	747039	937586	961075	1732248	2557327	2859735	2732785	2743244
Albania	488	859	1279	899	27	25	18	158	136	72	137
Armenia	x	x	x	350	1.9	-	-	0.9	0.9	1.7	-
Azerbaijan	x	x	x	127	3.8	-	-	-	-	-	-
Belarus	x	x	x	2009	980	439	138	63	594	531	556
Bosnia and Herzegovina	x	x	x	5969	498	3517	4725	6232	5617	6314	6510
Bulgaria	11487	13028	14334	12761	10773	9105	9791	9769	9333	8045	8787
Croatia	x	x	x	1455	219	598	954	949	840	901	541
Cyprus ³	-	-	65	92	19	46	51	24	5.3	-	4.4
F.Y.R. of Macedonia	x	x	x	1896	2036	1835	1981	1837	1366	1240	1228
Georgia	x	x	x	1277	30	19	14	70	279	248	296
Kazakhstan	x	x	x	56122	40613	27626	39866	48761	48135	49782	49597
Kosovo	x	x	x	..	..	1380	1770	2392	2225	2411	2058
Kyrgyzstan	x	x	x	3615	464	670	789	1002	1611	1293	1792
Lithuania	x	x	x	1117	319	102	222	244	216	211	216
Malta	-	-	169	264	46	-	-	-	-	-	-
Republic of Moldova	x	x	x	2859	834	115	153	133	139	102	185
Montenegro	x	x	x	..	..	..	409	600	541	428	435
Romania	9864	15252	20352	17589	15559	10296	11983	9021	7636	6795	7238
Russian Federation	x	x	x	269996	183776	171823	163041	146649	168275	163676	172182
Serbia	x	x	x	14531	12649	12086	10912	10419	10636	10603	10868
Tajikistan	x	x	x	887	22	17	63	127	661	863	1109
Turkmenistan	x	x	x	425	-	-	-	-	-	-	-
Ukraine	x	x	x	120887	72331	55805	53056	55965	41309	44900	38913
Uzbekistan	x	x	x	4837	1525	1781	1602	1865	2217	2212	2050
Former Soviet Union	436639	459831	423673	x	x	x	x	x	x	x	x
Former Yugoslavia	12816	17229	27070	x	x	x	x	x	x	x	x
Islam. Rep. of Iran	851	1709	1381	1015	1475	1701	1947	977	1244	1277	1064
Jordan	-	-	-	-	-	-	-	-	230	287	142
Lebanon	0.9	0.9	-	-	170	189	189	212	239	243	247
Syrian Arab Republic	0.9	0.9	-	-	-	-	-	-	-	-	-
United Arab Emirates	-	-	-	-	-	-	208	931	2448	2627	1432
Yemen	-	-	-	-	-	-	-	150	118	107	360
Non-OECD Total	904567	1154629	1338994	1614908	1694958	1741862	2643799	3655642	4150908	4043139	4101786
World	2106510	2538631	2850617	3145492	3146266	3296877	4270841	5201948	5490333	5308679	5359153

- Coal comprises all coals from anthracite through lignite, however excludes peat, oil shale and oil sands and all derived products. For further information, see the explanatory notes and definitions in Part I.
- Consumption data for 2017p are supplied by OECD member countries. Non-OECD country data are calculated from production and net trade data from varied sources. Stock changes are generally not accounted for, for non-OECD countries, but may be provided or sourced on an ad hoc basis.
- Please refer to the Geographical notes in Part I.

Source: IEA/OECD World Energy Statistics

Table 8: World use of coal for selected end-uses¹
(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	3545.47	4642.64	4700.29	7355.83	7922.49	7708.57	7505.90	2.27	1.86
Total electricity and heat	1714.29 e	2693.04 e	3310.84 e	4616.24 e	5059.55 e	4935.99 e	4920.45 e	3.84	2.35
<i>Main activity producers</i>	1623.79 e	2562.95 e	3191.30 e	4468.64 e	4880.33 e	4766.01 e	4743.22 e	3.88	2.40
<i>Autoproducers</i>	90.51	130.09 e	119.54 e	147.60	179.22 e	169.98 e	177.23	3.07	1.20
Patent fuel/BKB plants	167.58 e	157.94	31.94 e	45.68	48.73	43.87	38.30	-0.49	-5.30
Coke ovens/Liquefaction ³	507.53 e	537.68 e	507.70 e	824.61 e	969.26	948.09	953.37	0.48	2.23
Blast furnace inputs	0.01 e	10.46 e	28.63 e	40.11 e	47.64 e	48.78 e	49.85 e	89.11	6.19
Gas manufacture	18.25	17.03 e	21.73	27.98	28.35	33.28	36.14	-0.58	2.94
Industry	570.09	642.71	542.63	1241.90	1272.95	1234.90	1141.08	1.00	2.23
<i>Iron and steel</i>	21.30 e	50.95 e	66.23 e	182.31 e	239.85 e	226.27 e	205.40 e	7.54	5.51
<i>Chemical</i>	37.96 e	81.06 e	76.82 e	166.46	165.67	184.66	189.92	6.53	3.33
<i>Non-metallic minerals</i>	59.39 e	176.12 e	175.00 e	404.91	446.57	426.50	406.82	9.48	3.27
<i>Paper, pulp and print</i>	15.64 e	36.11 e	28.50 e	51.00	34.48 e	33.50	31.39	7.22	-0.54
<i>Other industry</i>	435.79 e	298.47 e	196.07 e	437.23 e	386.38 e	363.97 e	307.56 e	-3.10	0.12
Other sectors ⁴	435.82	453.36	207.92	285.68	288.86	289.63	289.17	0.33	-1.71
Non-energy use	11.31	37.25	28.46	43.69	65.75	68.54	66.61	10.44	2.26
Steam coal	2108.74	2957.63	3375.77	5608.10	6009.48	5842.38	5687.74	2.86	2.55
Total electricity and heat	1058.83	1815.14 e	2509.23 e	3813.25 e	4257.97 e	4130.55 e	4116.77 e	4.59	3.20
<i>Main activity producers</i>	986.26	1726.58 e	2420.81 e	3695.32 e	4101.97 e	3980.64 e	3959.54 e	4.78	3.24
<i>Autoproducers</i>	72.56	88.56 e	88.42 e	117.94	156.00	149.91 e	157.23	1.67	2.23
Patent fuel/BKB plants	26.33 e	32.56	13.12	26.93	28.55	25.78	19.83	1.79	-1.89
Coke ovens/Liquefaction ³	3.75	71.10	101.93	47.80	49.11	55.81	52.58	27.78	-1.15
Blast furnace inputs	0.01 e	3.89 e	12.94 e	18.67 e	20.80 e	22.79 e	24.84 e	74.13	7.40
Gas manufacture	4.91	6.47	10.90	16.43	19.94	24.99	29.15	2.33	5.96
Industry	506.53	526.91	493.34	1152.68	1170.52	1143.35	1094.72	0.33	2.85
<i>Iron and steel</i>	18.48 e	42.42 e	59.14 e	157.93 e	203.07 e	191.46 e	194.86 e	7.17	6.04
<i>Chemical</i>	23.23 e	64.97 e	69.47 e	158.74	157.68	176.35	186.01	8.95	4.13
<i>Non-metallic minerals</i>	57.44 e	167.78 e	167.32 e	387.53	432.75	415.90	402.48	9.34	3.42
<i>Paper, pulp and print</i>	11.14 e	33.11 e	27.61 e	47.90	33.21 e	32.48	30.55	9.50	-0.31
<i>Other industry</i>	396.24 e	218.63 e	169.79 e	400.58 e	343.81 e	327.16 e	280.82 e	-4.83	0.97
Other sectors ⁴	391.79	394.74	191.03	270.28	276.98	277.98	276.32	0.06	-1.36
Non-energy use	10.48	36.37	25.88	37.45	58.85	61.67	65.56	10.92	2.29
Coking coal	521.59	556.04	474.87	911.10	1089.11	1049.55	1004.64	0.53	2.30
Total electricity and heat	7.14	22.03	22.07	35.49	46.10	45.42	48.41	9.84	3.07
<i>Main activity producers</i>	6.19	18.09	18.86	33.85	43.13	43.27	46.22	9.34	3.67
<i>Autoproducers</i>	0.95	3.94	3.21	1.64	2.97	2.15	2.19	12.59	-2.24
Patent fuel/BKB plants	..	x	x	x	0.00	0.00	0.00	x	x
Coke ovens/Liquefaction ³	503.77 e	466.59 e	405.77 e	776.25 e	919.58	891.73	900.29	-0.64	2.56
Blast furnace inputs	..	6.57 e	15.69 e	21.45 e	26.84 e	25.98 e	25.00 e	-	5.27
Gas manufacture	6.95	2.10	3.81	4.41	1.56	1.32	0.18	-9.50	-9.07
Industry	1.91	55.51	21.07	64.45	80.30	73.27	27.78	32.39	-2.63
<i>Iron and steel</i>	1.73	6.77 e	6.84 e	24.23 e	36.59 e	34.66 e	10.30 e	12.07	1.63
<i>Chemical</i>	0.01	3.37	2.37	3.96	5.28	5.94	1.66	62.43	-2.70
<i>Non-metallic minerals</i>	0.00	1.67	1.83	9.80	6.46	6.24	0.84	69.39	-2.60
<i>Paper, pulp and print</i>	..	0.84	0.14	0.25	0.17	0.16	0.02	..	-13.40
<i>Other industry</i>	0.18	42.85 e	9.90 e	26.23 e	31.80 e	26.27 e	14.96 e	58.08	-3.97
Other sectors ⁴	0.28	0.78	0.50	0.33	0.17	0.11	0.17	8.99	-5.80
Non-energy use	..	0.21	1.98	6.04	6.75	6.73	0.94	..	5.87

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Indirect liquefaction may be reported here or under gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

Table 8: World use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	915.14	1128.98	849.65	836.63	823.90	816.63	813.51	1.77	-1.25
Total electricity and heat	648.33 e	855.88 e	779.54 e	767.50	755.48 e	760.03	755.27	2.34	-0.48
Main activity producers	631.33 e	818.28 e	751.63 e	739.48	735.23	742.10	737.46	2.18	-0.40
Autoproducers	16.99	37.59 e	27.91 e	28.02	20.25 e	17.92	17.81	6.84	-2.83
Patent fuel/BKB plants	141.26	125.38	18.82 e	18.75	20.18	18.08	18.47	-0.99	-7.10
Coke ovens/Liquefaction ²	..	x	0.00	0.57	0.56	0.55	0.51	x	x
Blast furnace inputs	..	x	x	x	0.00 e	0.00 e	0.00 e	x	-
Gas manufacture	6.40	8.47 e	7.02	7.14	6.86	6.97	6.81	2.36	-0.83
Industry	61.64	60.30	28.22	24.77	22.13	18.28	18.58	-0.18	-4.43
Iron and steel	1.10	1.75	0.25	0.15	0.19 e	0.16 e	0.24 e	3.98	-7.42
Chemical	14.72	12.71 e	4.98 e	3.77	2.70	2.37	2.25	-1.21	-6.45
Non-metallic minerals	1.95	6.68	5.86	7.58	7.35	4.36	3.50	10.80	-2.45
Paper, pulp and print	4.51	2.16	0.75	2.84	1.11	0.87	0.82	-5.95	-3.67
Other industry	39.37	37.00 e	16.38 e	10.43	10.78 e	10.53 e	11.78 e	-0.52	-4.31
Other sectors ³	43.75	57.83	16.39	15.07	11.71	11.53	12.68	2.35	-5.67
Non-energy use	0.83	0.67	0.59	0.20	0.15	0.13	0.11	-1.78	-6.61
Peat	39.17	29.48	17.17	19.00	14.41	12.81	13.40	-2.34	-2.99
Total electricity and heat	34.90	12.62	10.93	13.55	10.47	9.36	9.40	-8.13	-1.12
Main activity producers	34.42	11.75	9.85	12.71	9.38	8.51	8.57	-8.57	-1.21
Autoproducers	0.48	0.87	1.09	0.84	1.09	0.86	0.83	5.04	-0.16
Patent fuel/BKB plants	0.75	5.18	2.98	3.29	2.31	1.82	2.26	17.47	-3.14
Coke ovens/Liquefaction ²	..	x	x	x	x	x	x	x	x
Blast furnace inputs	..	x	x	x	x	x	x	x	x
Gas manufacture	..	x	x	x	x	x	x	x	x
Industry	1.09	3.09	1.24	1.07	0.84	0.75	0.77	9.04	-5.20
Iron and steel	..	x	x	x	x	x	0.00	x	x
Chemical	..	0.99	0.09	0.03	0.02	0.01	0.01	..	-16.55
Non-metallic minerals	..	0.11	0.02	0.01	0.00	0.00	0.09	..	-0.68
Paper, pulp and print	0.50	1.29	1.04	0.92	0.75	0.71	0.65	8.24	-2.58
Other industry	0.60	0.70	0.09	0.11	0.07	0.03	0.01	1.32	-13.95
Other sectors ³	2.43	6.49	1.65	0.92	0.71	0.71	0.74	8.52	-8.03
Non-energy use	..	x	x	x	x	x	x	x	x
Oil shale and oil sands	..	26.26	13.62	18.32	21.02	18.32	19.26	..	-1.18
Total electricity and heat	..	22.87	11.30	13.98	15.63	12.50	13.91	..	-1.89
Main activity producers	..	22.87	11.10	13.53	15.23	12.00	13.44	..	-2.02
Autoproducers	..	x	0.20	0.45	0.40	0.50	0.48	x	x
Patent fuel/BKB plants	..	x	x	x	x	x	x	x	x
Coke ovens/Liquefaction ²	..	0.88	1.39	3.09	4.08	4.90	4.41	..	6.41
Blast furnace inputs	..	x	x	x	x	x	x	x	x
Gas manufacture	..	0.65	0.61	1.03	1.04	0.75	0.66	..	0.08
Industry	..	1.39	0.22	0.16	0.16	0.07	0.05	..	-12.14
Iron and steel	..	x	x	x	x	x	x	x	x
Chemical	..	x	x	x	x	x	x	x	x
Non-metallic minerals	..	x	0.22	0.16	0.16	0.07	0.05	x	x
Paper, pulp and print	..	x	x	x	x	x	x	x	x
Other industry	..	1.39	0.00	x	x	x	x	..	x
Other sectors ³	..	x	0.00	x	x	x	x	x	x
Non-energy use	..	x	0.15	0.06	0.10	0.14	0.21	x	x

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to the explanatory notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Indirect liquefaction may be reported here or under gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

Table 9: World coal¹ share of total primary energy supply

	1973	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p ²
Australia	39.6%	39.2%	41.3%	40.5%	40.5%	44.5%	45.0%	39.6%	34.3%	33.7%	34.6%
Austria	18.0%	15.8%	18.9%	16.5%	13.0%	12.6%	11.8%	10.1%	9.7%	8.9%	8.6%
Belgium	24.3%	24.4%	23.5%	22.0%	16.2%	13.8%	8.9%	6.3%	6.0%	5.3%	5.4%
Canada	9.6%	10.7%	13.4%	11.5%	10.8%	12.5%	10.9%	8.5%	6.4%	6.1%	5.7%
Chile	14.1%	12.9%	13.1%	17.8%	12.8%	12.2%	9.5%	14.5%	18.5%	18.8%	18.0%
Czech Republic	78.4%	71.0%	69.1%	63.2%	54.3%	52.5%	44.7%	41.5%	39.1%	39.9%	36.2%
Denmark	10.2%	30.7%	37.8%	35.1%	33.5%	21.4%	19.7%	19.5%	10.8%	11.5%	8.7%
Estonia	x	x	x	2.3%	0.5%	0.9%	0.2%	0.4%	0.2%	0.2%	0.3%
Finland	12.0%	18.0%	16.2%	14.4%	14.9%	11.2%	9.5%	12.5%	8.3%	9.4%	8.3%
France	16.3%	17.2%	12.3%	9.0%	6.7%	5.9%	5.2%	4.5%	3.5%	3.5%	3.8%
Germany	41.6%	39.5%	40.6%	36.6%	27.2%	25.2%	24.3%	24.2%	25.8%	24.9%	22.6%
Greece	17.8%	21.8%	34.6%	37.6%	37.0%	33.4%	29.6%	28.5%	24.2%	19.3%	20.7%
Hungary	37.2%	29.7%	27.0%	21.6%	17.9%	15.4%	10.8%	10.3%	9.3%	8.8%	8.5%
Iceland	0.1%	1.2%	3.7%	2.8%	2.5%	3.1%	3.2%	1.7%	1.7%	1.9%	1.6%
Ireland	8.2%	9.2%	13.3%	21.0%	16.7%	13.1%	12.9%	8.4%	10.8%	9.7%	7.8%
Israel	0.0%	0.0%	24.4%	19.7%	25.8%	35.4%	40.0%	31.8%	29.0%	23.8%	21.1%
Italy	6.8%	8.9%	11.8%	10.0%	7.7%	7.3%	8.8%	7.9%	8.1%	7.3%	6.3%
Japan	18.1%	17.3%	20.0%	17.4%	17.0%	18.7%	21.1%	23.0%	27.3%	26.9%	26.7%
Korea	37.8%	32.8%	42.3%	27.3%	18.4%	22.3%	23.6%	29.4%	29.6%	28.8%	30.7%
Latvia	x	x	x	8.0%	3.8%	1.9%	1.8%	2.4%	1.1%	0.9%	0.8%
Luxembourg	54.9%	51.2%	47.0%	32.8%	15.5%	3.3%	1.8%	1.6%	1.3%	1.4%	1.2%
Mexico	3.5%	2.5%	2.7%	3.3%	4.4%	4.6%	6.7%	7.4%	6.2%	6.7%	6.8%
Netherlands	4.6%	5.9%	10.9%	12.2%	12.1%	10.3%	9.9%	8.9%	14.9%	13.7%	12.2%
New Zealand	14.3%	11.3%	8.9%	9.2%	7.6%	6.5%	13.0%	7.1%	6.6%	5.5%	5.4%
Norway	6.4%	5.5%	5.8%	4.1%	4.4%	4.0%	2.9%	2.6%	2.9%	2.8%	3.1%
Poland	80.4%	78.8%	79.0%	76.5%	70.7%	63.4%	59.3%	54.5%	50.9%	49.5%	48.2%
Portugal	7.4%	4.3%	7.0%	16.4%	17.8%	15.5%	12.7%	7.1%	14.8%	12.9%	13.9%
Slovak Republic	51.3%	41.3%	41.3%	36.7%	30.3%	24.1%	22.5%	21.9%	20.0%	19.5%	19.6%
Slovenia	x	x	x	27.6%	22.7%	20.4%	21.1%	19.8%	16.3%	16.9%	16.7%
Spain	17.4%	18.4%	27.5%	21.4%	18.8%	17.2%	14.5%	6.1%	11.2%	8.8%	9.9%
Sweden	4.2%	4.2%	6.0%	5.8%	5.1%	4.7%	4.5%	4.2%	4.4%	3.9%	4.0%
Switzerland	1.7%	1.6%	2.3%	1.5%	0.8%	0.5%	0.6%	0.6%	0.5%	0.5%	0.5%
Turkey	21.1%	22.2%	30.7%	30.3%	26.2%	29.9%	26.7%	29.5%	26.8%	28.0%	27.5%
United Kingdom	35.0%	34.7%	30.9%	30.6%	21.8%	16.4%	17.0%	15.2%	13.2%	6.6%	5.5%
United States	18.0%	20.8%	24.0%	24.0%	22.9%	23.5%	24.1%	22.7%	17.1%	15.8%	15.5%
IEA Americas	16.9%	19.1%	21.9%	21.7%	20.8%	21.4%	21.6%	20.3%	15.2%	14.1%	13.8%
IEA Asia Oceania	22.1%	21.8%	25.2%	21.8%	20.0%	22.6%	24.7%	26.8%	28.6%	28.0%	28.7%
IEA Europe	30.9%	31.0%	31.1%	27.1%	21.4%	18.6%	17.2%	16.1%	16.4%	15.3%	14.7%
OECD Americas	16.9%	19.1%	21.8%	21.7%	20.7%	21.3%	21.5%	20.2%	15.3%	14.2%	13.8%
OECD Asia Oceania	21.6%	21.5%	25.2%	21.8%	20.1%	22.9%	25.0%	26.9%	28.6%	27.9%	28.5%
OECD Europe	30.8%	30.9%	31.1%	27.0%	21.3%	18.6%	17.2%	16.1%	16.3%	15.2%	14.6%
IEA Total	22.6%	23.8%	25.7%	23.7%	20.9%	20.7%	20.6%	20.0%	17.8%	16.8%	16.6%
OECD Total	22.5%	23.7%	25.7%	23.6%	20.8%	20.6%	20.6%	19.9%	17.8%	16.8%	16.6%

Table 9: World coal¹ share of total primary energy supply (continued)

	1973	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p ²
Algeria	4.9%	1.1%	4.7%	3.1%	3.2%	1.9%	2.4%	0.9%	0.3%	-	..
Benin	-	-	-	-	-	-	-	-	0.6%	1.7%	..
Botswana	..	..	30.5%	37.7%	35.5%	32.6%	30.3%	24.5%	38.2%	36.1%	..
Dem. Rep. of Congo	2.9%	2.5%	2.1%	1.9%	-	-	-	-	-	-	..
Egypt	3.5%	3.6%	2.8%	2.4%	1.8%	2.1%	1.3%	0.6%	0.4%	0.4%	..
Ethiopia	-	-	-	-	-	-	-	0.1%	0.5%	0.5%	..
Kenya	0.8%	0.1%	0.7%	0.9%	0.8%	0.5%	0.6%	0.8%	1.4%	1.3%	..
Mauritius	-	-	4.7%	5.2%	5.0%	13.8%	19.9%	31.0%	33.4%	37.0%	..
Morocco	10.5%	7.5%	11.0%	14.9%	18.1%	24.0%	21.2%	16.3%	22.8%	22.0%	..
Mozambique	5.2%	2.6%	1.0%	0.6%	0.5%	-	-	0.1%	3.8%	0.1%	..
Namibia	..	..	..	..	0.9%	0.2%	0.8%	0.4%	0.1%	0.9%	..
Niger	..	..	..	..	..	3.1%	2.9%	3.5%	2.2%	2.4%	..
Nigeria	0.5%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	..
Senegal	-	-	-	-	-	-	3.4%	4.5%	8.7%	10.6%	..
South Africa	68.8%	70.1%	76.4%	74.2%	75.4%	73.9%	75.2%	72.9%	69.3%	69.9%	..
Sudan	-	0.0%	-	-	-	-	-	-	-	-	..
Tanzania	-	0.0%	0.1%	0.0%	0.3%	0.4%	0.1%	-	0.6%	0.6%	..
Tunisia	3.9%	1.9%	1.6%	1.7%	1.2%	1.1%	-	-	-	-	..
Zambia	13.9%	8.0%	5.6%	4.1%	1.5%	1.2%	1.1%	0.0%	0.9%	1.7%	..
Zimbabwe	29.4%	25.1%	26.3%	37.0%	29.4%	26.9%	23.1%	18.1%	18.6%	16.6%	..
Other Africa	0.6%	1.5%	0.7%	0.5%	0.5%	0.8%	0.7%	0.9%	0.7%	0.7%	..
Argentina	2.0%	2.3%	2.1%	2.0%	1.8%	0.8%	1.3%	1.3%	1.2%	1.0%	..
Plurinational State of Bolivia	-	-	2.4%	-	-	-	-	-	-	-	..
Brazil	2.8%	5.2%	7.8%	6.9%	7.4%	6.9%	6.0%	5.4%	6.0%	5.6%	..
Colombia	13.2%	10.1%	10.1%	12.7%	13.0%	10.2%	10.0%	10.3%	13.2%	12.8%	..
Costa Rica	0.1%	0.0%	0.0%	-	-	0.0%	0.9%	1.4%	1.6%	1.7%	..
Cuba	0.7%	0.7%	0.8%	0.8%	0.6%	0.2%	0.2%	0.2%	0.0%	0.0%	..
Dominican Republic	-	-	4.1%	0.3%	0.9%	1.4%	8.8%	10.3%	12.7%	11.3%	..
El Salvador	-	0.0%	-	-	0.0%	0.0%	0.0%	-	-	-	..
Guatemala	-	0.4%	-	-	-	1.9%	3.2%	2.8%	7.5%	7.9%	..
Haiti	-	-	2.0%	0.5%	-	-	-	-	-	-	..
Honduras	-	-	-	0.0%	0.0%	2.8%	3.6%	3.1%	1.2%	1.7%	..
Jamaica	-	-	-	1.2%	1.1%	0.9%	1.0%	1.3%	2.2%	1.5%	..
Panama	0.4%	-	1.3%	1.3%	1.6%	1.4%	-	-	4.9%	4.1%	..
Peru	1.6%	1.3%	1.1%	1.5%	3.4%	5.2%	7.0%	4.5%	3.4%	3.6%	..
Uruguay	1.0%	0.1%	0.0%	0.0%	-	0.0%	0.0%	0.1%	0.0%	0.1%	..
Venezuela	1.4%	0.5%	0.5%	1.2%	0.0%	0.3%	0.1%	0.3%	0.2%	0.2%	..
Oth. non-OECD Americas	0.5%	0.3%	-	0.0%	0.0%	1.5%	1.8%	1.6%	1.7%	1.7%	..
Bangladesh	1.9%	1.5%	0.5%	2.2%	2.0%	1.8%	1.8%	2.7%	6.0%	4.3%	..
Cambodia	..	..	..	..	-	-	-	0.2%	8.3%	9.0%	..
Hong Kong (China)	0.3%	0.1%	51.8%	63.9%	53.0%	27.5%	53.1%	46.5%	49.6%	47.3%	..
India	19.7%	22.2%	26.4%	30.3%	33.2%	33.1%	35.8%	39.9%	45.4%	44.0%	..
Indonesia	0.2%	0.3%	0.8%	3.6%	4.8%	7.7%	12.4%	15.4%	18.2%	18.8%	..
DPR of Korea	86.6%	85.2%	87.6%	85.1%	83.9%	85.3%	85.5%	79.3%	62.6%	63.3%	..
Malaysia	0.1%	0.4%	2.3%	6.2%	4.7%	4.7%	10.5%	19.9%	20.4%	21.2%	..
Mongolia	..	..	73.2%	73.0%	82.7%	75.8%	75.2%	73.7%	67.4%	73.8%	..
Myanmar	0.6%	1.6%	1.4%	0.6%	0.1%	2.5%	2.2%	3.0%	2.5%	2.0%	..
Nepal	1.2%	1.1%	0.2%	0.8%	1.1%	3.2%	2.7%	3.0%	4.8%	5.4%	..
Pakistan	3.1%	2.8%	4.2%	4.7%	4.0%	2.9%	4.9%	5.0%	5.3%	5.4%	..
Philippines	0.1%	2.3%	5.4%	5.3%	5.7%	12.9%	15.0%	18.9%	24.5%	26.1%	..

Table 9: World coal¹ share of total primary energy supply (continued)

	1973	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p ²
Singapore	0.1%	0.1%	0.2%	0.2%	0.1%	-	0.0%	0.0%	1.5%	1.6%	..
Sri Lanka	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.7%	0.7%	12.0%	12.5%	..
Chinese Taipei	17.4%	13.9%	21.7%	23.8%	27.3%	35.2%	37.3%	36.7%	36.4%	37.1%	..
Thailand	0.6%	2.1%	6.7%	9.1%	11.1%	10.6%	11.6%	13.9%	12.5%	11.1%	..
Viet Nam	11.1%	15.8%	17.6%	12.4%	15.2%	15.2%	20.0%	24.9%	32.8%	34.1%	..
Other Asia	16.1%	23.9%	3.3%	2.7%	2.2%	4.2%	4.4%	9.0%	17.8%	32.1%	..
PR of China	48.0%	52.3%	56.7%	60.7%	62.0%	58.8%	67.6%	70.6%	66.7%	64.8%	..
Albania	20.2%	19.8%	33.2%	23.6%	1.4%	1.0%	0.6%	5.2%	4.3%	2.3%	..
Armenia	x	x	x	3.2%	0.1%	-	-	0.0%	0.0%	0.0%	..
Azerbaijan	x	x	x	0.4%	0.0%	-	-	-	-	-	..
Belarus	x	x	x	3.1%	2.8%	1.5%	0.6%	0.3%	1.8%	1.6%	..
Bosnia and Herzegovina	x	x	x	59.5%	23.3%	56.6%	60.1%	62.2%	58.5%	60.9%	..
Bulgaria	40.7%	33.1%	34.2%	31.5%	32.9%	34.4%	34.8%	38.6%	35.5%	31.4%	..
Croatia	x	x	x	8.6%	2.2%	5.1%	7.0%	7.3%	7.2%	7.7%	..
Cyprus ³	-	-	5.0%	4.7%	0.8%	1.5%	1.6%	0.7%	0.2%	-	..
F.Y.R. of Macedonia	x	x	x	53.6%	57.0%	50.2%	49.0%	45.3%	36.2%	32.7%	..
Georgia	x	x	x	7.2%	0.6%	0.5%	0.3%	1.6%	5.9%	5.5%	..
Kazakhstan	x	x	x	54.4%	55.4%	55.4%	56.0%	49.9%	43.8%	43.3%	..
Kosovo	x	x	x	..	..	62.7%	63.8%	67.1%	61.9%	62.7%	..
Kyrgyzstan	x	x	x	33.8%	13.6%	20.2%	21.5%	25.5%	28.3%	23.5%	..
Lithuania	x	x	x	4.9%	2.6%	1.1%	1.9%	2.6%	2.3%	2.2%	..
Malta	-	-	34.3%	26.6%	4.5%	-	-	-	-	-	..
Republic of Moldova	x	x	x	20.2%	12.5%	2.9%	3.1%	2.5%	2.6%	1.9%	..
Montenegro	x	x	x	..	..	..	28.1%	37.2%	37.5%	30.9%	..
Romania	18.2%	19.2%	23.7%	20.8%	23.2%	20.6%	22.7%	19.8%	18.4%	16.6%	..
Russian Federation	x	x	x	21.6%	20.2%	19.3%	17.2%	14.7%	16.4%	15.4%	..
Serbia	x	x	x	51.6%	64.1%	63.0%	50.2%	50.1%	52.6%	51.7%	..
Tajikistan	x	x	x	11.8%	0.7%	0.6%	1.9%	4.1%	16.8%	20.9%	..
Turkmenistan	x	x	x	1.7%	-	-	-	-	-	-	..
Ukraine	x	x	x	32.2%	30.9%	28.7%	26.3%	28.8%	32.3%	34.3%	..
Uzbekistan	x	x	x	7.3%	2.5%	2.5%	2.4%	3.0%	4.0%	4.1%	..
Former Soviet Union	36.0%	29.0%	23.8%	x	x	x	x	x	x	x	x
Former Yugoslavia	40.1%	35.5%	45.9%	x	x	x	x	x	x	x	x
Islam. Rep. of Iran	2.9%	3.1%	1.8%	1.0%	1.0%	1.2%	1.0%	0.7%	0.5%	0.4%	..
Jordan	-	-	-	-	-	-	-	-	2.0%	2.4%	..
Lebanon	0.5%	0.2%	-	-	2.7%	2.7%	2.6%	2.3%	2.2%	2.2%	..
Syrian Arab Republic	0.1%	0.1%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	..
United Arab Emirates	-	-	-	-	-	-	0.3%	1.1%	2.2%	2.5%	..
Yemen	-	-	-	-	-	-	-	1.3%	2.2%	2.5%	..
Non-OECD Total	29.2%	27.4%	27.4%	28.2%	28.7%	27.2%	32.7%	36.1%	36.2%	35.1%	..
World (incl. bunkers)	24.2%	24.6%	25.9%	25.2%	23.8%	23.0%	26.0%	28.3%	28.1%	27.1%	..

1. Coal comprises all primary coal types and derived coal products, however excludes peat, peat products, and oil shale and oil sands. For further information, see the explanatory notes and definitions in Part I.

2. Consumption data for 2017p are supplied by OECD member countries. Primary coal consumption data are available for non-member countries, however derived solid fossil fuels and manufactured gases are not available, and neither is total primary energy supply for all fuels.

3. Please refer to the Geographical notes in Part I.

Source: IEA/OECD World Energy Statistics

Figure 1: World coal production (million tonnes)

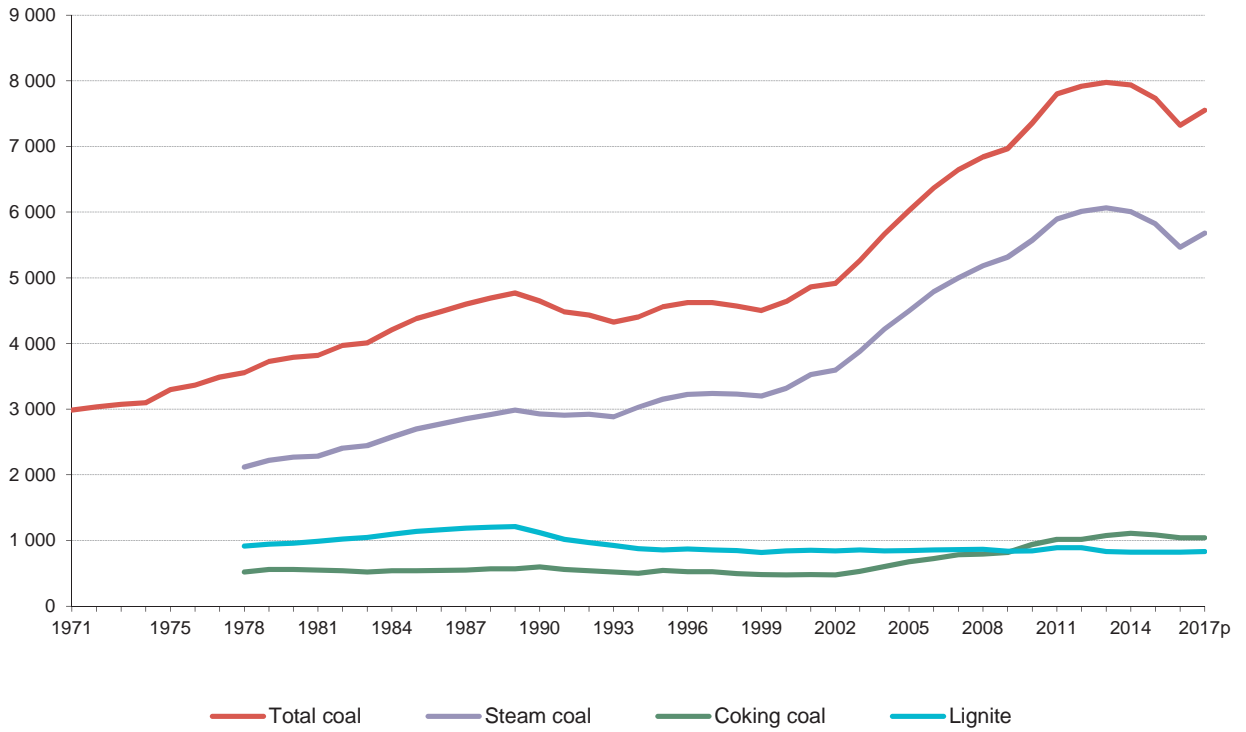


Figure 2: World steam and coking coal trade (million tonnes)

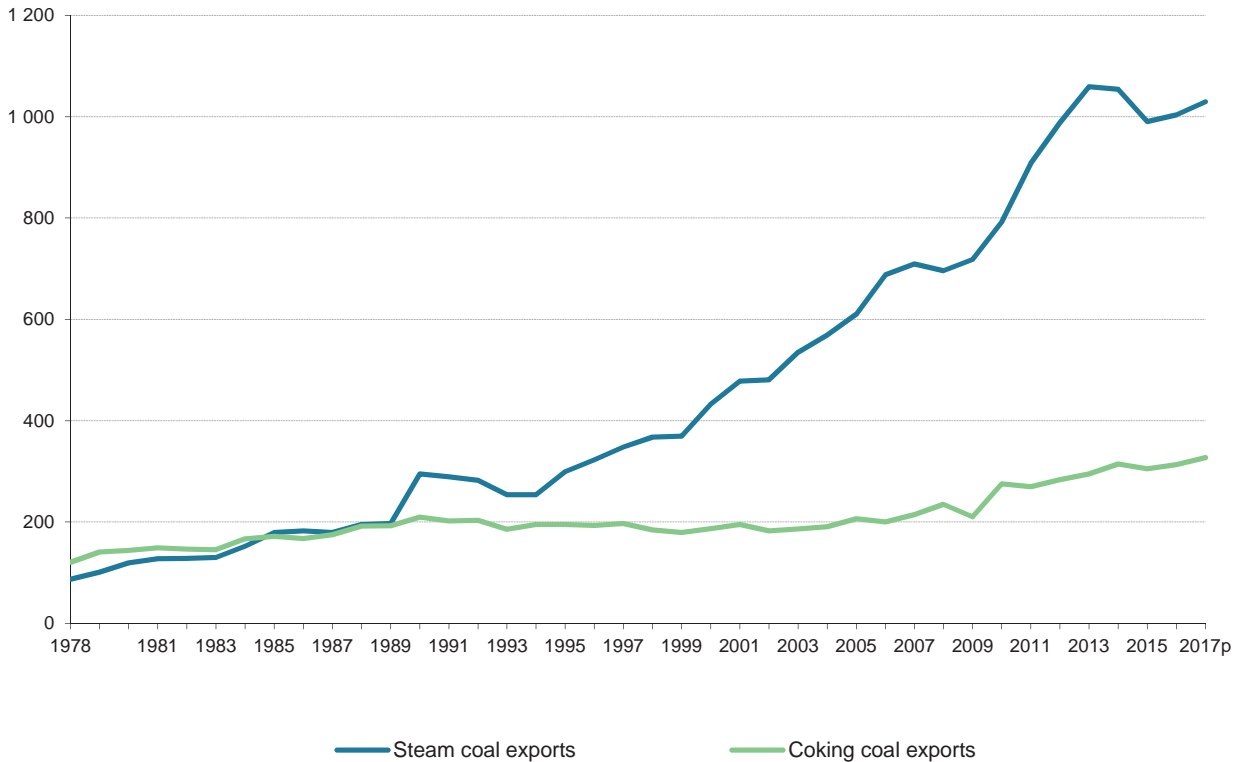


Figure 3: Coal production by region
(million tonnes)

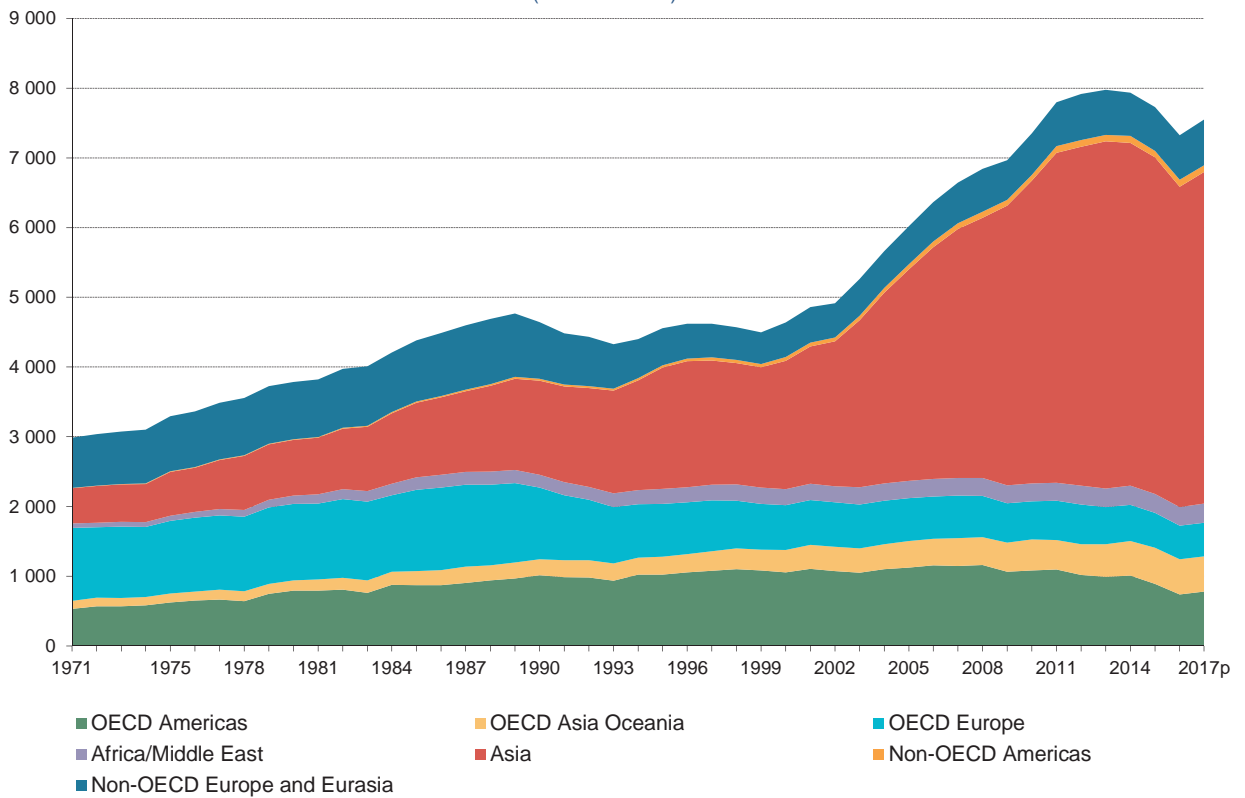


Figure 4: Coal consumption by region
(million tonnes)

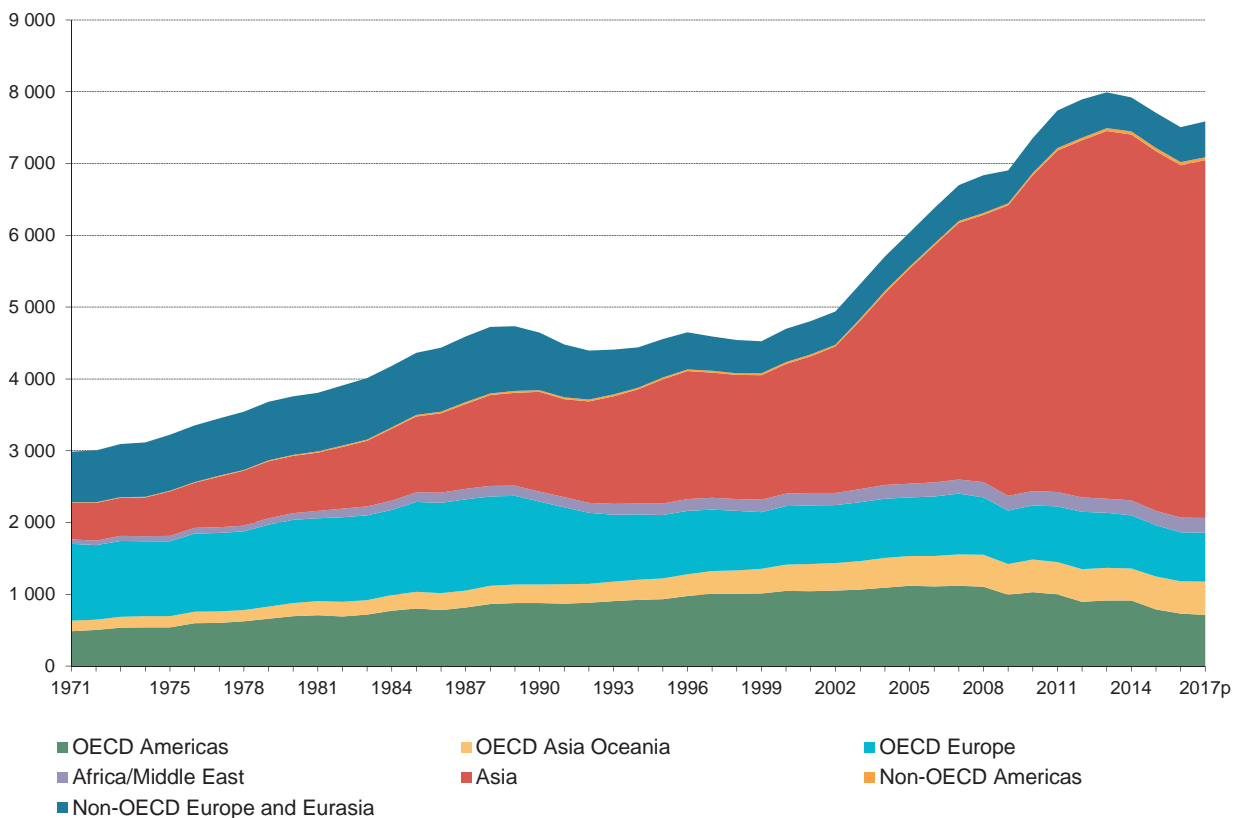


Figure 5: Coal imports by region
(million tonnes)

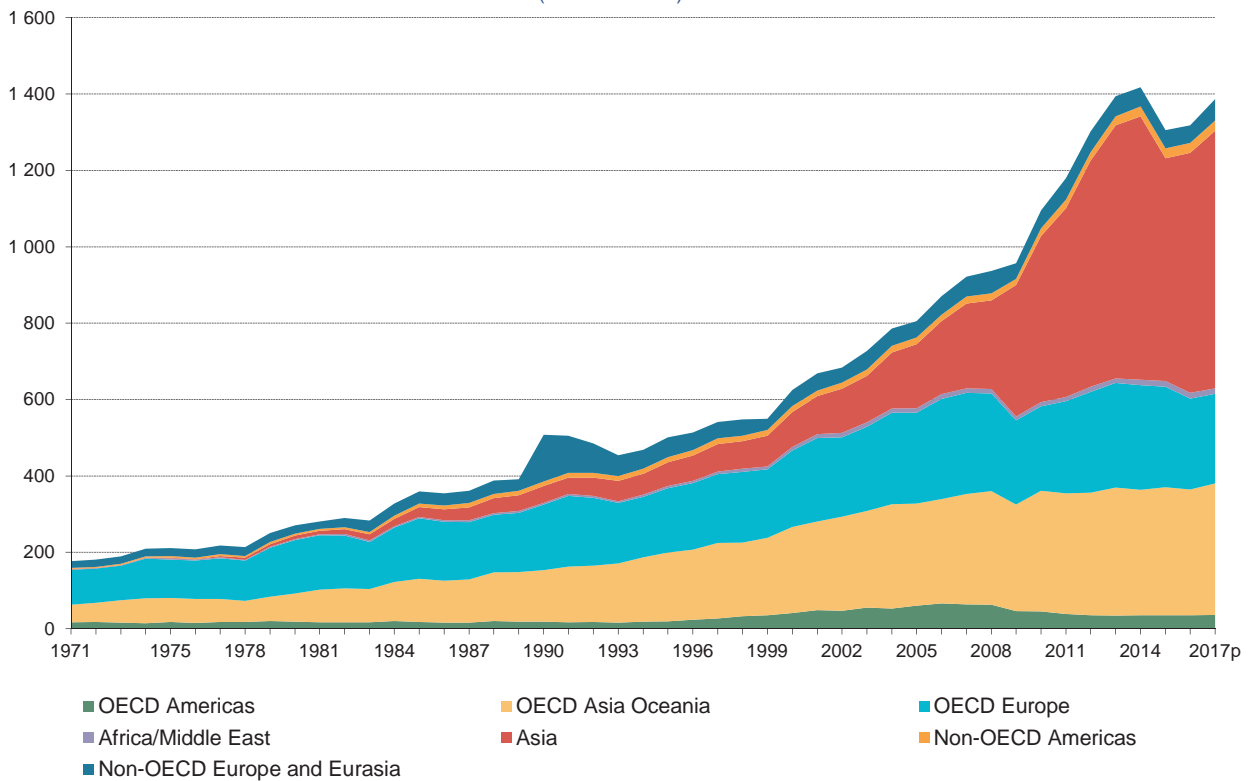


Figure 6: Coal exports by region
(million tonnes)

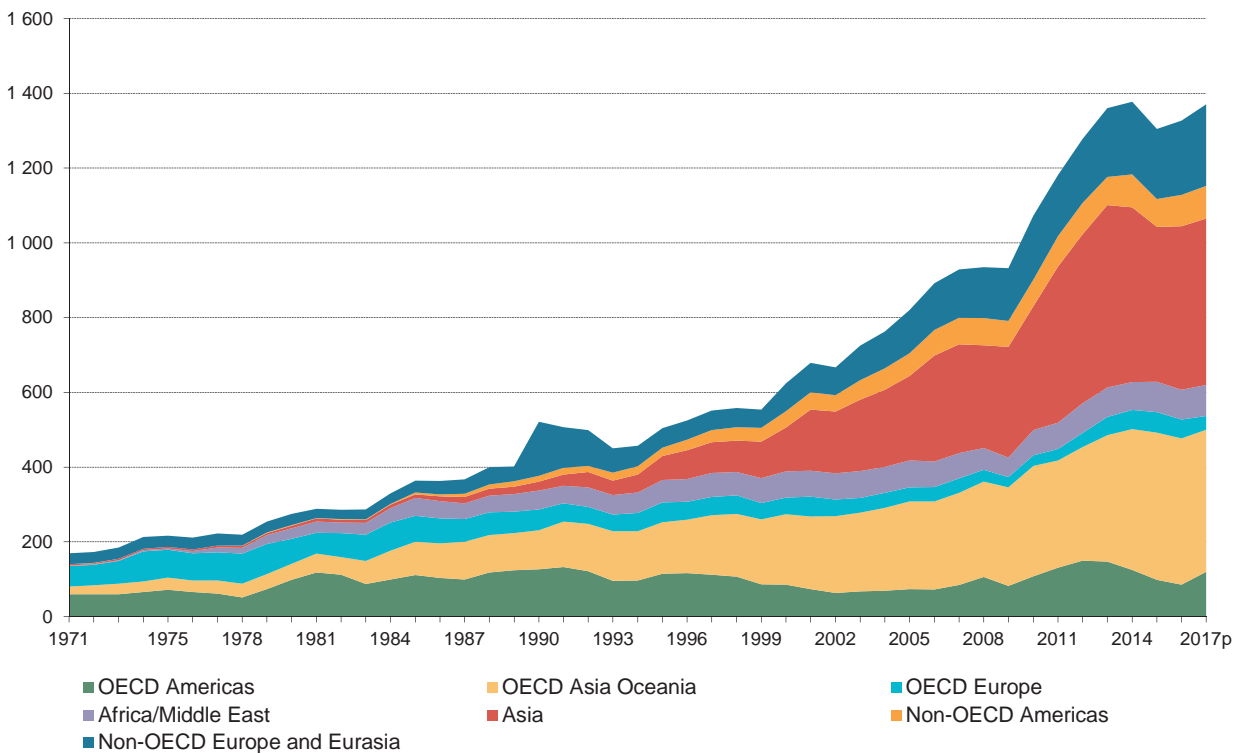


Figure 7: OECD total primary energy supply (Mtce)

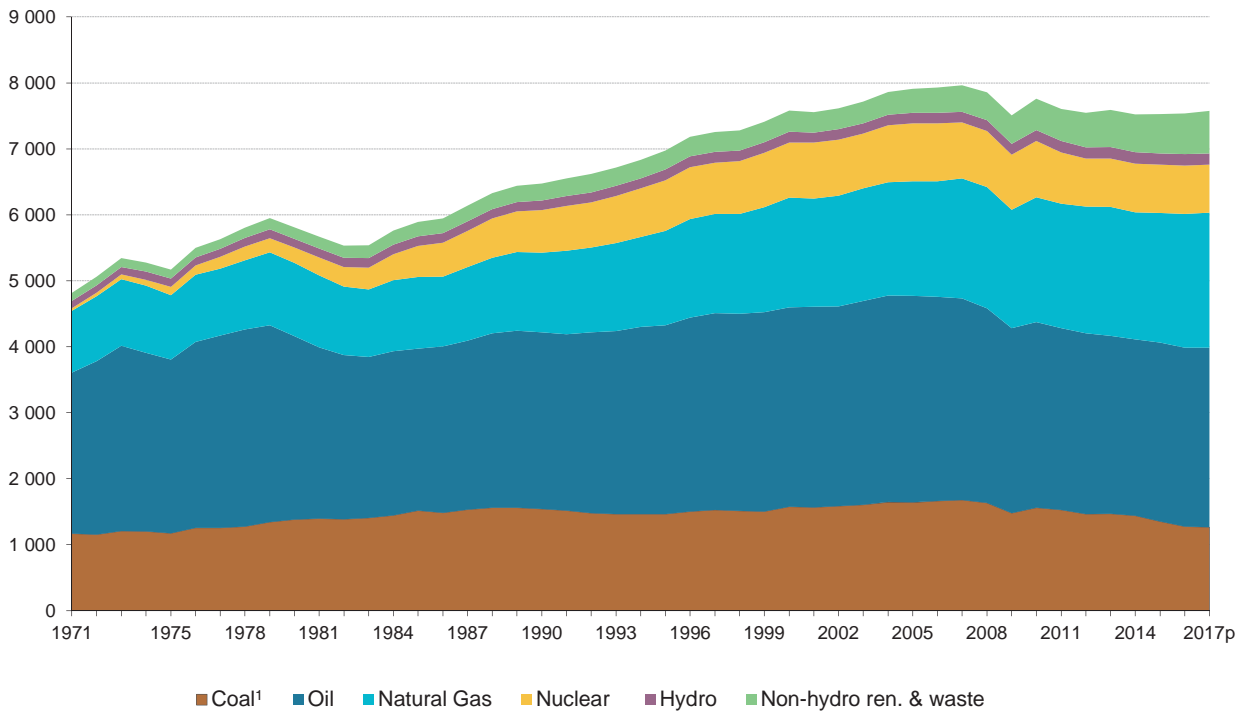
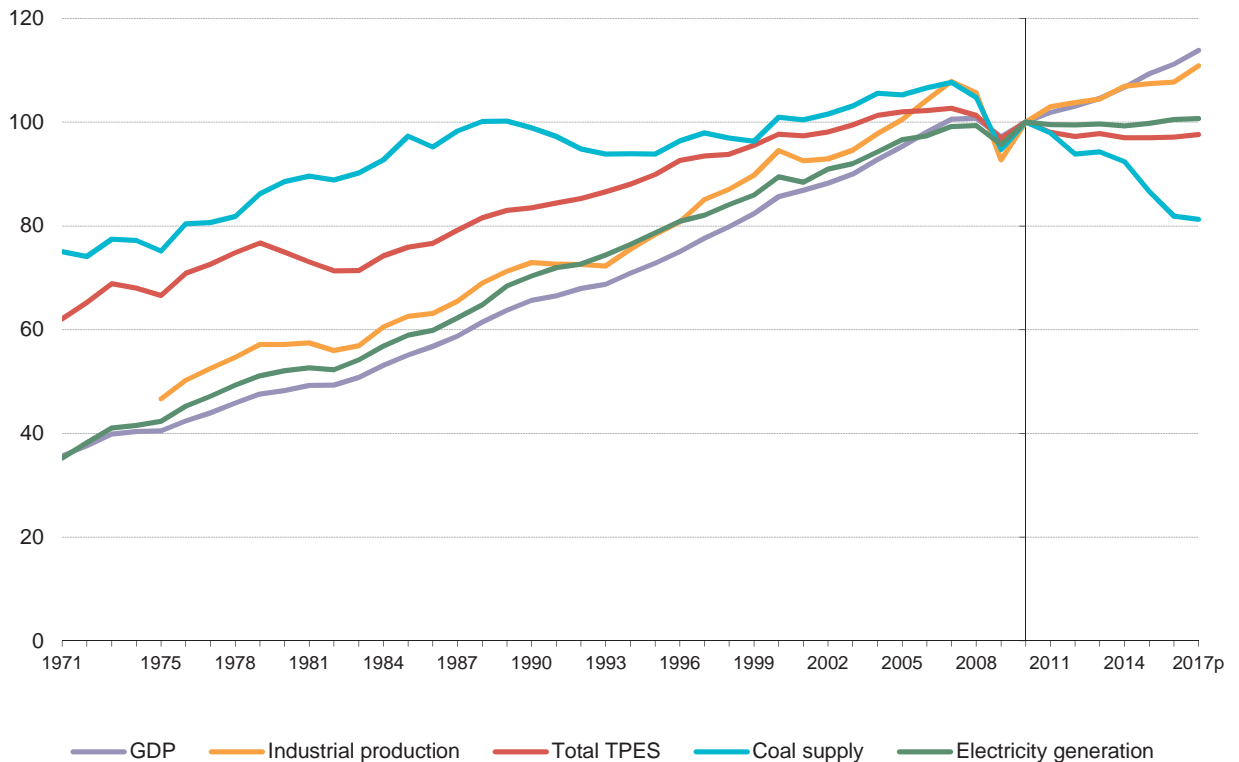


Figure 8: OECD coal¹ consumption and indicators (Index: 2010=100)



1. Coal comprises primary coal (anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite), plus peat and oil shale and oil sands.

PART III

DETAILED OECD COAL DATA

DIRECTORY OF PART III FIGURES AND TABLES

Part III of *Coal Information* contains detailed statistical information on coal for the 35 member countries of the OECD and for regional aggregates (OECD Total, OECD Americas, OECD Asia Oceania, OECD Europe, and IEA Total). The figures and tables of regional aggregates are presented before the country tables which are set out in alphabetical order.

Data for each region and country are illustrated in figures at the beginning of each section. This is followed by detailed statistical information presented in several tables for each region and country.

Interpreting energy data and comparing statistics between countries can be difficult due to differences in definitions used by countries in the collection and reporting of data, as explained in Part I. The conventions used by the Secretariat in compiling a consistent publication of coal data are also reported.

Readers are strongly advised to read the country notes for individual countries, which are provided at the end of this chapter. Conversion factors are also included for reference.

Figures

1. Coal supply indicators (1971 = 100)
2. Total primary energy supply by fuel (Mtce)
3. Primary coal supply (Mtce)
4. Coal consumption (Mtce)
5. Electricity generation by fuel (TWh)
6. CO₂ emissions by fuel (Mt CO₂)

Tables

Where present, tables presented are numbered as follows:

1. Coal balance
2. Use of coal for selected end-uses
3. Coal and peat production by type
4. Coal and peat trade by type
5. Total coal imports by origin
6. Coking coal exports by destination
7. Steam coal exports by destination
8. Coal import values by origin
9. Coal export values by destination

It should be noted that not all tables are shown for all countries. For example, in the case where a country has no or very few coal exports, the related tables (on export volumes and values) are omitted.

Data for 2017 are provisional with the exception of Tables 8 and 9 where data are final. USD refers to dollars used in the United States of America. Prices for regional totals, weighted by national consumption, are calculated as an average of available price data in the region and therefore prices shown should only be considered as indicative. Data are converted from unit prices to tonnes of coal equivalent (tce) using country specific calorific values.

OECD TOTAL¹

Figure 1: Coal supply indicators (1971 = 100)

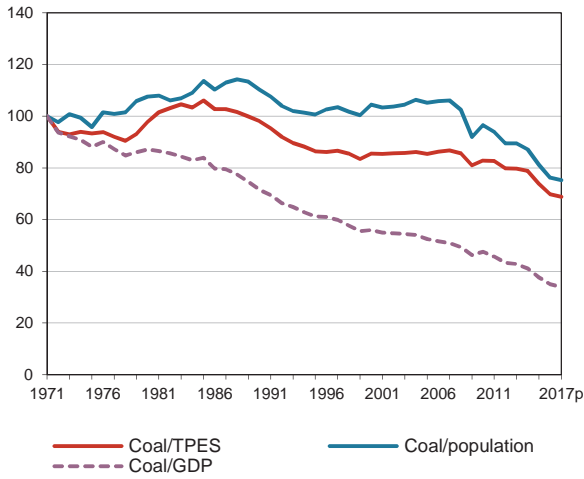


Figure 2: TPES by fuel (Mtce)

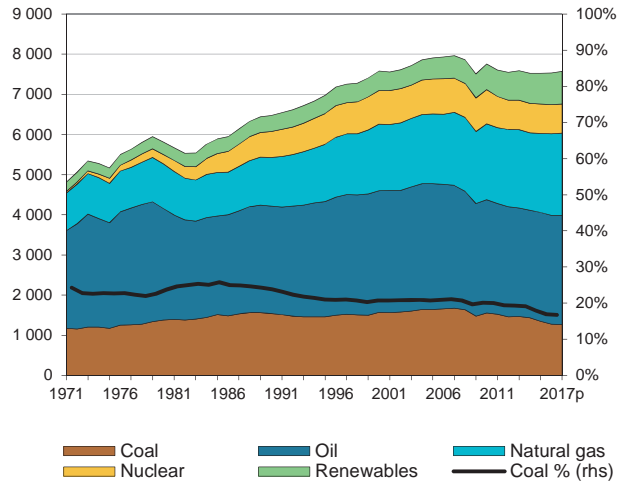


Figure 3: Primary coal supply (Mtce)

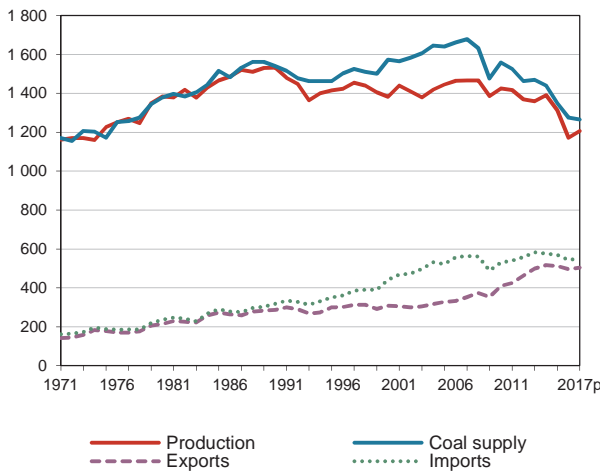


Figure 4: Coal consumption (Mtce)

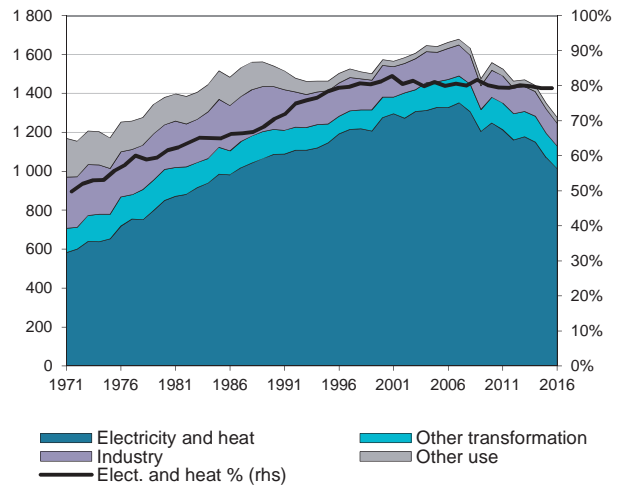


Figure 5: Electricity generation by fuel (TWh)

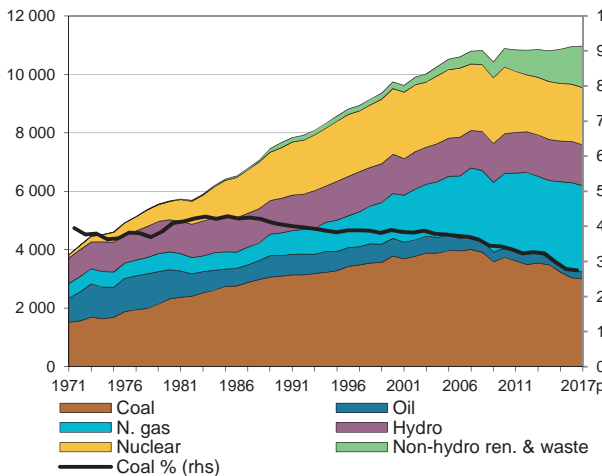
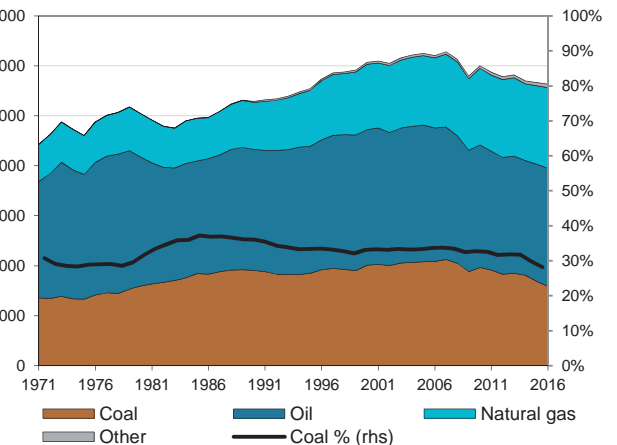


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

OECD TOTAL

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	1170.1	1384.3	1531.4	1381.6	1425.1	1313.3	1172.2	1206.7	1.6	-1.0
Imports	174.2	236.3	318.4	442.1	530.2	569.9	543.5	551.2	3.6	2.1
Exports	-158.7	-214.9	-287.6	-308.2	-409.7	-511.6	-496.2	-504.7	3.6	2.1
Stock changes	20.8	-26.2	-21.4	57.0	12.5	-22.2	56.1	12.7		
Primary supply	1206.4	1379.5	1540.8	1572.5	1558.1	1349.5	1275.6	1265.8	1.4	-0.7
Statistical differences	21.1	-20.0	6.2	19.5	-13.3	-2.2	2.9	..		
Total transformation	-753.8	-959.5	-1193.4	-1376.6	-1341.1	-1167.6	-1107.8	..	2.7	-0.3
Electricity and heat gen.	-639.2	-849.6	-1086.1	-1276.3	-1248.6	-1070.1	-1011.4	..	3.2	-0.3
<i>Main activity producers</i> ³	-618.1	-786.1	-1015.7	-1223.0	-1205.8	-1024.1	-968.8	..	3.0	-0.2
<i>Autoproducers</i>	-21.1	-63.6	-70.4	-53.3	-42.8	-46.0	-42.6	..	7.3	-1.9
Gas works	15.8	7.8	-0.5	-2.7	-3.1	-3.2	-3.1	..	-	7.2
Coal transformation ⁴	-130.3	-117.7	-106.5	-96.8	-88.1	-92.1	-91.3	..	-1.2	-0.6
<i>BKB plants</i>	2.2	1.4	-1.5	-0.2	0.1	-0.4	-0.5	..	-	-4.2
<i>Blast furnaces</i>	-93.6	-80.0	-79.2	-81.5	-74.1	-76.4	-75.2	..	-1.0	-0.2
<i>Coke ovens</i>	-38.2	-39.2	-21.6	-14.3	-14.2	-15.4	-15.7	..	-3.3	-1.2
<i>Patent fuel plants</i>	-0.8	0.1	-4.1	-0.8	0.1	-0.0	0.0	..	10.5	-
Other transformation ⁵	-	-	-0.3	-0.7	-1.3	-2.1	-1.9	..	-	7.9
Energy ind. own use	-35.0	-27.8	-26.1	-22.5	-23.7	-23.2	-22.2	..	-1.7	-0.6
Losses	-5.4	-2.4	-1.4	-1.2	-1.7	-1.7	-1.9	..		
Final consumption ⁶	433.3	369.8	326.1	191.8	178.3	154.8	146.6	..	-1.7	-3.0
Industry ⁷	261.1	229.0	220.9	163.1	138.8	124.5	116.4	..	-1.0	-2.4
<i>Iron and steel</i>	134.1	106.3	82.0	62.2	54.6	49.8	48.1	..	-2.9	-2.0
<i>Chemical</i>	26.6	24.9	30.4	18.8	17.1	16.2	14.9	..	0.8	-2.7
<i>Non-metallic minerals</i>	21.2	32.7	44.3	37.6	29.7	28.8	26.9	..	4.4	-1.9
<i>Paper, pulp and print</i>	11.6	11.2	16.3	8.5	10.0	7.7	6.8	..	2.0	-3.3
<i>Other industry</i> ⁸	67.6	53.9	47.9	36.0	27.6	22.1	19.6	..	-2.0	-3.4
Transport ⁹	10.5	3.7	0.4	0.1	0.2	0.0	0.0	..	-17.3	-11.3
Other	157.2	133.8	100.5	25.4	35.5	26.2	26.0	..	-2.6	-5.1
<i>Comm. and pub. services</i>	28.5	28.7	23.3	4.2	10.3	8.0	7.4	..	-1.2	-4.3
<i>Residential</i>	109.5	91.2	64.8	19.2	23.1	16.6	17.0	..	-3.0	-5.0
<i>Other sectors</i> ¹⁰	19.2	13.9	12.4	2.0	2.1	1.5	1.6	..	-2.5	-7.6
Non-energy use	4.4	3.3	4.2	3.1	3.7	4.1	4.2	..	-0.2	-0.1
Electricity gen. - TWh	1695.2	2319.4	3099.2	3789.2	3736.7	3240.4	3043.8	3011.3	3.6	-0.1

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD World Energy Balances

OECD TOTAL

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	1874.32	2292.79	2229.76	2235.72	2097.65	1961.57	1862.70	1.69	-0.80
Total electricity and heat	1136.93	1650.41	1854.42	1858.30	1735.03	1624.24	1538.41	3.15	-0.27
<i>Main activity producers</i>	1069.22	1566.70	1808.77	1821.70	1699.90	1586.97	1506.79	3.23	-0.15
<i>Autoproducers</i>	67.71	83.72	45.66	36.60	35.13	37.28	31.62	1.78	-3.68
Patent fuel/BKB plants	162.40	133.90	16.35	15.42	17.11	16.41	16.08	-1.60	-7.83
Coke ovens/Liquefaction ³	278.26	236.54	184.51	170.78	167.77	162.08	157.88	-1.34	-1.54
Blast furnace inputs	0.01	10.33	25.40	32.38	38.15	38.09	38.05	88.91	5.14
Gas manufacture	15.16	9.13	7.02	7.14	6.86	6.97	6.81	-4.14	-1.12
Industry	144.77	166.48	122.03	101.76	92.47	91.31	85.58	1.17	-2.53
<i>Iron and steel</i>	10.78	11.86	10.46	10.87	11.23	11.06	11.14	0.80	-0.24
<i>Chemical</i>	28.22	34.15	21.17	17.92	17.03	16.65	15.64	1.60	-2.96
<i>Non-metallic minerals</i>	28.95	47.87	39.54	31.81	32.06	29.89	28.01	4.28	-2.04
<i>Paper, pulp and print</i>	13.53	17.97	9.33	10.98	8.86	8.42	7.55	2.40	-3.28
<i>Other industry</i>	63.30	54.62	41.53	30.19	23.28	25.30	23.24	-1.22	-3.23
Other sectors ⁴	104.61	82.63	29.23	38.13	28.29	28.28	28.37	-1.95	-4.03
Non-energy use	0.91	1.21	0.85	0.65	0.76	0.74	0.80	2.41	-1.59
Steam coal	929.13	1241.24	1429.29	1481.56	1356.90	1250.26	1164.18	2.44	-0.25
Total electricity and heat	714.31	1043.01	1289.41	1330.34	1217.99	1124.39	1047.16	3.20	0.02
<i>Main activity producers</i>	664.54	991.91	1255.52	1303.89	1188.80	1093.07	1021.44	3.39	0.11
<i>Autoproducers</i>	49.77	51.10	33.89	26.45	29.19	31.32	25.73	0.22	-2.61
Patent fuel/BKB plants	25.54	23.75	3.24	2.09	1.89	1.70	1.48	-0.60	-10.13
Coke ovens/Liquefaction ³	2.40	6.94	12.18	13.46	15.87	15.56	15.62	9.24	3.17
Blast furnace inputs	0.01	3.76	9.71	10.93	11.31	12.10	13.05	73.63	4.91
Gas manufacture	1.85	0.41	-	-	-	-	-	-11.86	-
Industry	93.80	122.09	103.75	85.64	82.27	78.57	75.63	2.22	-1.82
<i>Iron and steel</i>	9.78	8.46	9.65	10.11	9.97	9.21	9.82	-1.21	0.58
<i>Chemical</i>	13.86	23.22	17.72	15.77	15.05	14.77	13.75	4.39	-2.00
<i>Non-metallic minerals</i>	27.37	44.25	37.97	28.63	29.85	28.52	26.89	4.08	-1.90
<i>Paper, pulp and print</i>	9.02	15.86	8.75	10.78	8.54	8.06	7.25	4.82	-2.97
<i>Other industry</i>	33.76	30.29	29.67	20.35	18.87	18.02	17.93	-0.90	-2.00
Other sectors ⁴	71.43	46.85	18.84	28.77	22.71	22.80	22.61	-3.45	-2.76
Non-energy use	0.08	0.54	0.45	0.27	0.53	0.53	0.61	17.46	0.45
Coking coal	293.19	257.05	206.37	188.55	184.38	174.15	173.41	-1.09	-1.50
Total electricity and heat	7.14	18.23	13.37	6.04	3.69	0.97	3.43	8.12	-6.22
<i>Main activity producers</i>	6.19	14.32	10.17	5.01	3.02	0.28	2.74	7.23	-6.16
<i>Autoproducers</i>	0.95	3.91	3.20	1.04	0.67	0.69	0.69	12.52	-6.47
Patent fuel/BKB plants	-	-	-	-	0.00	0.00	0.00	-	-
Coke ovens/Liquefaction ³	275.86	229.60	172.33	156.75	151.34	145.97	141.76	-1.52	-1.84
Blast furnace inputs	-	6.57	15.69	21.45	26.84	25.98	25.00	-	5.27
Gas manufacture	6.91	0.26	-	-	-	-	-	-23.92	-
Industry	0.26	2.29	2.99	4.97	1.65	4.35	1.80	19.89	-0.91
<i>Iron and steel</i>	0.07	2.04	0.59	0.73	1.24	1.83	1.30	32.43	-1.72
<i>Chemical</i>	0.01	-	0.00	-	-	-	-	-	-
<i>Non-metallic minerals</i>	0.00	-	0.00	0.00	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.18	0.25	2.39	4.24	0.40	2.52	0.50	2.93	2.75
Other sectors ⁴	0.28	0.14	0.10	0.20	0.00	0.00	0.00	-5.70	-17.26
Non-energy use	-	0.00	0.23	0.18	0.13	0.10	0.09	-	15.77

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

OECD TOTAL

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	652.00	794.51	594.10	565.61	556.37	537.16	525.12	1.66	-1.58
Total electricity and heat	415.48	589.17	551.64	521.91	513.35	498.88	487.82	2.95	-0.72
<i>Main activity producers</i>	398.48	560.47	543.07	512.80	508.08	493.62	482.61	2.88	-0.57
<i>Autoproducers</i>	16.99	28.70	8.57	9.11	5.27	5.27	5.21	4.46	-6.35
Patent fuel/BKB plants	136.86	110.15	13.11	13.33	15.22	14.70	14.60	-1.79	-7.48
Coke ovens/Liquefaction ²	-	-	0.00	0.57	0.56	0.55	0.51	-	-
Blast furnace inputs	-	-	-	-	0.00	0.00	0.00	-	-
Gas manufacture	6.40	8.47	7.02	7.14	6.86	6.97	6.81	2.36	-0.83
Industry	50.71	42.10	15.30	11.15	8.55	8.39	8.15	-1.54	-6.12
<i>Iron and steel</i>	0.93	1.37	0.22	0.03	0.02	0.02	0.02	3.32	-15.17
<i>Chemical</i>	14.35	10.93	3.46	2.14	1.98	1.88	1.89	-2.24	-6.52
<i>Non-metallic minerals</i>	1.57	3.61	1.56	3.17	2.21	1.37	1.13	7.18	-4.38
<i>Paper, pulp and print</i>	4.51	2.11	0.58	0.21	0.33	0.35	0.30	-6.14	-7.21
<i>Other industry</i>	29.36	24.08	9.48	5.60	4.02	4.76	4.81	-1.64	-6.01
Other sectors ³	32.90	35.64	10.29	9.17	5.58	5.48	5.76	0.67	-6.77
Non-energy use	0.83	0.67	0.16	0.19	0.10	0.11	0.10	-1.78	-6.94
Peat	7.98	12.92	11.30	14.81	10.42	9.81	9.78	4.10	-1.06
Total electricity and heat	3.71	7.72	8.51	12.39	8.49	8.13	8.02	6.29	0.15
<i>Main activity producers</i>	3.23	7.50	8.01	11.97	8.17	7.82	7.73	7.26	0.12
<i>Autoproducers</i>	0.48	0.23	0.50	0.42	0.32	0.31	0.29	-6.02	0.94
Patent fuel/BKB plants	0.75	1.49	0.88	0.69	0.57	0.33	0.39	5.89	-5.06
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	1.09	1.54	1.22	1.05	0.83	0.75	0.68	2.87	-3.12
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	0.16	0.09	0.02	0.02	0.01	0.01	-	-10.44
<i>Non-metallic minerals</i>	-	0.01	0.00	0.00	-	-	0.00	-	-7.69
<i>Paper, pulp and print</i>	0.50	1.29	1.04	0.92	0.75	0.71	0.65	8.24	-2.58
<i>Other industry</i>	0.60	0.08	0.09	0.11	0.07	0.03	0.01	-15.40	-7.35
Other sectors ³	2.42	1.92	0.71	0.79	0.61	0.59	0.63	-1.90	-4.21
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	26.26	13.62	18.32	21.02	18.32	19.26	-	-1.18
Total electricity and heat	-	22.87	11.30	13.98	15.63	12.50	13.91	-	-1.89
<i>Main activity producers</i>	-	22.87	11.10	13.53	15.23	12.00	13.44	-	-2.02
<i>Autoproducers</i>	-	-	0.20	0.45	0.40	0.50	0.48	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	0.88	1.39	3.09	4.08	4.90	4.41	-	6.41
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	0.65	0.61	1.03	1.04	0.75	0.66	-	0.08
Industry	-	1.39	0.22	0.16	0.16	0.07	0.05	-	-12.14
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	0.22	0.16	0.16	0.07	0.05	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	1.39	0.00	-	-	-	-	-	-
Other sectors ³	-	-	0.00	-	-	-	-	-	-
Non-energy use	-	-	0.15	0.06	0.10	0.14	0.21	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

OECD TOTAL

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	290.52	281.99	229.07	239.06	281.43	279.74	296.11	-0.25	-0.03
Steam coal	748.82	985.25	952.42	1005.65	946.30	712.91	730.62	2.31	-1.24
Lignite	205.58	251.84	193.07	191.34	187.36	172.81	171.88	1.71	-1.44
Peat	2.30	5.34	3.35	4.68	4.48	2.19	2.31	7.27	-3.37
Oil shale and oil sands	-	6.94	3.74	4.46	5.55	4.55	5.76	-	-1.61
Mt:									
Coking coal	296.47	282.54	234.94	248.86	293.27	289.52	306.40	-0.40	0.09
Steam coal	905.35	1201.87	1191.59	1271.93	1211.53	906.80	931.43	2.39	-1.08
Lignite	652.37	785.60	590.78	595.90	566.60	526.15	527.20	1.56	-1.53
Peat	8.05	15.83	10.34	14.32	13.65	6.66	7.09	5.80	-3.28
Oil shale and oil sands	-	22.79	12.12	15.02	18.37	16.19	20.46	-	-1.31

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	185.87	317.68	441.74	522.30	530.20	576.29	569.88	543.47	551.21
Bituminous coal ³	58.79	156.28	274.58	358.92	366.54	415.75	413.77	384.63	391.35
Coking coal	99.77	141.48	136.29	132.71	139.47	136.42	131.10	134.17	134.72
Sub-bituminous coal	0.60	1.40	7.50	9.64	7.81	6.07	8.60	8.69	10.31
Lignite	4.69	4.40	1.46	0.48	0.61	1.14	0.99	0.66	0.69
Peat	-	0.10	0.10	0.14	0.16	0.07	0.06	0.04	0.04
Coal products ⁴	22.01	14.03	21.82	20.41	15.61	16.84	15.36	15.27	14.11
Total exports	176.71	287.57	308.19	328.03	409.61	516.68	511.60	496.17	504.73
Bituminous coal ³	44.50	104.67	130.92	132.71	158.55	238.88	242.66	231.83	234.58
Coking coal	105.43	161.25	162.61	177.44	231.99	259.35	251.05	247.16	249.34
Sub-bituminous coal	-	0.04	0.77	4.43	4.40	3.64	3.62	1.93	5.29
Lignite	4.38	4.34	1.33	0.82	0.80	1.21	1.06	0.68	0.70
Peat	0.01	0.12	0.08	0.06	0.04	0.00	0.02	0.01	0.01
Coal products ⁴	22.40	17.16	12.47	12.57	13.83	13.59	13.19	14.55	14.82

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

OECD TOTAL

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	178767	325247	466978	566014	582026	637389	633780	602659	614796
Coking coal	99172	137610	139204	135356	141942	139518	134129	137330	137883
Australia	29796	44764	69244	70684	75162	64007	74775	76799	70246
Canada	11598	22860	25397	19432	18706	14194	15214	16527	16799
Czech Republic	909	774	3388	3366	3704	2533	2068	2295	1564
Germany	10948	3145	2	289	1	17	9	13	38
Poland	6619	2571	3118	3246	1821	2265	2913	2420	2594
United Kingdom	79	52	-	6	1	-	-	-	-
United States	25075	45127	23088	21320	31000	32027	23843	21946	25170
Other OECD	116	338	358	789	444	656	320	378	372
China, People's Rep.	420	1528	6491	7910	2390	2471	1101	733	830
Colombia	-	65	140	313	858	1275	1214	1020	1846
Indonesia	-	88	650	-	44	493	730	584	654
South Africa	2566	1539	703	295	574	19	10	194	201
Former Soviet Union ⁴	5249	9180	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	5169	6156	6364	13453	10352	12980	15021
<i>Other FSU</i>	x	x	26	316	80	449	569	419	496
Venezuela	-	-	510	872	187	91	-	-	24
Viet Nam	-	-	148	-	37	-	-	-	-
Non-specified/other	5797	5578	772	362	567	5568	1011	1022	1934
Steam coal	66833	177609	324730	429614	438873	495260	497385	463942	475466
Australia	4556	38589	76747	95679	110525	127642	140275	133383	118855
Canada	970	4416	4061	2278	8433	15780	7572	4522	7214
Czech Republic	243	327	2443	1415	2889	2011	1452	927	890
Germany	6716	2122	470	641	627	683	4379	5306	3043
Poland	16292	13069	18894	15564	10730	6857	6160	6225	4294
United Kingdom	2285	2441	593	319	316	154	155	209	1473
United States	9296	33669	28031	17293	22316	43034	33079	23320	29538
Other OECD	986	3560	4529	3801	4361	4422	2822	2518	3859
China, People's Rep.	534	7457	37617	39113	11551	3021	2339	5678	4509
Colombia	-	10412	29531	48308	61618	78245	81461	80973	79167
Indonesia	-	1472	29747	63668	87484	75354	75242	73884	79692
South Africa	11967	34855	47264	53105	25903	29416	24358	14948	20321
Former Soviet Union ⁴	3012	10525	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	21096	60449	71809	94750	102280	98715	116442
<i>Other FSU</i>	x	x	835	2690	2773	5141	1580	1720	1385
Venezuela	-	1752	5096	5275	1382	495	431	81	185
Viet Nam	-	150	1597	2699	3512	1803	995	629	999
Non-specified/other	9976	12793	16048	17317	12643	6350	12621	10777	3457
Lignite	12762	10028	3044	1044	1211	2611	2266	1387	1447

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

OECD TOTAL

6. Coking coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	107072	162292	168629	186708	243625	272293	262974	258886	261656
Total OECD	90313	122941	128525	132885	140067	139578	128509	129072	127631
Australia	-	-	122	49	-	-	-	-	43
Austria	1283	1351	1844	1753	1724	1440	1202	1336	1303
Belgium	3860	7450	4551	3429	2787	976	1826	1742	1790
Canada	5410	4018	3501	4034	3091	3945	3886	3425	3761
Chile	32	492	1088	1235	661	903	684	557	685
Czech Republic	-	-	214	523	720	1500	1366	1280	1618
Denmark	-	50	-	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	330	1005	1181	754	1207	878	928	843
France	8972	8494	6629	5535	4480	4754	4758	5020	4292
Germany	714	877	4891	4373	4040	3721	3277	3458	3458
Greece	245	-	-	-	-	-	-	-	-
Hungary	-	-	1075	449	542	290	346	443	187
Iceland	-	28	48	57	59	56	41	18	-
Ireland	-	3	4	15	-	1	1	1	85
Israel	-	50	56	129	55	-	-	-	-
Italy	8393	8734	7381	6494	4962	3280	2796	2571	2852
Japan	43380	55410	52798	54224	60323	52949	50046	52094	50651
Korea	2503	7852	15305	17954	23875	28237	28414	28786	27712
Latvia	x	-	-	-	96	-	-	-	-
Luxembourg	286	-	-	-	77	-	-	-	-
Mexico	10	3	1406	1582	1338	2074	769	456	917
Netherlands	3347	5273	4745	8055	8978	13238	11434	12352	12210
New Zealand	-	-	-	-	-	-	-	-	-
Norway	193	99	95	18	75	75	49	58	63
Poland	-	-	538	592	2882	2372	2557	2308	2935
Portugal	387	805	198	-	-	75	-	85	77
Slovak Republic	5126	3681	1570	1909	2092	1422	1142	1240	1394
Slovenia	x	-	-	163	223	420	198	374	502
Spain	3257	4499	4163	4598	2522	1965	2453	2031	1967
Sweden	840	1568	2128	1690	1887	1984	1627	1622	1975
Switzerland	18	3	46	-	37	1	-	-	-
Turkey	498	2869	3954	3599	3902	4459	3859	4244	3366
United Kingdom	1402	8230	8626	7366	6426	7479	4032	1938	2052
United States	157	772	544	1879	1459	755	868	705	893
Total non-OECD	8808	30067	36647	49389	96923	130790	132321	126732	130130
Brazil	2121	8867	10695	8049	12997	12694	12304	13451	13844
China ³	-	860	265	5286	35708	57102	49181	44265	45886
Chinese Taipei	1186	3155	7713	8365	6221	9941	10884	10645	10075
Egypt	218	1009	1211	1414	1366	434	341	257	779
India	232	5179	10795	19117	34749	42501	48734	49476	47503
Romania	1348	3915	505	593	812	773	544	255	406
Oth. Africa & Mid. East	521	1068	1825	3184	161	349	129	649	1083
Oth. non-OECD Americas	919	2129	781	1036	924	975	1191	1014	1107
Other Asia & Oceania	69	963	1051	841	409	1088	2835	1825	2016
Other non-OECD Europe and Eurasia	2194	2922	1806	1504	3576	4933	6178	4895	7431
Non-specified/Other	7951	9284	3457	4133	4584	-	20	2	2

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

OECD TOTAL

7. Steam coal exports by destination¹

(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	49931	114507	146919	157425	185855	277949	281594	266761	273508
Total OECD	40497	96482	127191	132818	140752	190256	191316	188106	172114
Australia	-	2	-	-	105	30	41	24	16
Austria	275	1216	1643	2183	1447	1183	1528	824	1136
Belgium	2660	3952	1473	1298	977	2402	3705	2696	2880
Canada	8782	10083	13524	13644	7269	2161	1520	1123	1041
Chile	-	514	1349	668	1407	1321	1997	3209	3289
Czech Republic	274	2282	864	719	685	1157	1257	1526	1474
Denmark	4620	5858	2594	1220	873	493	385	331	488
Estonia	x	-	3	-	-	3	1	2	3
Finland	4095	2814	1228	965	356	190	85	157	58
France	6755	3975	3416	3660	3052	1548	1264	963	1590
Germany	4157	6210	16487	13657	9781	33225	35717	34752	23227
Greece	1	-	112	144	47	49	32	4	62
Hungary	-	-	322	321	158	22	67	129	160
Iceland	-	33	7	44	56	58	102	138	134
Ireland	540	2248	1208	1164	605	441	494	425	318
Israel	-	1058	2623	1170	516	342	172	-	1
Italy	1552	5051	1430	422	1786	3813	2133	565	937
Japan	1732	30637	51874	58539	68593	83711	83681	84160	84841
Korea	356	4352	13730	18719	29033	38014	38496	40370	33865
Latvia	x	-	-	-	33	42	104	134	-
Luxembourg	52	3	164	38	50	72	46	48	47
Mexico	-	188	373	4579	4487	4398	4337	7394	3283
Netherlands	1285	9559	3556	2240	2196	7024	9159	5902	6280
New Zealand	-	1	16	56	59	94	61	76	111
Norway	167	404	678	497	403	377	500	474	448
Poland	-	1	117	128	1451	1272	568	257	706
Portugal	15	1574	348	580	776	137	147	14	676
Slovak Republic	237	198	1217	721	449	515	522	609	727
Slovenia	x	-	12	10	186	2	19	3	14
Spain	21	766	2328	730	416	590	310	483	1312
Sweden	244	1040	255	443	659	233	231	100	199
Switzerland	90	84	20	8	32	13	12	38	5
Turkey	79	15	110	178	438	384	152	441	551
United Kingdom	1081	2139	3874	3677	2118	4852	2304	436	1754
United States	1427	225	236	396	253	88	167	299	481
Total non-OECD	384	13016	19134	24441	44574	85295	89408	76479	96810
Brazil	11	345	22	726	138	602	192	163	263
China ³	-	2556	1440	2121	18127	48549	43374	30810	42261
Chinese Taipei	76	6866	10034	14332	19554	19570	21999	21159	26266
Egypt	-	1	2	4	168	79	184	557	1125
India	-	48	2469	1679	783	4505	10516	9142	10969
Romania	-	49	-	844	-	37	67	74	35
Oth. Africa & Mid. East	32	1039	828	499	1075	2568	528	821	1831
Oth. non-OECD Americas	82	128	89	14	134	276	176	208	191
Other Asia & Oceania	129	1621	3303	4020	4374	9004	12150	12949	13231
Other non-OECD Europe and Eurasia	54	363	947	202	221	105	222	596	638
Non-specified/Other	9050	5009	594	165	529	1839	420	128	1356

1. Please refer to the explanatory notes and definitions in Part I. Steam coal includes all sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

OECD AMERICAS¹

Figure 1: Coal supply indicators (1971 = 100)

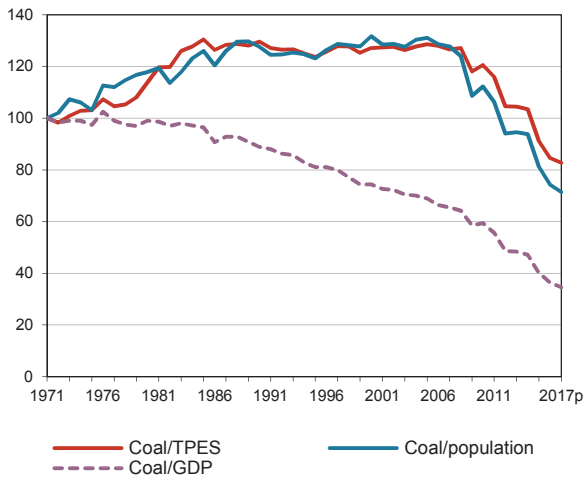


Figure 2: TPES by fuel (Mtce)

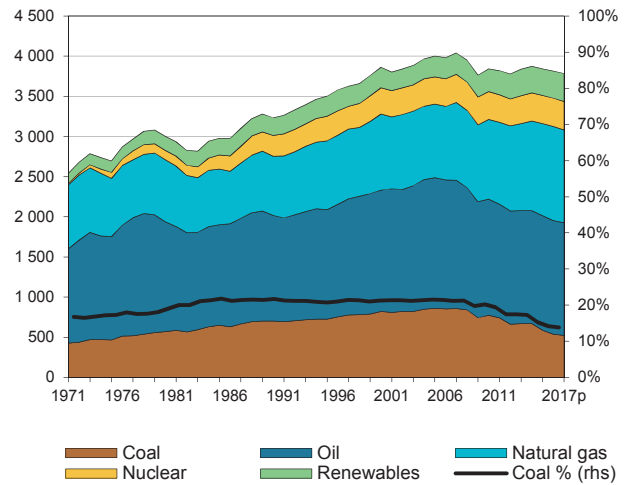


Figure 3: Primary coal supply (Mtce)

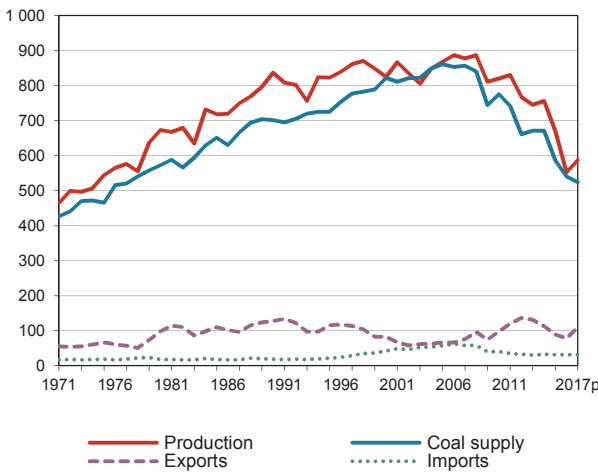


Figure 4: Coal consumption (Mtce)

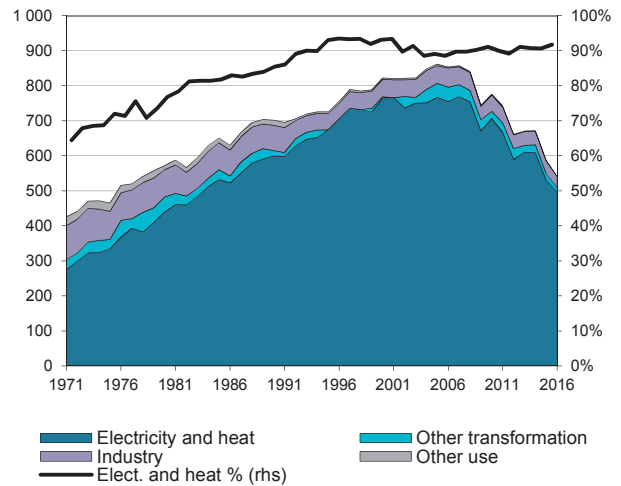


Figure 5: Electricity generation by fuel (TWh)

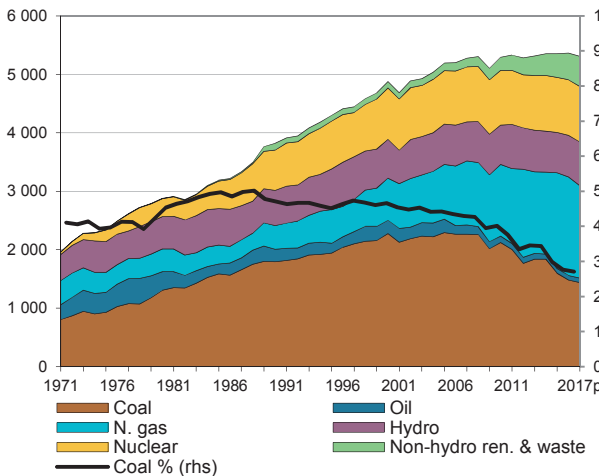
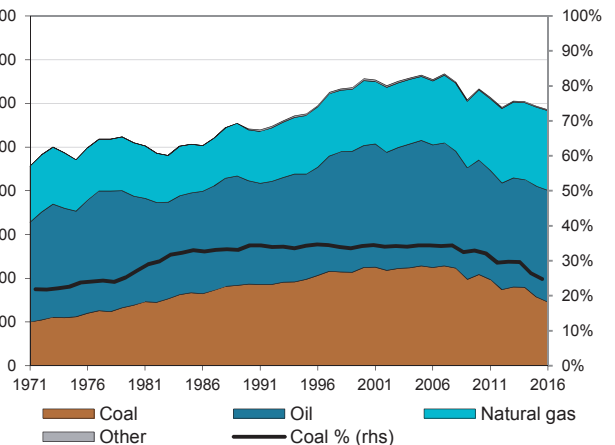


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

OECD AMERICAS

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	496.5	672.4	836.3	824.6	820.1	670.1	552.1	587.3	3.1	-1.6
Imports	16.7	18.2	18.6	42.9	40.6	31.9	31.5	31.8	0.7	2.0
Exports	-55.3	-98.0	-127.8	-82.3	-97.8	-89.3	-78.2	-109.1	5.1	-1.9
Stock changes	12.6	-20.6	-25.8	37.0	12.6	-26.8	34.7	13.5		
Primary supply	470.5	572.0	701.4	822.1	775.4	585.9	540.0	523.6	2.4	-1.0
Statistical differences	18.6	-10.2	9.6	21.4	-1.8	1.2	3.2	..		
Total transformation	-363.7	-468.5	-621.8	-786.9	-721.3	-547.0	-509.4	..	3.2	-0.8
Electricity and heat gen.	-322.2	-439.3	-599.1	-764.8	-705.8	-530.5	-494.9	..	3.7	-0.7
<i>Main activity producers</i> ³	-322.2	-439.3	-592.1	-747.3	-699.2	-526.4	-492.0	..	3.6	-0.7
<i>Autoproducers</i>	-0.0	-0.0	-7.0	-17.5	-6.6	-4.1	-2.9	..	51.8	-3.3
Gas works	0.5	0.0	-2.6	-2.6	-2.7	-2.8	-2.8	..	-	0.3
Coal transformation ⁴	-42.0	-29.2	-20.1	-19.5	-12.8	-13.6	-11.7	..	-4.2	-2.1
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-27.8	-18.5	-14.2	-13.7	-8.4	-8.1	-7.6	..	-3.9	-2.4
<i>Coke ovens</i>	-14.2	-10.7	-5.9	-5.8	-4.4	-5.5	-4.1	..	-5.0	-1.4
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-8.8	-3.7	-2.6	-2.7	-3.0	-2.7	-2.4	..	-6.9	-0.4
Losses	-0.1	-0.1	-0.0	-0.1	-0.0	-0.0	-0.0	..		
Final consumption ⁶	116.5	89.5	86.6	53.8	49.2	37.4	31.5	..	-1.7	-3.8
Industry ⁷	95.7	77.7	71.9	50.0	46.6	36.2	30.5	..	-1.7	-3.2
<i>Iron and steel</i>	54.4	36.2	22.1	15.3	10.6	7.5	8.7	..	-5.2	-3.5
<i>Chemical</i>	11.9	11.2	12.5	9.6	6.1	4.6	3.7	..	0.3	-4.5
<i>Non-metallic minerals</i>	6.0	10.5	11.8	12.5	8.2	8.9	7.3	..	4.0	-1.8
<i>Paper, pulp and print</i>	7.1	7.4	10.5	3.8	5.8	3.3	2.4	..	2.3	-5.5
<i>Other industry</i> ⁸	16.1	12.4	15.0	8.9	15.9	12.0	8.4	..	-0.4	-2.2
Transport ⁹	0.4	0.1	-	-	-	-	-	..	-	-
Other	20.5	11.6	14.0	3.3	2.2	1.0	0.8	..	-2.2	-10.5
<i>Comm. and pub. services</i>	4.9	2.7	3.5	1.3	2.2	1.0	0.8	..	-2.0	-5.6
<i>Residential</i>	5.2	2.4	2.3	2.0	0.1	0.0	0.0	..	-4.7	-18.5
<i>Other sectors</i> ¹⁰	10.4	6.5	8.3	0.0	0.0	-	0.0	..	-1.4	-27.8
Non-energy use	-	0.2	0.7	0.6	0.3	0.2	0.2	..	-	-4.8
Electricity gen. - TWh	943.7	1304.6	1796.2	2274.5	2122.9	1598.0	1481.0	1437.8	3.9	-0.7

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

OECD AMERICAS

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	621.30	876.19	1046.52	1029.89	913.29	789.64	728.16	2.91	-0.71
Total electricity and heat	459.93	757.64	974.07	958.15	837.42	735.67	680.93	4.25	-0.41
<i>Main activity producers</i>	459.91	749.47	957.33	950.42	832.96	731.87	678.09	4.15	-0.38
<i>Autoproducers</i>	0.03	8.18	16.74	7.74	4.47	3.80	2.84	62.01	-3.98
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	76.10	44.16	33.91	26.67	26.19	23.92	20.25	-4.43	-2.95
Blast furnace inputs	-	0.17	2.39	1.28	0.94	0.71	1.07	-	7.25
Gas manufacture	0.03	5.64	5.67	5.57	5.39	5.55	5.41	56.55	-0.16
Industry	48.89	55.78	40.23	40.89	33.94	32.93	26.52	1.10	-2.82
<i>Iron and steel</i>	3.73	2.01	1.76	0.98	0.57	0.46	0.69	-5.04	-4.03
<i>Chemical</i>	10.34	14.49	10.75	7.09	6.25	5.37	4.66	2.85	-4.27
<i>Non-metallic minerals</i>	12.00	12.85	13.50	9.18	10.45	9.79	8.34	0.57	-1.65
<i>Paper, pulp and print</i>	7.99	11.47	4.24	6.50	4.28	3.64	2.86	3.06	-5.21
<i>Other industry</i>	14.83	14.96	9.98	17.13	12.40	13.67	9.98	0.08	-1.54
Other sectors ⁴	19.39	15.64	3.84	2.61	1.54	1.24	0.99	-1.78	-10.06
Non-energy use	-	0.35	0.47	0.19	0.09	0.08	0.08	-	-5.64
Steam coal	505.43	743.62	926.90	921.84	798.75	686.15	629.70	3.27	-0.64
Total electricity and heat	426.81	676.52	893.20	886.13	765.83	666.46	613.27	3.91	-0.38
<i>Main activity producers</i>	426.79	669.44	877.71	880.97	761.36	662.66	610.43	3.82	-0.35
<i>Autoproducers</i>	0.03	7.08	15.49	5.16	4.46	3.80	2.84	60.08	-3.45
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	0.17	2.39	1.28	0.94	0.71	1.07	-	7.25
Gas manufacture	0.03	-	-	-	-	-	-	-	-
Industry	46.43	54.06	38.34	35.53	31.99	28.82	24.62	1.28	-2.98
<i>Iron and steel</i>	3.73	1.71	1.46	0.68	0.27	0.16	0.39	-6.32	-5.53
<i>Chemical</i>	10.34	14.26	10.51	6.84	5.82	4.97	4.25	2.71	-4.55
<i>Non-metallic minerals</i>	12.00	12.85	13.50	9.18	10.45	9.79	8.34	0.57	-1.65
<i>Paper, pulp and print</i>	7.82	11.38	4.14	6.50	4.28	3.64	2.86	3.17	-5.18
<i>Other industry</i>	12.53	13.88	8.74	12.34	11.17	10.26	8.79	0.86	-1.74
Other sectors ⁴	19.19	15.52	3.75	2.52	1.51	1.22	0.97	-1.75	-10.10
Non-energy use	-	0.26	0.33	0.03	0.01	0.00	0.00	-	-19.24
Coking coal	80.10	44.19	34.14	29.34	29.87	26.07	22.08	-4.84	-2.63
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	76.10	44.16	33.91	26.67	26.19	23.92	20.25	-4.43	-2.95
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	0.30	0.30	4.06	0.68	2.81	0.79	-	3.81
<i>Iron and steel</i>	-	0.30	0.30	0.30	0.30	0.30	0.30	-	0.00
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	3.76	0.38	2.51	0.49	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

OECD AMERICAS

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	35.78	88.38	85.48	78.71	84.67	77.43	76.38	7.83	-0.56
Total electricity and heat	33.12	81.12	80.87	72.02	71.60	69.21	67.67	7.75	-0.70
<i>Main activity producers</i>	33.12	80.03	79.62	69.44	71.59	69.21	67.66	7.63	-0.64
<i>Autoproducers</i>	-	1.10	1.25	2.57	0.01	0.01	0.00	-	-21.54
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	0.00	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	5.64	5.67	5.57	5.39	5.55	5.41	-	-0.16
Industry	2.46	1.41	1.59	1.29	1.27	1.29	1.11	-4.53	-0.93
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	0.23	0.24	0.26	0.43	0.40	0.40	-	2.12
<i>Non-metallic minerals</i>	-	0.00	0.00	-	-	-	-	-	-
<i>Paper, pulp and print</i>	0.17	0.10	0.10	-	-	-	-	-4.60	-
<i>Other industry</i>	2.30	1.08	1.25	1.04	0.84	0.89	0.70	-6.09	-1.64
Other sectors ³	0.20	0.12	0.09	0.09	0.04	0.02	0.02	-4.34	-6.78
Non-energy use	-	0.09	0.14	0.16	0.08	0.08	0.08	-	-0.61
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

OECD AMERICAS

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	109.25	126.25	82.07	74.75	93.69	75.02	91.83	1.21	-1.98
Steam coal	427.40	668.18	700.52	751.62	687.55	440.56	460.67	3.79	-1.59
Lignite	18.09	41.91	41.95	41.04	38.82	36.50	34.83	7.25	-0.53
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	109.07	123.88	84.67	80.76	100.82	79.55	96.85	1.07	-1.69
Steam coal	497.37	797.81	878.99	953.96	897.17	580.88	607.82	4.02	-1.21
Lignite	36.26	89.32	88.81	87.92	81.93	76.75	73.23	7.80	-0.58
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	22.37	18.63	42.85	56.73	40.55	32.13	31.87	31.47	31.81
Bituminous coal ³	10.87	12.55	26.77	38.21	28.84	21.47	19.84	20.95	20.60
Coking coal	6.04	4.91	8.24	7.99	6.23	7.74	7.66	5.09	5.00
Sub-bituminous coal	-	-	3.20	6.00	3.25	1.48	2.65	3.19	4.17
Lignite	-	-	0.04	0.06	0.07	0.06	0.05	0.05	0.05
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	5.45	1.16	4.61	4.47	2.17	1.39	1.66	2.20	1.99
Total exports	50.81	127.76	82.31	66.47	97.82	112.42	89.34	78.22	109.11
Bituminous coal ³	9.63	41.27	25.38	12.85	20.59	30.13	21.81	16.49	30.92
Coking coal	40.44	85.76	54.83	47.12	71.29	77.56	63.01	58.66	71.66
Sub-bituminous coal	-	-	0.73	4.40	4.40	3.63	3.59	1.93	5.25
Lignite	0.04	0.04	0.03	0.16	0.16	0.05	0.06	0.05	0.05
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.70	0.70	1.34	1.94	1.38	1.05	0.88	1.08	1.23

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

OECD AMERICAS

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	17684	18506	41420	60018	44968	35176	35436	35118	36052
Coking coal	6209	5211	8353	8267	6458	8006	7869	5243	5155
Australia	-	-	1074	948	701	586	1548	321	354
Canada	-	122	2049	2246	1900	1074	1218	851	1006
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	1
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	5924	4497	4357	4668	3762	5540	4369	3907	3784
Other OECD	-	-	-	-	-	-	-	-	10
China, People's Rep.	-	-	1	3	3	-	-	-	-
Colombia	-	-	-	120	92	806	734	164	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	66	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	92	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	285	592	714	282	-	-	-	-	-
Steam coal	11475	13295	32983	51619	38367	27048	27452	29775	30789
Australia	933	22	1482	5436	3413	2686	4270	6609	1917
Canada	49	883	960	576	361	143	189	728	139
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	645	-	-	70	-	-	-	-	-
United Kingdom	-	5	-	22	5	1	2	2	1
United States	8796	9639	19167	14457	10179	7467	8104	6188	6951
Other OECD	-	-	164	341	84	63	127	-	10
China, People's Rep.	-	-	235	73	52	32	21	15	26
Colombia	-	1296	6928	21695	19716	14678	13643	15113	20803
Indonesia	-	-	1282	3512	2474	1385	808	557	634
South Africa	996	-	182	70	1275	-	61	26	34
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	26	491	27	39	60	484	250
<i>Other FSU</i>	x	x	-	94	176	233	53	-	-
Venezuela	-	277	2015	4118	560	294	67	-	-
Viet Nam	-	-	-	85	-	-	-	32	-
Non-specified/other	56	1173	542	579	45	27	47	21	24
Lignite	-	-	84	132	143	122	115	100	108

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

OECD AMERICAS

6. Coking coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	40450	84425	58170	52799	78568	85558	69785	65170	79071
Total OECD	36030	67629	45508	41707	52549	55003	44279	40144	46234
Australia	-	-	-	-	-	-	-	-	43
Austria	-	-	-	239	412	426	378	381	517
Belgium	1103	5538	2717	1528	1737	810	1066	1031	1135
Canada	5410	3988	3501	4034	3091	3945	3886	3425	3761
Chile	-	292	312	413	215	566	277	208	266
Czech Republic	-	-	-	-	-	-	-	-	16
Denmark	-	50	-	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	127	288	776	678	1207	878	928	791
France	1468	4880	2782	1610	1958	1918	1126	1131	1340
Germany	560	708	1211	2230	2728	3019	2568	2112	3013
Greece	-	-	-	-	-	-	-	-	-
Hungary	-	-	65	-	40	-	-	-	-
Iceland	-	28	48	57	59	56	41	18	-
Ireland	-	-	-	-	-	-	-	-	83
Israel	-	50	56	-	-	-	-	-	-
Italy	3069	6536	4467	3672	3403	2625	2128	1701	2342
Japan	19925	26588	12937	8444	11389	10151	10074	10063	11260
Korea	1173	2908	4947	5497	8011	9082	7954	8560	8901
Latvia	x	-	-	-	96	-	-	-	-
Luxembourg	-	-	-	-	77	-	-	-	-
Mexico	-	3	740	994	1002	1800	536	456	917
Netherlands	929	3975	2143	2355	5636	5929	4738	4260	3844
New Zealand	-	-	-	-	-	-	-	-	-
Norway	68	99	42	18	75	75	49	58	63
Poland	-	-	-	-	2149	722	807	586	1445
Portugal	265	753	198	-	-	75	-	85	77
Slovak Republic	-	-	-	-	260	513	210	-	470
Slovenia	x	-	-	163	223	187	198	-	105
Spain	838	3156	2331	2029	1453	1015	1135	1102	812
Sweden	453	866	642	464	401	651	607	262	904
Switzerland	-	-	-	-	37	-	-	-	-
Turkey	409	1957	2403	2667	2915	4220	2614	2216	2557
United Kingdom	360	4355	3134	2915	3045	5256	2141	856	920
United States	-	772	544	1602	1459	755	868	705	652
Total non-OECD	4420	11592	9437	11092	25881	30044	25087	24664	32068
Brazil	1942	6327	5564	4831	8763	8947	6689	7088	7566
China ³	-	300	-	956	8208	8783	5568	5779	7236
Chinese Taipei	205	357	1440	1274	864	1020	1087	1251	1292
Egypt	218	586	682	706	1042	434	341	180	779
India	200	-	22	1078	2299	4860	5287	5280	6646
Romania	673	1559	443	547	812	773	384	255	192
Oth. Africa & Mid. East	1	614	269	377	161	349	129	647	1077
Oth. non-OECD Americas	914	580	184	252	321	413	412	220	625
Other Asia & Oceania	24	229	-	104	109	-	54	-	119
Other non-OECD Europe and Eurasia	243	1040	833	967	3302	4465	5136	3964	6536
Non-specified/Other	-	5204	3225	-	69	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

OECD AMERICAS

7. Steam coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	10808	42493	26922	20460	28780	39092	28514	20602	40756
Total OECD	10341	36299	25445	18351	24165	30598	24746	15822	27368
Australia	-	1	-	-	105	1	-	-	-
Austria	-	-	-	-	-	-	1	2	2
Belgium	27	2178	429	411	367	109	19	107	-
Canada	8782	10083	13524	13625	7245	2152	1518	1121	1033
Chile	-	394	48	256	1098	824	869	609	574
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	309	3321	70	66	73	-	41	55	409
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	-	-	-	166	-	-	54	-
France	38	1758	564	64	1080	265	82	176	754
Germany	528	384	522	133	935	2063	2045	1674	2238
Greece	-	-	-	-	47	-	-	-	62
Hungary	-	-	-	-	-	-	-	-	-
Iceland	-	15	-	-	-	-	-	-	-
Ireland	-	1322	456	-	-	-	-	-	-
Israel	-	530	-	-	-	-	-	-	1
Italy	22	4451	79	23	613	3023	1272	315	825
Japan	243	4007	4425	965	2180	3142	2455	1985	2938
Korea	356	719	2275	749	4193	4761	3386	1198	5891
Latvia	x	-	-	-	33	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-
Mexico	-	188	373	341	1378	2626	3005	2352	2603
Netherlands	27	3982	643	829	1700	6374	7820	5473	5528
New Zealand	-	1	-	-	-	-	-	-	-
Norway	-	62	74	-	-	7	15	8	9
Poland	-	-	-	-	65	181	-	-	476
Portugal	-	1386	343	143	531	126	126	-	663
Slovak Republic	-	-	-	-	-	-	-	-	-
Slovenia	x	-	-	-	182	-	-	-	11
Spain	-	282	441	-	374	480	42	224	1148
Sweden	-	21	-	71	275	-	-	-	137
Switzerland	-	-	-	-	-	-	-	-	-
Turkey	5	15	55	67	220	316	83	172	428
United Kingdom	-	1005	1016	361	1219	4064	1855	109	1556
United States	4	194	108	247	86	84	112	188	82
Total non-OECD	95	4967	923	1950	4614	6475	3508	4435	12179
Brazil	11	177	22	693	118	602	192	108	219
China ³	-	108	9	-	2938	490	1	249	447
Chinese Taipei	-	3820	-	3	1	580	164	165	330
Egypt	-	-	-	-	146	1	1	1	1108
India	-	-	-	217	171	2613	2845	3301	7345
Romania	-	-	-	844	-	-	17	-	-
Oth. Africa & Mid. East	1	682	825	63	1044	1918	110	294	1751
Oth. non-OECD Americas	82	128	1	14	119	268	176	197	191
Other Asia & Oceania	1	5	-	1	77	2	1	90	666
Other non-OECD Europe and Eurasia	-	47	66	115	-	1	1	30	122
Non-specified/Other	372	1227	554	158	1	1479	1	1	2

1. Please refer to the explanatory notes and definitions in Part I. Steam coal includes all sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

OECD ASIA OCEANIA¹

Figure 1: Coal supply indicators (1971 = 100)

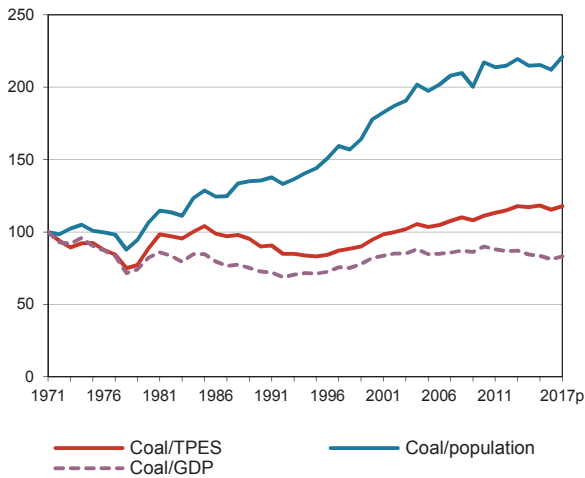


Figure 2: TPES by fuel (Mtce)

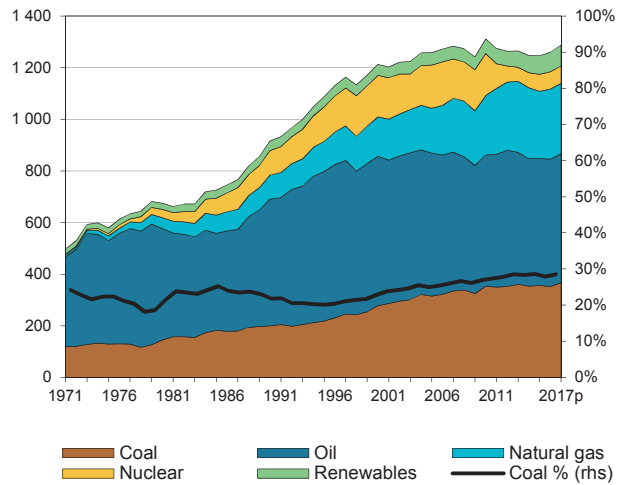


Figure 3: Primary coal supply (Mtce)

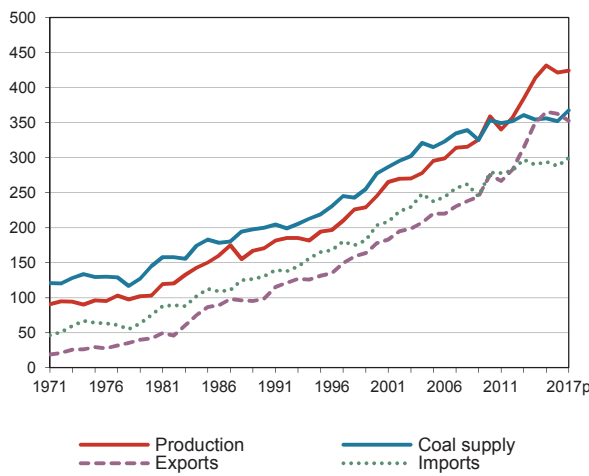


Figure 4: Coal consumption (Mtce)

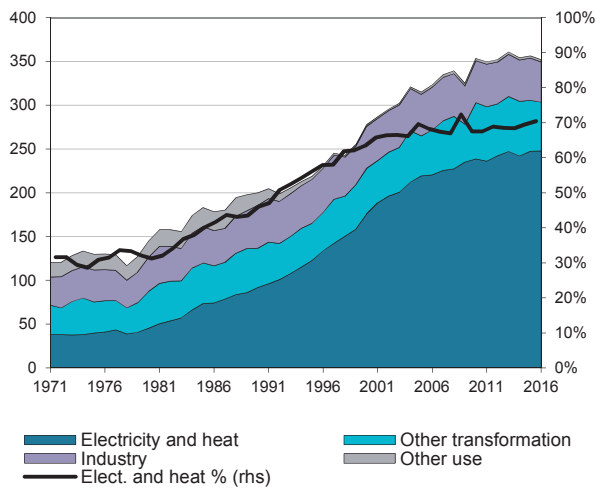


Figure 5: Electricity generation by fuel (TWh)

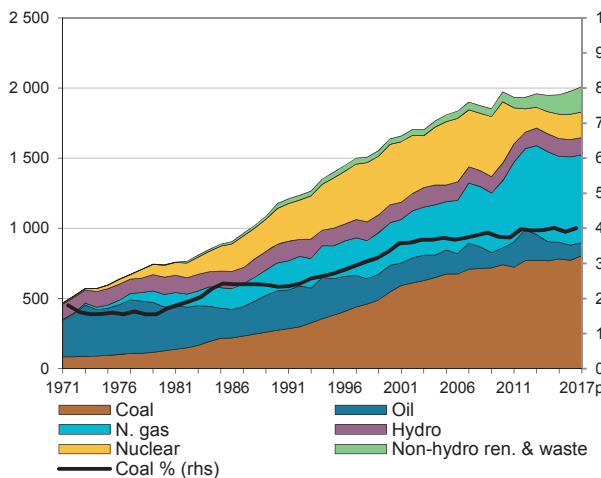
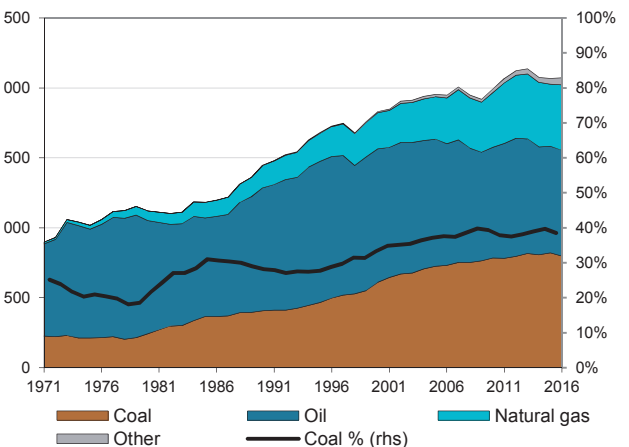


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

OECD ASIA OCEANIA

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	94.2	103.1	170.6	245.5	359.0	431.4	421.6	424.2	3.6	3.5
Imports	59.6	75.0	130.3	203.4	278.5	293.8	287.8	299.6	4.7	3.1
Exports	-26.0	-41.9	-98.4	-177.7	-275.1	-365.0	-362.3	-352.2	8.1	5.1
Stock changes	0.3	8.7	-2.8	6.6	-9.1	-3.9	4.6	-4.1		
Primary supply	128.2	144.9	199.8	277.7	353.4	356.3	351.8	367.5	2.6	2.2
Statistical differences	-2.6	-2.3	7.9	-2.4	-9.0	-2.0	1.9	..		
Total transformation	-68.6	-79.1	-136.4	-217.6	-283.4	-293.1	-295.1	..	4.1	3.0
Electricity and heat gen.	-37.7	-45.2	-91.9	-176.1	-238.6	-247.5	-247.7	..	5.4	3.9
<i>Main activity producers</i> ³	-37.6	-40.9	-79.0	-160.2	-218.4	-220.4	-223.1	..	4.5	4.1
<i>Autoproducers</i>	-0.1	-4.3	-12.9	-15.9	-20.2	-27.0	-24.6	..	37.4	2.5
Gas works	3.7	5.2	-0.3	-0.2	0.0	0.0	0.0	..	-	-
Coal transformation ⁴	-34.6	-39.1	-44.2	-41.3	-44.8	-45.7	-47.4	..	1.4	0.3
<i>BKB plants</i>	-0.2	-0.2	-0.1	-0.0	-0.0	-0.0	-	..	-5.3	-
<i>Blast furnaces</i>	-27.1	-23.7	-32.2	-37.9	-39.5	-39.8	-39.6	..	1.0	0.8
<i>Coke ovens</i>	-5.8	-14.5	-7.1	-2.4	-5.3	-5.8	-7.8	..	1.2	0.4
<i>Patent fuel plants</i>	-1.5	-0.6	-4.8	-0.9	-	-	-	..	6.9	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-4.6	-5.5	-7.9	-8.0	-10.2	-10.4	-10.2	..	3.3	1.0
Losses	-0.1	-0.3	-0.2	-0.0	-0.0	-0.0	-0.0	..		
Final consumption ⁶	52.3	57.6	63.2	49.8	50.7	50.8	48.4	..	1.1	-1.0
Industry ⁷	35.2	39.2	49.0	48.0	47.9	48.2	46.0	..	2.0	-0.2
<i>Iron and steel</i>	26.9	27.3	21.9	20.6	24.8	26.0	23.2	..	-1.2	0.2
<i>Chemical</i>	0.4	0.8	6.6	4.8	6.4	6.0	5.9	..	18.2	-0.4
<i>Non-metallic minerals</i>	0.9	5.9	12.8	12.1	9.6	9.4	9.2	..	16.9	-1.2
<i>Paper, pulp and print</i>	0.3	0.5	2.0	2.4	2.5	2.7	2.6	..	10.9	1.1
<i>Other industry</i> ⁸	6.6	4.7	5.8	8.0	4.7	4.0	5.1	..	-0.8	-0.5
Transport ⁹	0.3	0.0	0.1	0.1	0.1	0.0	0.0	..	-6.5	-14.7
Other	16.8	18.4	13.0	1.0	1.5	1.2	1.0	..	-1.5	-9.4
<i>Comm. and pub. services</i>	1.6	1.6	0.3	0.1	0.1	0.2	0.2	..	-9.2	-2.5
<i>Residential</i>	15.1	16.8	12.6	0.9	1.2	0.9	0.8	..	-1.1	-10.0
<i>Other sectors</i> ¹⁰	0.1	-	0.0	0.0	0.1	0.1	0.0	..	-11.9	-
Non-energy use	-	-	1.1	0.6	1.2	1.4	1.4	..	-	1.1
Electricity gen. - TWh	88.5	127.6	273.4	546.6	740.8	782.7	772.5	804.5	6.9	4.1

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

OECD ASIA OCEANIA

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	155.83	261.00	365.80	455.59	447.46	455.47	450.42	4.39	2.12
Total electricity and heat	57.88	126.66	233.29	311.83	307.26	317.86	320.29	6.74	3.63
<i>Main activity producers</i>	56.53	119.73	223.62	297.35	286.90	294.42	302.16	6.45	3.62
<i>Autoproducers</i>	1.35	6.93	9.66	14.48	20.36	23.44	18.12	14.58	3.77
Patent fuel/BKB plants	21.49	22.59	3.36	2.33	2.20	1.57	1.26	0.42	-10.52
Coke ovens/Liquefaction ³	64.47	84.45	77.47	80.19	81.63	79.14	80.33	2.27	-0.19
Blast furnace inputs	-	5.24	13.97	19.82	22.73	22.39	21.67	-	5.62
Gas manufacture	4.64	-	-	-	-	-	-	-	-
Industry	7.91	27.56	33.36	29.08	30.12	30.21	30.65	10.97	0.41
<i>Iron and steel</i>	1.52	2.43	4.09	5.86	6.72	6.90	6.34	3.99	3.75
<i>Chemical</i>	0.38	3.32	4.09	5.15	5.01	5.09	4.95	19.77	1.54
<i>Non-metallic minerals</i>	1.88	13.87	13.21	10.68	11.20	10.69	10.42	18.13	-1.09
<i>Paper, pulp and print</i>	0.65	2.28	2.77	2.95	3.07	3.24	3.09	11.00	1.18
<i>Other industry</i>	3.48	5.66	9.19	4.45	4.12	4.29	5.84	4.15	0.12
Other sectors ⁴	1.55	0.43	0.21	0.22	0.19	0.20	0.17	-10.07	-3.48
Non-energy use	-	0.23	0.00	0.00	0.00	-	0.00	-	-18.93
Steam coal	57.24	131.40	218.86	295.93	299.79	305.68	300.95	7.17	3.24
Total electricity and heat	30.57	82.51	166.94	240.25	246.89	253.00	257.88	8.63	4.48
<i>Main activity producers</i>	30.21	76.66	158.37	225.79	226.54	229.58	239.77	8.07	4.48
<i>Autoproducers</i>	0.36	5.85	8.56	14.46	20.35	23.42	18.11	26.15	4.44
Patent fuel/BKB plants	18.64	20.81	2.41	1.86	1.63	1.47	1.26	0.92	-10.24
Coke ovens/Liquefaction ³	0.13	6.85	12.18	13.46	15.87	15.56	15.62	39.43	3.22
Blast furnace inputs	-	-	-	0.63	0.16	0.05	0.06	-	-
Gas manufacture	0.19	-	-	-	-	-	-	-	-
Industry	7.37	27.35	33.19	28.66	29.38	28.66	29.69	11.55	0.32
<i>Iron and steel</i>	1.46	2.43	4.09	5.71	6.26	5.64	5.65	4.36	3.29
<i>Chemical</i>	0.34	3.30	4.09	5.15	5.01	5.09	4.95	20.75	1.57
<i>Non-metallic minerals</i>	1.88	13.86	13.21	10.67	11.20	10.69	10.42	18.14	-1.09
<i>Paper, pulp and print</i>	0.35	2.28	2.77	2.95	3.07	3.24	3.09	16.78	1.18
<i>Other industry</i>	3.34	5.48	9.02	4.18	3.84	4.01	5.58	4.22	0.07
Other sectors ⁴	1.49	0.38	0.13	0.15	0.16	0.15	0.11	-10.88	-4.78
Non-energy use	-	0.23	0.00	0.00	0.00	-	0.00	-	-18.93
Coking coal	67.95	83.44	79.43	86.82	86.82	84.10	87.69	1.73	0.19
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	64.35	77.59	65.29	66.73	65.76	63.58	64.71	1.57	-0.70
Blast furnace inputs	-	5.24	13.97	19.19	22.58	22.33	21.61	-	5.60
Gas manufacture	4.45	-	-	-	-	-	-	-	-
Industry	0.12	0.00	0.00	0.23	0.46	1.27	0.70	-32.71	28.68
<i>Iron and steel</i>	0.06	0.00	0.00	0.15	0.46	1.26	0.70	-29.20	28.63
<i>Chemical</i>	0.01	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	0.00	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.04	-	-	0.07	0.01	0.00	0.01	-	-
Other sectors ⁴	0.01	-	-	0.01	0.00	0.00	0.00	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

OECD ASIA OCEANIA

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	30.64	46.15	67.51	72.84	60.86	65.69	61.78	3.47	1.13
Total electricity and heat	27.32	44.15	66.35	71.57	60.37	64.86	62.41	4.08	1.34
<i>Main activity producers</i>	26.32	43.07	65.25	71.56	60.36	64.85	62.39	4.19	1.44
<i>Autoproducers</i>	0.99	1.08	1.10	0.02	0.02	0.02	0.02	0.72	-14.96
Patent fuel/BKB plants	2.85	1.78	0.96	0.48	0.57	0.10	-	-3.84	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.42	0.21	0.17	0.20	0.28	0.28	0.25	-5.76	0.76
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	0.03	0.03	-	-	-	-	-	-1.23	-
<i>Non-metallic minerals</i>	0.00	0.00	-	0.00	-	-	-	-	-
<i>Paper, pulp and print</i>	0.30	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.10	0.18	0.17	0.20	0.28	0.28	0.25	5.52	1.30
Other sectors ³	0.05	0.06	0.08	0.06	0.03	0.05	0.07	0.90	0.49
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	0.30	0.39	0.43	0.40	0.42	0.42	-	1.29
Total electricity and heat	-	0.30	0.46	0.43	0.40	0.42	0.42	-	1.29
<i>Main activity producers</i>	-	0.30	0.27	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	0.18	0.43	0.40	0.42	0.42	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

OECD ASIA OCEANIA

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	44.87	63.09	102.24	127.32	160.81	185.30	185.98	2.88	4.23
Steam coal	42.82	92.82	122.15	144.21	173.75	215.55	218.86	6.66	3.29
Lignite	9.73	14.69	21.06	23.71	24.40	20.71	19.31	3.49	1.33
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	0.03	0.04	0.04	0.04	0.06	0.06	-	2.48
Mt:									
Coking coal	46.34	65.21	105.06	130.80	165.27	190.47	191.17	2.89	4.21
Steam coal	60.93	120.98	148.88	178.36	206.32	253.97	258.05	5.88	2.89
Lignite	30.66	46.15	67.51	70.78	72.84	61.79	57.58	3.47	1.13
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	0.30	0.39	0.43	0.43	0.42	0.45	-	1.29

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	54.88	130.33	203.38	237.42	278.54	289.81	293.78	287.82	299.63
Bituminous coal ³	1.59	49.08	125.51	160.53	193.51	204.00	207.65	199.96	212.43
Coking coal	53.19	80.13	71.61	71.01	79.59	78.13	77.64	80.23	79.75
Sub-bituminous coal	-	0.60	3.67	2.78	3.78	3.85	5.26	5.05	5.68
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.10	0.51	2.60	3.10	1.65	3.82	3.24	2.58	1.78
Total exports	35.25	98.37	177.73	219.77	275.10	349.19	365.04	362.27	352.22
Bituminous coal ³	4.25	39.96	77.02	94.23	118.82	170.63	179.50	176.55	176.92
Coking coal	29.83	55.92	98.02	123.85	155.26	177.25	183.86	184.04	173.50
Sub-bituminous coal	-	-	-	-	-	0.02	0.03	-	0.03
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	1.17	2.48	2.68	1.68	1.02	1.29	1.65	1.68	1.77

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

OECD ASIA OCEANIA

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	55041	134646	225166	267512	316617	328644	334774	329711	344783
Coking coal	52885	76822	74794	74162	82607	81386	80872	83569	83065
Australia	25299	34717	46413	49406	57316	50498	56124	55137	52332
Canada	11304	19922	16276	10443	13074	8857	11311	11346	11269
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	398	-	-	-	-	-	-	-	-
Poland	429	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	10406	12166	1830	2738	5718	6793	5340	5957	7009
Other OECD	11	258	334	405	352	126	152	82	196
China, People's Rep.	420	1527	6488	7628	2384	2471	1101	727	766
Colombia	-	41	-	-	-	161	54	591	1424
Indonesia	-	42	209	-	44	493	457	312	412
South Africa	2360	1381	315	-	-	-	-	-	-
Former Soviet Union ⁴	2244	6761	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	2776	3488	3655	8081	6099	9077	8815
<i>Other FSU</i>	x	x	-	-	-	-	141	30	150
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	95	-	-	-	-	-	-
Non-specified/other	14	6	58	54	62	3906	93	310	625
Steam coal	2156	57824	150372	193350	234010	247258	253902	246142	261718
Australia	668	28899	65849	82814	103608	122715	129586	118426	114133
Canada	105	2701	3089	895	7213	13676	6198	2947	6712
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	1	3571	4140	504	549	3524	2716	1822	3665
Other OECD	-	48	673	316	108	97	-	69	133
China, People's Rep.	513	4676	35495	37145	11220	2842	2192	5610	4403
Colombia	-	78	103	-	4297	5906	5861	7014	8430
Indonesia	-	1280	19808	45340	74852	66083	66839	67829	73482
South Africa	157	8773	4243	142	5799	2953	2913	3416	9282
Former Soviet Union ⁴	149	3150	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	5502	10631	17695	27333	36346	36665	39298
<i>Other FSU</i>	x	x	-	21	-	76	-	-	-
Venezuela	-	-	-	15	-	-	-	-	-
Viet Nam	-	150	1037	2401	3489	1792	814	587	987
Non-specified/other	563	4498	10302	13126	5179	261	437	1757	1172
Lignite	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

OECD ASIA OCEANIA

6. Coking coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	31085	58086	100712	127246	159566	182177	188990	189185	178341
Total OECD	29188	44287	74911	85006	82157	80165	80248	84688	77623
Australia	-	-	122	49	-	-	-	-	-
Austria	-	-	-	-	-	-	-	-	-
Belgium	374	1054	1833	1881	1034	165	759	710	655
Canada	-	30	-	-	-	-	-	-	-
Chile	32	200	776	822	446	337	407	349	419
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	-	-	392	76	-	-	-	52
France	1173	1917	3739	3895	2506	2836	3632	3889	2952
Germany	-	25	2619	1746	1160	701	709	1345	445
Greece	191	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	14	-	-	-	-	-
Israel	-	-	-	129	55	-	-	-	-
Italy	1319	1181	2914	2527	1559	655	668	870	510
Japan	22651	28822	39861	45780	48934	42798	39972	42031	39391
Korea	1330	4944	10358	12457	15864	19155	20460	20226	18811
Latvia	x	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-
Mexico	10	-	666	588	336	274	233	-	-
Netherlands	992	725	2279	5652	3342	7309	6696	8092	8366
New Zealand	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	957	1238	1403	1231
Portugal	-	-	-	-	-	-	-	-	-
Slovak Republic	-	-	-	-	-	-	-	-	-
Slovenia	x	-	-	-	-	233	-	374	397
Spain	593	694	1767	2470	1069	950	1318	929	1155
Sweden	-	702	992	1226	1486	1333	1020	1360	1057
Switzerland	-	-	46	-	-	-	-	-	-
Turkey	-	912	1451	720	909	239	1245	2028	809
United Kingdom	469	3081	5488	4451	3381	2223	1891	1082	1132
United States	54	-	-	207	-	-	-	-	241
Total non-OECD	1897	13799	25569	37808	70912	100598	107017	101779	97594
Brazil	164	1291	4988	3218	4234	3747	5615	6363	6278
China ³	-	560	265	4330	27500	48319	43613	38486	38650
Chinese Taipei	981	2798	6273	7091	5357	8921	9797	9394	8783
Egypt	-	323	-	353	324	-	-	77	-
India	32	4895	10773	18039	32450	37641	43447	44196	40857
Romania	675	2256	-	46	-	-	160	-	214
Oth. Africa & Mid. East	-	454	1554	2807	-	-	-	-	-
Oth. non-OECD Americas	-	300	595	784	603	562	779	794	482
Other Asia & Oceania	45	734	1051	737	299	1088	2781	1825	1897
Other non-OECD Europe and Eurasia	-	188	70	403	145	320	825	644	433
Non-specified/Other	-	-	232	4131	4515	-	20	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

OECD ASIA OCEANIA

7. Steam coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	5533	45647	87804	107418	135475	194609	204729	201305	201785
Total OECD	4809	38304	70501	85460	95691	116651	119488	129341	114658
Australia	-	-	-	-	-	-	-	-	-
Austria	-	-	-	-	-	-	-	-	-
Belgium	-	129	428	17	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Chile	-	120	1301	412	309	497	1126	2600	2715
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	150	1149	142	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	-	-	-	-	-	-	-	-
France	682	934	434	469	66	-	-	-	-
Germany	458	125	72	115	-	-	-	-	-
Greece	-	-	110	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-
Ireland	-	133	284	568	-	-	-	-	-
Israel	-	528	2623	1165	516	342	172	-	-
Italy	-	-	428	141	-	-	-	-	66
Japan	1489	26569	47449	57574	66413	80569	81226	82175	81903
Korea	-	3633	11455	17970	24840	33253	35110	39172	27974
Latvia	x	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-
Mexico	-	-	-	4238	3109	1772	1332	5042	680
Netherlands	320	4236	2550	760	126	-	269	-	693
New Zealand	-	-	16	56	59	94	61	76	111
Norway	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
Portugal	-	-	-	-	-	-	-	-	-
Slovak Republic	-	-	-	-	-	-	-	-	-
Slovenia	x	-	-	-	-	-	-	-	-
Spain	-	205	1445	671	-	-	107	165	-
Sweden	-	155	83	164	73	41	30	-	-
Switzerland	-	29	-	-	-	-	-	-	-
Turkey	-	-	55	45	-	-	-	-	117
United Kingdom	932	328	1499	993	13	83	-	-	-
United States	778	31	127	102	167	-	55	111	399
Total non-OECD	204	7343	17303	21958	39665	77936	85022	70302	83975
Brazil	-	158	-	33	20	-	-	55	44
China ³	-	2443	1429	2121	15189	48059	43373	30561	41814
Chinese Taipei	76	3046	10034	14329	19553	18990	21835	20994	25936
Egypt	-	-	-	-	-	-	-	-	-
India	-	47	2469	1461	610	1889	7668	5837	3621
Romania	-	33	-	-	-	-	-	-	-
Oth. Africa & Mid. East	-	-	-	-	-	-	-	-	-
Oth. non-OECD Americas	-	-	72	-	-	-	-	-	-
Other Asia & Oceania	128	1616	3299	4014	4293	8998	12146	12855	12560
Other non-OECD Europe and Eurasia	-	-	-	-	-	-	-	-	-
Non-specified/Other	520	-	-	-	119	22	43	-	1144

1. Please refer to the explanatory notes and definitions in Part I. Steam coal includes all sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

OECD EUROPE¹

Figure 1: Coal supply indicators (1971 = 100)

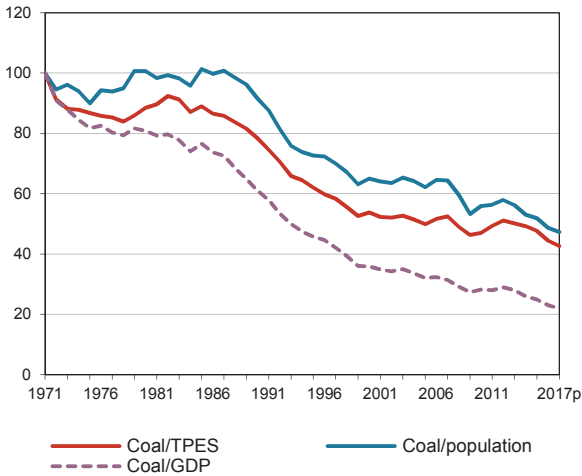


Figure 2: TPES by fuel (Mtce)

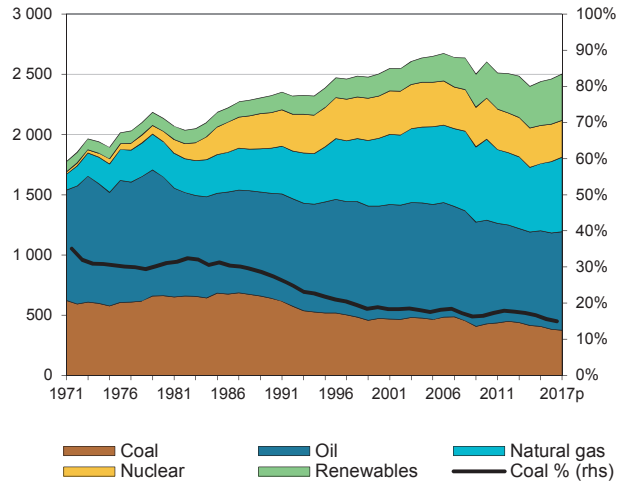


Figure 3: Primary coal supply (Mtce)

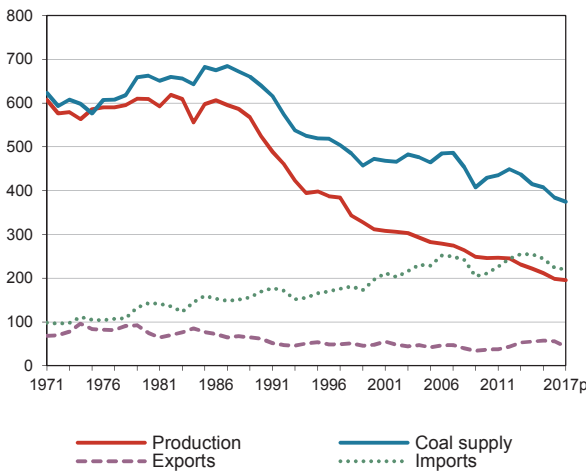


Figure 4: Coal consumption (Mtce)

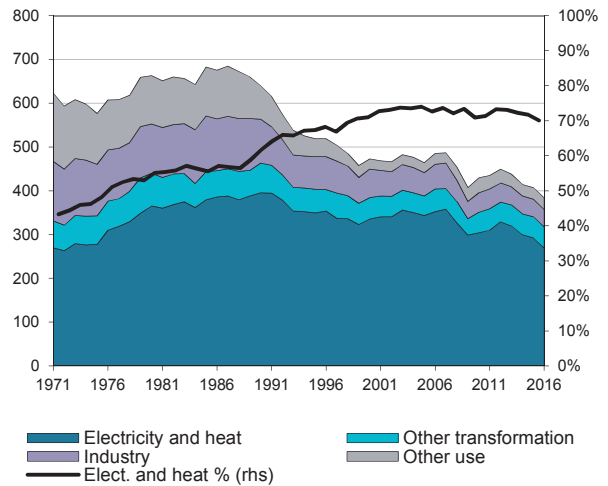


Figure 5: Electricity generation by fuel (TWh)

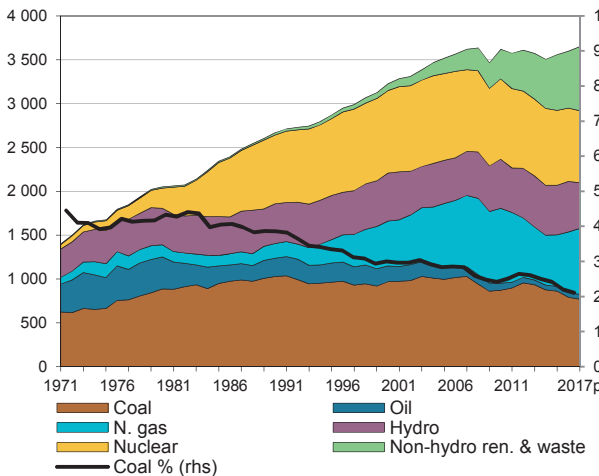
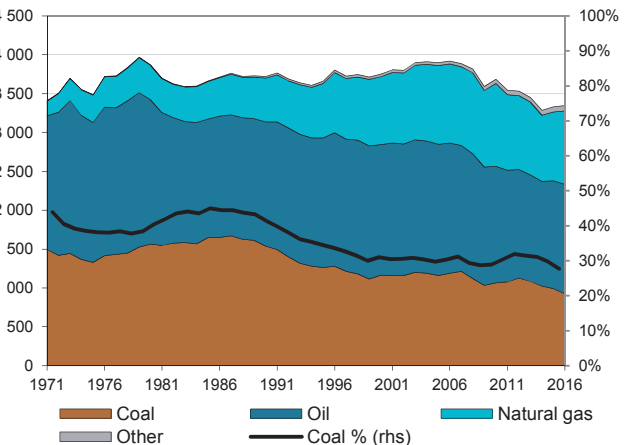


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

OECD EUROPE

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	579.5	608.9	524.4	311.6	246.0	211.8	198.5	195.1	-0.6	-3.7
Imports	97.9	143.1	169.4	195.9	211.1	244.2	224.2	219.8	3.3	1.1
Exports	-77.5	-75.1	-61.5	-48.2	-36.7	-57.2	-55.7	-43.4	-1.3	-0.4
Stock changes	7.9	-14.3	7.2	13.4	8.9	8.5	16.8	3.3		
Primary supply	607.7	662.6	639.5	472.7	429.3	407.3	383.8	374.8	0.3	-1.9
Statistical differences	5.1	-7.4	-11.3	0.5	-2.5	-1.4	-2.3	..		
Total transformation	-321.5	-411.9	-435.2	-372.1	-336.4	-327.5	-303.3	..	1.8	-1.4
Electricity and heat gen.	-279.3	-365.1	-395.1	-335.4	-304.2	-292.1	-268.9	..	2.1	-1.5
<i>Main activity producers</i> ³	-258.3	-305.8	-344.6	-315.5	-288.2	-277.2	-253.8	..	1.7	-1.2
<i>Autoproducers</i>	-21.1	-59.3	-50.5	-19.9	-16.0	-14.9	-15.1	..	5.3	-4.5
Gas works	11.5	2.5	2.4	0.1	-0.4	-0.4	-0.4	..	-8.9	-
Coal transformation ⁴	-53.7	-49.4	-42.2	-36.0	-30.4	-32.8	-32.2	..	-1.4	-1.0
<i>BKB plants</i>	2.4	1.6	-1.5	-0.2	0.1	-0.4	-0.5	..	-	-4.1
<i>Blast furnaces</i>	-38.6	-37.7	-32.8	-29.8	-26.1	-28.4	-27.9	..	-1.0	-0.6
<i>Coke ovens</i>	-18.2	-14.0	-8.6	-6.2	-4.5	-4.0	-3.8	..	-4.3	-3.1
<i>Patent fuel plants</i>	0.8	0.7	0.7	0.2	0.1	-0.0	0.0	..	-1.0	-15.2
Other transformation ⁵	-	-	-0.3	-0.7	-1.3	-2.1	-1.9	..	-	7.9
Energy ind. own use	-21.7	-18.5	-15.6	-11.8	-10.5	-10.2	-9.7	..	-1.9	-1.8
Losses	-5.2	-2.0	-1.2	-1.1	-1.6	-1.6	-1.9	..		
Final consumption ⁶	264.4	222.7	176.3	88.2	78.4	66.6	66.7	..	-2.4	-3.7
Industry ⁷	130.3	112.2	99.9	65.1	44.3	40.1	39.9	..	-1.5	-3.5
<i>Iron and steel</i>	52.7	42.8	38.0	26.3	19.2	16.3	16.2	..	-1.9	-3.2
<i>Chemical</i>	14.3	12.9	11.3	4.4	4.6	5.6	5.3	..	-1.4	-2.9
<i>Non-metallic minerals</i>	14.3	16.3	19.7	13.1	11.8	10.4	10.4	..	1.9	-2.4
<i>Paper, pulp and print</i>	4.2	3.4	3.8	2.3	1.7	1.7	1.8	..	-0.5	-2.9
<i>Other industry</i> ⁸	44.9	36.8	27.1	19.1	7.0	6.1	6.2	..	-2.9	-5.5
Transport ⁹	9.8	3.6	0.3	0.0	0.0	0.0	0.0	..	-18.5	-10.6
Other	119.9	103.8	73.6	21.1	31.9	24.0	24.2	..	-2.8	-4.2
<i>Comm. and pub. services</i>	22.0	24.4	19.5	2.7	8.0	6.9	6.5	..	-0.7	-4.1
<i>Residential</i>	89.2	72.0	49.9	16.4	21.8	15.6	16.1	..	-3.4	-4.3
<i>Other sectors</i> ¹⁰	8.7	7.4	4.2	2.0	2.0	1.5	1.6	..	-4.2	-3.7
Non-energy use	4.4	3.1	2.5	1.9	2.2	2.5	2.6	..	-3.3	0.1
Electricity gen. - TWh	663.1	887.2	1029.6	968.0	873.0	859.7	790.3	769.0	2.6	-1.0

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.

3. Main activity electricity and heat generation includes district heating.

4. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

5. Other transformation includes Liquefaction and Non-specified transformations.

6. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

7. Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.

8. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

9. Transport includes Rail and Inland waterways.

10. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

OECD EUROPE

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	1097.19	1155.60	817.44	750.24	736.90	716.47	684.12	0.43	-2.00
Total electricity and heat	619.11	766.12	647.07	588.32	590.35	570.72	537.19	1.79	-1.36
<i>Main activity producers</i>	552.78	697.50	627.81	573.93	580.05	560.67	526.54	1.96	-1.08
<i>Autoproducers</i>	66.33	68.61	19.26	14.39	10.30	10.04	10.65	0.28	-6.91
Patent fuel/BKB plants	140.91	111.31	12.99	13.08	14.91	14.84	14.82	-1.95	-7.46
Coke ovens/Liquefaction ³	137.69	107.93	73.13	63.92	59.95	59.02	57.30	-2.01	-2.41
Blast furnace inputs	0.01	4.92	9.05	11.28	14.48	15.00	15.31	77.58	4.46
Gas manufacture	10.49	3.50	1.35	1.57	1.46	1.42	1.40	-8.75	-3.46
Industry	87.97	83.15	48.45	31.80	28.41	28.18	28.42	-0.47	-4.05
<i>Iron and steel</i>	5.53	7.43	4.61	4.03	3.94	3.69	4.11	2.49	-2.25
<i>Chemical</i>	17.50	16.34	6.33	5.67	5.78	6.20	6.04	-0.57	-3.76
<i>Non-metallic minerals</i>	15.06	21.15	12.83	11.94	10.41	9.41	9.25	2.87	-3.13
<i>Paper, pulp and print</i>	4.88	4.22	2.32	1.53	1.52	1.54	1.60	-1.21	-3.66
<i>Other industry</i>	45.00	34.01	22.36	8.62	6.77	7.34	7.42	-2.31	-5.69
Other sectors ⁴	83.66	66.56	25.18	35.30	26.56	26.84	27.21	-1.89	-3.38
Non-energy use	0.91	0.63	0.38	0.45	0.67	0.65	0.72	-3.04	0.53
Steam coal	366.47	366.21	283.53	263.79	258.37	258.44	233.53	-0.01	-1.72
Total electricity and heat	256.93	283.99	229.27	203.96	205.28	204.94	176.02	0.84	-1.82
<i>Main activity producers</i>	207.55	245.81	219.44	197.13	200.90	200.83	171.24	1.42	-1.38
<i>Autoproducers</i>	49.38	38.18	9.84	6.83	4.38	4.10	4.78	-2.12	-7.68
Patent fuel/BKB plants	6.90	2.94	0.84	0.23	0.26	0.23	0.22	-6.86	-9.45
Coke ovens/Liquefaction ³	2.28	0.09	-	-	-	-	-	-23.82	-
Blast furnace inputs	0.01	3.58	7.32	9.02	10.22	11.35	11.91	72.95	4.73
Gas manufacture	1.63	0.41	-	-	-	-	-	-10.93	-
Industry	40.00	40.68	32.22	21.45	20.90	21.09	21.32	0.14	-2.45
<i>Iron and steel</i>	4.59	4.32	4.10	3.72	3.44	3.41	3.79	-0.51	-0.50
<i>Chemical</i>	3.18	5.67	3.12	3.79	4.23	4.71	4.55	4.94	-0.84
<i>Non-metallic minerals</i>	13.49	17.54	11.26	8.77	8.19	8.04	8.13	2.21	-2.92
<i>Paper, pulp and print</i>	0.84	2.21	1.84	1.33	1.19	1.18	1.30	8.39	-2.02
<i>Other industry</i>	17.90	10.94	11.91	3.84	3.86	3.75	3.56	-4.02	-4.22
Other sectors ⁴	50.74	30.96	14.97	26.10	21.05	21.43	21.53	-4.03	-1.39
Non-energy use	0.08	0.05	0.12	0.24	0.52	0.52	0.60	-4.48	10.50
Coking coal	145.14	129.41	92.80	72.39	67.69	63.98	63.64	-0.95	-2.69
Total electricity and heat	7.14	18.23	13.37	6.04	3.69	0.97	3.43	8.12	-6.22
<i>Main activity producers</i>	6.19	14.32	10.17	5.01	3.02	0.28	2.74	7.23	-6.16
<i>Autoproducers</i>	0.95	3.91	3.20	1.04	0.67	0.69	0.69	12.52	-6.47
Patent fuel/BKB plants	-	-	-	-	0.00	0.00	0.00	-	-
Coke ovens/Liquefaction ³	135.41	107.84	73.13	63.35	59.39	58.47	56.79	-1.88	-2.44
Blast furnace inputs	-	1.34	1.73	2.26	4.26	3.65	3.39	-	3.65
Gas manufacture	2.46	0.26	-	-	-	-	-	-17.08	-
Industry	0.14	1.98	2.69	0.69	0.50	0.27	0.30	24.50	-6.96
<i>Iron and steel</i>	0.01	1.74	0.29	0.28	0.49	0.27	0.30	58.31	-6.52
<i>Chemical</i>	0.00	-	0.00	-	-	-	-	-	-
<i>Non-metallic minerals</i>	0.00	-	0.00	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.13	0.25	2.39	0.41	0.01	0.00	0.00	5.43	-15.63
Other sectors ⁴	0.27	0.14	0.10	0.18	-	-	-	-5.56	-
Non-energy use	-	0.00	0.23	0.18	0.13	0.10	0.09	-	15.77

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

OECD EUROPE

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	585.58	659.98	441.11	414.07	410.84	394.05	386.95	1.00	-2.03
Total electricity and heat	355.04	463.90	404.42	378.32	381.38	364.81	357.74	2.25	-0.99
<i>Main activity producers</i>	339.04	437.37	398.20	371.80	376.14	359.56	352.55	2.14	-0.83
<i>Autoproducers</i>	16.00	26.53	6.22	6.52	5.25	5.24	5.19	4.30	-6.08
Patent fuel/BKB plants	134.01	108.37	12.15	12.85	14.64	14.61	14.60	-1.75	-7.42
Coke ovens/Liquefaction ²	-	-	-	0.57	0.56	0.55	0.51	-	-
Blast furnace inputs	-	-	-	-	0.00	0.00	0.00	-	-
Gas manufacture	6.40	2.83	1.35	1.57	1.46	1.42	1.40	-6.57	-2.67
Industry	47.82	40.48	13.54	9.66	7.01	6.82	6.79	-1.38	-6.64
<i>Iron and steel</i>	0.93	1.37	0.22	0.03	0.02	0.02	0.02	3.32	-15.17
<i>Chemical</i>	14.32	10.67	3.21	1.89	1.55	1.49	1.49	-2.42	-7.30
<i>Non-metallic minerals</i>	1.57	3.61	1.56	3.17	2.21	1.37	1.13	7.19	-4.38
<i>Paper, pulp and print</i>	4.04	2.01	0.49	0.21	0.33	0.35	0.30	-5.65	-7.05
<i>Other industry</i>	26.97	22.82	8.07	4.37	2.90	3.59	3.85	-1.38	-6.61
Other sectors ³	32.65	35.46	10.12	9.02	5.51	5.41	5.67	0.69	-6.81
Non-energy use	0.83	0.58	0.02	0.03	0.02	0.03	0.03	-2.94	-11.13
Peat	7.98	12.92	11.30	14.81	10.42	9.81	9.78	4.10	-1.06
Total electricity and heat	3.71	7.72	8.51	12.39	8.49	8.13	8.02	6.29	0.15
<i>Main activity producers</i>	3.23	7.50	8.01	11.97	8.17	7.82	7.73	7.26	0.12
<i>Autoproducers</i>	0.48	0.23	0.50	0.42	0.32	0.31	0.29	-6.02	0.94
Patent fuel/BKB plants	0.75	1.49	0.88	0.69	0.57	0.33	0.39	5.89	-5.06
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	1.09	1.54	1.22	1.05	0.83	0.75	0.68	2.87	-3.12
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	0.16	0.09	0.02	0.02	0.01	0.01	-	-10.44
<i>Non-metallic minerals</i>	-	0.01	0.00	0.00	-	-	0.00	-	-7.69
<i>Paper, pulp and print</i>	0.50	1.29	1.04	0.92	0.75	0.71	0.65	8.24	-2.58
<i>Other industry</i>	0.60	0.08	0.09	0.11	0.07	0.03	0.01	-15.40	-7.35
Other sectors ³	2.42	1.92	0.71	0.79	0.61	0.59	0.63	-1.90	-4.21
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	25.95	13.23	17.89	20.63	17.90	18.84	-	-1.22
Total electricity and heat	-	22.57	10.84	13.55	15.23	12.08	13.49	-	-1.96
<i>Main activity producers</i>	-	22.57	10.82	13.53	15.23	12.00	13.44	-	-1.97
<i>Autoproducers</i>	-	-	0.02	0.02	-	0.08	0.05	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	0.88	1.39	3.09	4.08	4.90	4.41	-	6.41
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	0.65	0.61	1.03	1.04	0.75	0.66	-	0.08
Industry	-	1.39	0.22	0.16	0.16	0.07	0.05	-	-12.14
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	0.22	0.16	0.16	0.07	0.05	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	1.39	0.00	-	-	-	-	-	-
Other sectors ³	-	-	0.00	-	-	-	-	-	-
Non-energy use	-	-	0.15	0.06	0.10	0.14	0.21	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

OECD EUROPE

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	136.40	92.65	44.76	36.99	26.93	19.43	18.30	-3.17	-5.83
Steam coal	278.59	224.25	129.75	109.82	85.00	56.79	51.09	-1.79	-5.14
Lignite	177.75	195.24	130.06	126.60	124.13	115.60	117.74	0.79	-2.00
Peat	2.30	5.34	3.35	4.68	4.48	2.19	2.31	7.27	-3.37
Oil shale and oil sands	-	6.91	3.70	4.42	5.51	4.49	5.70	-	-1.64
Mt:									
Coking coal	141.07	93.45	45.21	37.30	27.18	19.50	18.37	-3.37	-5.85
Steam coal	347.05	283.08	163.72	139.62	108.04	71.95	65.56	-1.68	-5.13
Lignite	585.45	650.13	434.47	437.20	411.83	387.61	396.39	0.88	-1.97
Peat	8.05	15.83	10.34	14.32	13.65	6.66	7.09	5.80	-3.28
Oil shale and oil sands	-	22.49	11.73	14.59	17.93	15.76	20.01	-	-1.36

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	108.62	168.72	195.51	228.15	211.11	254.35	244.23	224.18	219.77
Bituminous coal ³	46.33	94.64	122.30	160.18	144.18	190.28	186.28	163.72	158.32
Coking coal	40.54	56.44	56.45	53.71	53.65	50.56	45.81	48.85	49.97
Sub-bituminous coal	0.60	0.79	0.63	0.86	0.78	0.73	0.69	0.46	0.47
Lignite	4.69	4.40	1.42	0.42	0.54	1.09	0.93	0.62	0.64
Peat	-	0.10	0.10	0.14	0.16	0.07	0.06	0.04	0.04
Coal products ⁴	16.47	12.35	14.62	12.85	11.78	11.63	10.46	10.50	10.33
Total exports	90.65	61.44	48.16	41.80	36.69	55.07	57.22	55.68	43.41
Bituminous coal ³	30.61	23.43	28.52	25.63	19.15	38.12	41.35	38.79	26.74
Coking coal	35.17	19.56	9.76	6.47	5.44	4.53	4.19	4.46	4.19
Sub-bituminous coal	-	0.04	0.04	0.03	-	-	-	-	-
Lignite	4.33	4.31	1.31	0.66	0.64	1.16	1.00	0.63	0.65
Peat	0.01	0.12	0.08	0.06	0.04	0.00	0.02	0.01	0.01
Coal products ⁴	20.53	13.98	8.45	8.95	11.42	11.26	10.66	11.79	11.82

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

OECD EUROPE

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	106042	172095	200392	238484	220441	273569	263570	237830	233961
Coking coal	40078	55577	56057	52927	52877	50126	45388	48518	49663
Australia	4497	10047	21757	20330	17145	12923	17103	21341	17560
Canada	294	2816	7072	6743	3732	4263	2685	4330	4524
Czech Republic	909	774	3388	3366	3704	2533	2068	2295	1564
Germany	10550	3145	2	289	1	17	9	13	37
Poland	6190	2571	3118	3246	1821	2265	2913	2420	2594
United Kingdom	79	52	-	6	1	-	-	-	-
United States	8745	28464	16901	13914	21520	19694	14134	12082	14377
Other OECD	105	80	24	384	92	530	168	296	166
China, People's Rep.	-	1	2	279	3	-	-	6	64
Colombia	-	24	140	193	766	308	426	265	422
Indonesia	-	46	441	-	-	-	273	272	242
South Africa	206	158	388	295	574	19	10	194	201
Former Soviet Union ⁴	3005	2419	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	2327	2668	2709	5372	4253	3903	6206
<i>Other FSU</i>	x	x	26	316	80	449	428	389	346
Venezuela	-	-	418	872	187	91	-	-	24
Viet Nam	-	-	53	-	37	-	-	-	-
Non-specified/other	5498	4980	-	26	505	1662	918	712	1309
Steam coal	53202	106490	141375	184645	166496	220954	216031	188025	182959
Australia	2955	9668	9416	7429	3504	2241	6419	8348	2805
Canada	816	832	12	807	859	1961	1185	847	363
Czech Republic	243	327	2443	1415	2889	2011	1452	927	890
Germany	6716	2122	470	641	627	683	4379	5306	3043
Poland	15647	13069	18894	15494	10730	6857	6160	6225	4294
United Kingdom	2285	2436	593	297	311	153	153	207	1472
United States	499	20459	4724	2332	11588	32043	22259	15310	18922
Other OECD	986	3512	3692	3144	4169	4262	2695	2449	3716
China, People's Rep.	21	2781	1887	1895	279	147	126	53	80
Colombia	-	9038	22500	26613	37605	57661	61957	58846	49934
Indonesia	-	192	8657	14816	10158	7886	7595	5498	5576
South Africa	10814	26082	42839	52893	18829	26463	21384	11506	11005
Former Soviet Union ⁴	2863	7375	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	15568	49327	54087	67378	65874	61566	76894
<i>Other FSU</i>	x	x	835	2575	2597	4832	1527	1720	1385
Venezuela	-	1475	3081	1142	822	201	364	81	185
Viet Nam	-	-	560	213	23	11	181	10	12
Non-specified/other	9357	7122	5204	3612	7419	6062	12137	8999	2261
Lignite	12762	10028	2960	912	1068	2489	2151	1287	1339

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

OECD EUROPE

6. Coking coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	35537	19781	9747	6663	5491	4558	4199	4531	4244
Total OECD	25095	11025	8106	6172	5361	4410	3982	4240	3774
Australia	-	-	-	-	-	-	-	-	-
Austria	1283	1351	1844	1514	1312	1014	824	955	786
Belgium	2383	858	1	20	16	1	1	1	-
Canada	-	-	-	-	-	-	-	-	-
Chile	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	214	523	720	1500	1366	1280	1602
Denmark	-	-	-	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	203	717	13	-	-	-	-	-
France	6331	1697	108	30	16	-	-	-	-
Germany	154	144	1061	397	152	1	-	1	-
Greece	54	-	-	-	-	-	-	-	-
Hungary	-	-	1010	449	502	290	346	443	187
Iceland	-	-	-	-	-	-	-	-	-
Ireland	-	3	4	1	-	1	1	1	2
Israel	-	-	-	-	-	-	-	-	-
Italy	4005	1017	-	295	-	-	-	-	-
Japan	804	-	-	-	-	-	-	-	-
Korea	-	-	-	-	-	-	-	-	-
Latvia	x	-	-	-	-	-	-	-	-
Luxembourg	286	-	-	-	-	-	-	-	-
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	1426	573	323	48	-	-	-	-	-
New Zealand	-	-	-	-	-	-	-	-	-
Norway	125	-	53	-	-	-	-	-	-
Poland	-	-	538	592	733	693	512	319	259
Portugal	122	52	-	-	-	-	-	-	-
Slovak Republic	5126	3681	1570	1909	1832	909	932	1240	924
Slovenia	x	-	-	-	-	-	-	-	-
Spain	1826	649	65	99	-	-	-	-	-
Sweden	387	-	494	-	-	-	-	-	14
Switzerland	18	3	-	-	-	1	-	-	-
Turkey	89	-	100	212	78	-	-	-	-
United Kingdom	573	794	4	-	-	-	-	-	-
United States	103	-	-	70	-	-	-	-	-
Total non-OECD	2491	4676	1641	489	130	148	217	289	468
Brazil	15	1249	143	-	-	-	-	-	-
China ³	-	-	-	-	-	-	-	-	-
Chinese Taipei	-	-	-	-	-	-	-	-	-
Egypt	-	100	529	355	-	-	-	-	-
India	-	284	-	-	-	-	-	-	-
Romania	-	100	62	-	-	-	-	-	-
Oth. Africa & Mid. East	520	-	2	-	-	-	-	2	6
Oth. non-OECD Americas	5	1249	2	-	-	-	-	-	-
Other Asia & Oceania	-	-	-	-	1	-	-	-	-
Other non-OECD Europe and Eurasia	1951	1694	903	134	129	148	217	287	462
Non-specified/Other	7951	4080	-	2	-	-	-	2	2

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

OECD EUROPE

7. Steam coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	33590	26367	32193	29547	21600	44248	48351	44854	30967
Total OECD	25347	21879	31245	29007	20896	43007	47082	42943	30088
Australia	-	1	-	-	-	29	41	24	16
Austria	275	1216	1643	2183	1447	1183	1527	822	1134
Belgium	2633	1645	616	870	610	2293	3686	2589	2880
Canada	-	-	-	19	24	9	2	2	8
Chile	-	-	-	-	-	-	2	-	-
Czech Republic	274	2282	864	719	685	1157	1257	1526	1474
Denmark	4161	1388	2382	1154	800	493	344	276	79
Estonia	x	-	3	-	-	3	1	2	3
Finland	4095	2814	1228	965	190	190	85	103	58
France	6035	1283	2418	3127	1906	1283	1182	787	836
Germany	3171	5701	15893	13409	8846	31162	33672	33078	20989
Greece	1	-	2	144	-	49	32	4	-
Hungary	-	-	322	321	158	22	67	129	160
Iceland	-	18	7	44	56	58	102	138	134
Ireland	540	793	468	596	605	441	494	425	318
Israel	-	-	-	5	-	-	-	-	-
Italy	1530	600	923	258	1173	790	861	250	46
Japan	-	61	-	-	-	-	-	-	-
Korea	-	-	-	-	-	-	-	-	-
Latvia	x	-	-	-	-	42	104	134	-
Luxembourg	52	3	164	38	50	72	46	48	47
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	938	1341	363	651	370	650	1070	429	59
New Zealand	-	-	-	-	-	-	-	-	-
Norway	167	342	604	497	403	370	485	466	439
Poland	-	1	117	128	1386	1091	568	257	230
Portugal	15	188	5	437	245	11	21	14	13
Slovak Republic	237	198	1217	721	449	515	522	609	727
Slovenia	x	-	12	10	4	2	19	3	3
Spain	21	279	442	59	42	110	161	94	164
Sweden	244	864	172	208	311	192	201	100	62
Switzerland	90	55	20	8	32	13	12	38	5
Turkey	74	-	-	66	218	68	69	269	6
United Kingdom	149	806	1359	2323	886	705	449	327	198
United States	645	-	1	47	-	4	-	-	-
Total non-OECD	85	706	908	533	295	884	878	1742	656
Brazil	-	10	-	-	-	-	-	-	-
China ³	-	5	2	-	-	-	-	-	-
Chinese Taipei	-	-	-	-	-	-	-	-	-
Egypt	-	1	2	4	22	78	183	556	17
India	-	1	-	1	2	3	3	4	3
Romania	-	16	-	-	-	37	50	74	35
Oth. Africa & Mid. East	31	357	3	436	31	650	418	527	80
Oth. non-OECD Americas	-	-	16	-	15	8	-	11	-
Other Asia & Oceania	-	-	4	5	4	4	3	4	5
Other non-OECD Europe and Eurasia	54	316	881	87	221	104	221	566	516
Non-specified/Other	8158	3782	40	7	409	338	376	127	210

1. Please refer to the explanatory notes and definitions in Part I. Steam coal includes all sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

IEA¹

Figure 1: Coal supply indicators (1971 = 100)

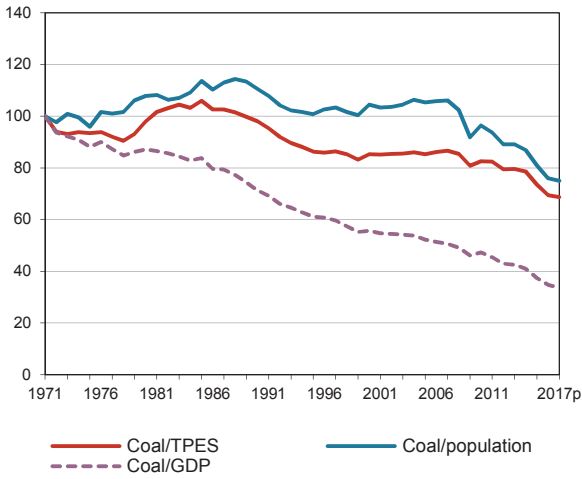


Figure 2: TPES by fuel (Mtce)

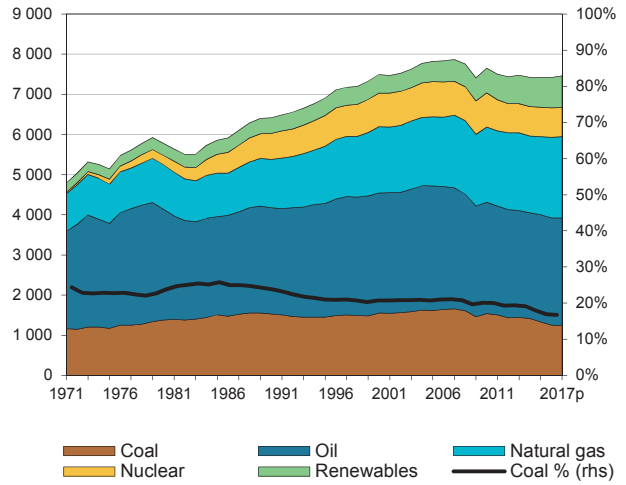


Figure 3: Primary coal supply (Mtce)

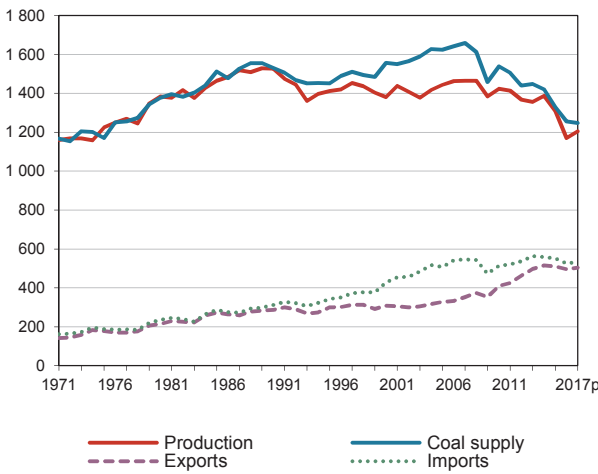


Figure 4: Coal consumption (Mtce)

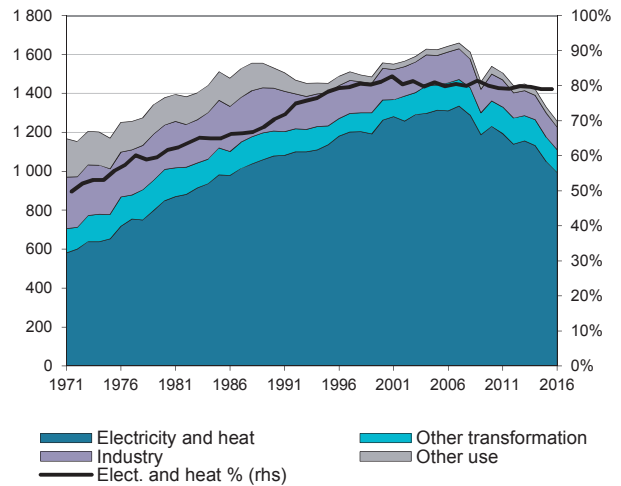


Figure 5: Electricity generation by fuel (TWh)

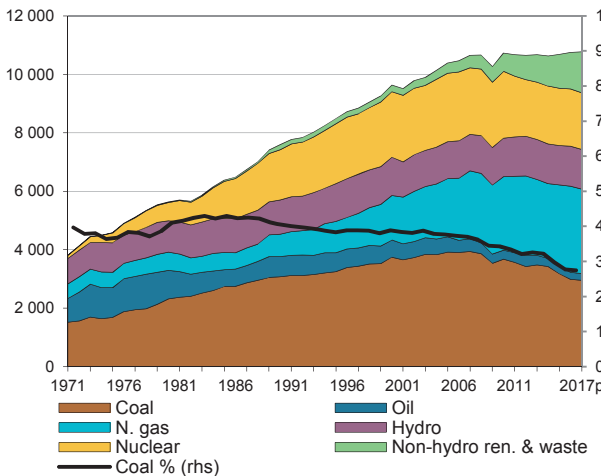
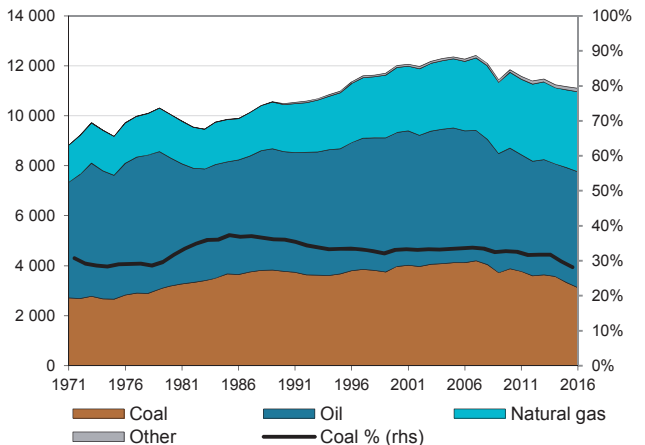


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

IEA

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	1168.8	1383.2	1527.2	1379.7	1423.0	1310.2	1169.3	1203.8	1.6	-1.0
Imports	173.9	235.4	312.1	428.7	513.5	551.9	526.1	534.4	3.5	2.0
Exports	-158.7	-214.9	-287.6	-308.2	-409.7	-511.1	-495.5	-504.2	3.6	2.1
Stock changes	20.7	-26.0	-21.2	56.4	12.0	-22.1	55.9	13.0		
Primary supply	1204.7	1377.7	1530.6	1556.7	1538.8	1328.9	1255.8	1247.1	1.4	-0.8
Statistical differences	21.1	-20.0	6.0	19.5	-13.4	-2.7	2.4	..		
Total transformation	-753.2	-958.7	-1184.9	-1362.3	-1322.9	-1147.4	-1088.3	..	2.7	-0.3
Electricity and heat gen.	-638.8	-849.0	-1077.8	-1262.3	-1230.5	-1050.1	-992.1	..	3.1	-0.3
<i>Main activity producers</i> ³	-617.7	-785.4	-1008.7	-1209.0	-1187.8	-1004.2	-949.6	..	2.9	-0.2
<i>Autoproducers</i>	-21.1	-63.6	-69.2	-53.3	-42.7	-45.9	-42.5	..	7.2	-1.9
Gas works	15.7	7.8	-0.6	-2.8	-3.1	-3.2	-3.2	..	-	6.7
Coal transformation ⁴	-130.1	-117.5	-106.2	-96.5	-87.9	-92.0	-91.2	..	-1.2	-0.6
<i>BKB plants</i>	2.2	1.4	-1.5	-0.2	0.1	-0.4	-0.5	..	-	-4.2
<i>Blast furnaces</i>	-93.5	-79.8	-79.0	-81.2	-73.9	-76.2	-75.0	..	-1.0	-0.2
<i>Coke ovens</i>	-38.1	-39.1	-21.6	-14.3	-14.1	-15.4	-15.7	..	-3.3	-1.2
<i>Patent fuel plants</i>	-0.8	0.1	-4.1	-0.8	0.1	-0.0	0.0	..	10.5	-
Other transformation ⁵	-	-	-0.3	-0.7	-1.3	-2.1	-1.9	..	-	7.9
Energy ind. own use	-35.0	-27.7	-26.0	-22.4	-23.6	-23.0	-22.0	..	-1.7	-0.6
Losses	-5.4	-2.3	-1.4	-1.1	-1.6	-1.7	-1.9	..		
Final consumption ⁶	432.3	369.0	324.3	190.5	177.3	154.1	145.9	..	-1.7	-3.0
Industry ⁷	260.5	228.4	219.8	161.9	138.0	123.9	115.8	..	-1.0	-2.4
<i>Iron and steel</i>	133.9	106.1	81.8	61.9	54.4	49.6	47.9	..	-2.9	-2.0
<i>Chemical</i>	26.6	24.9	30.4	18.8	17.1	16.2	14.9	..	0.8	-2.7
<i>Non-metallic minerals</i>	21.0	32.5	44.0	37.4	29.5	28.7	26.9	..	4.4	-1.9
<i>Paper, pulp and print</i>	11.6	11.2	16.2	8.4	9.9	7.7	6.8	..	2.0	-3.3
<i>Other industry</i> ⁸	67.3	53.6	47.3	35.5	27.1	21.8	19.3	..	-2.1	-3.4
Transport ⁹	10.3	3.6	0.4	0.1	0.2	0.0	0.0	..	-17.3	-11.3
Other	157.1	133.7	99.8	25.3	35.4	26.1	26.0	..	-2.6	-5.0
<i>Comm. and pub. services</i>	28.5	28.7	23.1	4.1	10.3	8.0	7.4	..	-1.2	-4.3
<i>Residential</i>	109.5	91.2	64.4	19.2	23.1	16.6	16.9	..	-3.1	-5.0
<i>Other sectors</i> ¹⁰	19.1	13.9	12.4	2.0	2.1	1.5	1.6	..	-2.5	-7.5
Non-energy use	4.4	3.3	4.2	3.1	3.7	4.1	4.2	..	-0.2	-0.1
Electricity gen. - TWh	1694.0	2317.5	3078.3	3746.7	3680.3	3178.6	2984.3	2955.3	3.6	-0.1

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.

3. Main activity electricity and heat generation includes district heating.

4. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

5. Other transformation includes Liquefaction and Non-specified transformations.

6. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

7. Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.

8. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

9. Transport includes Rail and Inland waterways.

10. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

IEA

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	1872.92	2278.27	2209.46	2209.87	2071.88	1934.56	1836.61	1.65	-0.83
Total electricity and heat	1136.48	1638.42	1836.23	1833.71	1710.59	1598.87	1513.64	3.10	-0.30
<i>Main activity producers</i>	1068.77	1556.00	1790.60	1797.15	1675.49	1561.62	1482.04	3.18	-0.19
<i>Autoproducers</i>	67.70	82.42	45.63	36.57	35.10	37.25	31.60	1.65	-3.62
Patent fuel/BKB plants	162.40	133.90	16.35	15.42	17.11	16.41	16.08	-1.60	-7.83
Coke ovens/Liquefaction ³	277.88	236.05	183.79	170.27	167.12	161.55	157.36	-1.35	-1.55
Blast furnace inputs	0.01	10.33	25.40	32.38	38.15	38.09	38.05	88.91	5.14
Gas manufacture	15.14	9.13	7.02	7.14	6.86	6.97	6.81	-4.12	-1.12
Industry	144.39	165.39	121.09	101.02	91.88	90.60	84.95	1.14	-2.53
<i>Iron and steel</i>	10.78	11.78	10.37	10.77	11.13	10.94	11.02	0.74	-0.26
<i>Chemical</i>	28.22	34.15	21.17	17.92	17.03	16.65	15.64	1.60	-2.96
<i>Non-metallic minerals</i>	28.82	47.65	39.29	31.64	32.01	29.84	27.97	4.28	-2.03
<i>Paper, pulp and print</i>	13.52	17.88	9.23	10.93	8.79	8.36	7.49	2.36	-3.29
<i>Other industry</i>	63.05	53.92	41.03	29.77	22.93	24.81	22.83	-1.29	-3.25
Other sectors ⁴	104.55	81.72	29.12	38.04	28.25	28.25	28.34	-2.03	-3.99
Non-energy use	0.91	1.21	0.85	0.65	0.76	0.73	0.79	2.41	-1.60
Steam coal	928.15	1233.04	1414.18	1460.64	1334.95	1227.03	1141.92	2.40	-0.29
Total electricity and heat	713.89	1036.09	1275.68	1310.16	1196.71	1102.21	1025.76	3.15	-0.04
<i>Main activity producers</i>	664.13	986.20	1241.82	1283.73	1167.54	1070.91	1000.05	3.35	0.05
<i>Autoproducers</i>	49.76	49.89	33.86	26.43	29.17	31.30	25.71	0.02	-2.52
Patent fuel/BKB plants	25.54	23.75	3.24	2.09	1.89	1.70	1.48	-0.60	-10.13
Coke ovens/Liquefaction ³	2.40	6.94	12.18	13.46	15.87	15.56	15.62	9.24	3.17
Blast furnace inputs	0.01	3.76	9.71	10.93	11.31	12.10	13.05	73.63	4.91
Gas manufacture	1.83	0.41	-	-	-	-	-	-11.75	-
Industry	93.42	121.28	102.81	84.91	81.71	77.89	75.01	2.20	-1.83
<i>Iron and steel</i>	9.78	8.39	9.56	10.01	9.87	9.09	9.70	-1.27	0.56
<i>Chemical</i>	13.86	23.22	17.72	15.77	15.05	14.77	13.75	4.39	-2.00
<i>Non-metallic minerals</i>	27.24	44.04	37.72	28.46	29.79	28.47	26.85	4.08	-1.89
<i>Paper, pulp and print</i>	9.02	15.86	8.65	10.74	8.49	8.03	7.20	4.82	-2.99
<i>Other industry</i>	33.52	29.76	29.17	19.93	18.51	17.53	17.52	-0.99	-2.02
Other sectors ⁴	71.37	46.39	18.74	28.68	22.67	22.76	22.58	-3.53	-2.73
Non-energy use	0.08	0.54	0.45	0.27	0.53	0.52	0.60	17.46	0.43
Coking coal	292.81	256.55	205.66	188.04	183.76	173.58	172.94	-1.10	-1.51
Total electricity and heat	7.14	18.23	13.37	6.04	3.69	0.97	3.43	8.12	-6.22
<i>Main activity producers</i>	6.19	14.32	10.17	5.01	3.02	0.28	2.74	7.23	-6.16
<i>Autoproducers</i>	0.95	3.91	3.20	1.04	0.67	0.69	0.69	12.52	-6.47
Patent fuel/BKB plants	-	-	-	-	0.00	0.00	0.00	-	-
Coke ovens/Liquefaction ³	275.47	229.11	171.61	156.25	150.69	145.44	141.24	-1.52	-1.84
Blast furnace inputs	-	6.57	15.69	21.45	26.84	25.98	25.00	-	5.27
Gas manufacture	6.91	0.26	-	-	-	-	-	-23.92	-
Industry	0.26	2.28	2.99	4.97	1.65	4.35	1.80	19.89	-0.91
<i>Iron and steel</i>	0.07	2.04	0.59	0.73	1.24	1.83	1.30	32.43	-1.72
<i>Chemical</i>	0.01	-	0.00	-	-	-	-	-	-
<i>Non-metallic minerals</i>	0.00	-	0.00	0.00	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.18	0.25	2.39	4.24	0.40	2.52	0.50	2.90	2.77
Other sectors ⁴	0.28	0.14	0.10	0.20	0.00	0.00	0.00	-5.70	-17.26
Non-energy use	-	0.00	0.23	0.18	0.13	0.10	0.09	-	15.77

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

IEA

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	651.97	788.68	589.62	561.19	553.18	533.95	521.74	1.60	-1.58
Total electricity and heat	415.45	584.10	547.17	517.51	510.20	495.69	484.45	2.88	-0.72
<i>Main activity producers</i>	398.45	555.48	538.60	508.41	504.94	490.43	479.25	2.81	-0.57
<i>Autoproducers</i>	16.99	28.62	8.57	9.10	5.26	5.26	5.20	4.44	-6.35
Patent fuel/BKB plants	136.86	110.15	13.11	13.33	15.22	14.70	14.60	-1.79	-7.48
Coke ovens/Liquefaction ²	-	-	0.00	0.57	0.56	0.55	0.51	-	-
Blast furnace inputs	-	-	-	-	0.00	0.00	0.00	-	-
Gas manufacture	6.40	8.47	7.02	7.14	6.86	6.97	6.81	2.36	-0.83
Industry	50.71	41.83	15.29	11.14	8.52	8.37	8.14	-1.59	-6.10
<i>Iron and steel</i>	0.93	1.35	0.22	0.03	0.02	0.02	0.02	3.17	-15.12
<i>Chemical</i>	14.35	10.93	3.46	2.14	1.98	1.88	1.89	-2.24	-6.52
<i>Non-metallic minerals</i>	1.57	3.61	1.56	3.17	2.21	1.37	1.13	7.18	-4.38
<i>Paper, pulp and print</i>	4.51	2.03	0.58	0.19	0.30	0.33	0.29	-6.45	-7.17
<i>Other industry</i>	29.36	23.91	9.47	5.60	4.02	4.76	4.81	-1.70	-5.98
Other sectors ³	32.90	35.19	10.28	9.17	5.58	5.48	5.76	0.56	-6.73
Non-energy use	0.83	0.67	0.16	0.19	0.10	0.11	0.10	-1.78	-6.94
Peat	7.98	12.59	11.05	14.80	10.42	9.81	9.78	3.88	-0.97
Total electricity and heat	3.71	7.55	8.30	12.39	8.49	8.13	8.02	6.09	0.23
<i>Main activity producers</i>	3.23	7.36	7.81	11.97	8.17	7.82	7.73	7.09	0.19
<i>Autoproducers</i>	0.48	0.19	0.49	0.42	0.32	0.31	0.29	-7.43	1.65
Patent fuel/BKB plants	0.75	1.38	0.88	0.69	0.57	0.33	0.39	5.21	-4.77
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	1.09	1.54	1.22	1.05	0.83	0.75	0.67	2.87	-3.13
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	0.16	0.09	0.02	0.02	0.01	0.01	-	-10.44
<i>Non-metallic minerals</i>	-	0.01	0.00	0.00	-	-	0.00	-	-7.69
<i>Paper, pulp and print</i>	0.50	1.29	1.04	0.92	0.75	0.71	0.65	8.24	-2.58
<i>Other industry</i>	0.60	0.08	0.09	0.11	0.07	0.02	0.01	-15.40	-8.48
Other sectors ³	2.42	1.89	0.71	0.78	0.61	0.59	0.63	-2.03	-4.16
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	25.95	13.23	17.89	20.63	17.90	18.84	-	-1.22
Total electricity and heat	-	22.57	10.84	13.55	15.23	12.08	13.49	-	-1.96
<i>Main activity producers</i>	-	22.57	10.82	13.53	15.23	12.00	13.44	-	-1.97
<i>Autoproducers</i>	-	-	0.02	0.02	-	0.08	0.05	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	0.88	1.39	3.09	4.08	4.90	4.41	-	6.41
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	0.65	0.61	1.03	1.04	0.75	0.66	-	0.08
Industry	-	1.39	0.22	0.16	0.16	0.07	0.05	-	-12.14
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	0.22	0.16	0.16	0.07	0.05	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	1.39	0.00	-	-	-	-	-	-
Other sectors ³	-	-	0.00	-	-	-	-	-	-
Non-energy use	-	-	0.15	0.06	0.10	0.14	0.21	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

IEA

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	290.52	281.99	229.07	239.06	281.43	279.74	296.11	-0.25	-0.03
Steam coal	747.72	983.18	952.07	1005.27	945.93	711.46	729.18	2.31	-1.24
Lignite	205.56	249.91	191.56	189.65	185.65	171.46	170.53	1.64	-1.44
Peat	2.30	5.25	3.32	4.68	4.47	2.19	2.31	7.12	-3.32
Oil shale and oil sands	-	6.91	3.70	4.42	5.51	4.49	5.70	-	-1.64
Mt:									
Coking coal	296.47	282.54	234.94	248.86	293.27	289.52	306.40	-0.40	0.09
Steam coal	904.22	1199.69	1191.23	1271.39	1210.91	904.28	928.94	2.38	-1.08
Lignite	652.34	780.02	586.30	591.36	562.17	522.80	523.84	1.50	-1.53
Peat	8.05	15.58	10.27	14.31	13.64	6.66	7.08	5.66	-3.22
Oil shale and oil sands	-	22.49	11.73	14.59	17.93	15.76	20.01	-	-1.36

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	185.59	311.37	428.34	507.06	513.53	558.31	551.88	526.06	534.41
Bituminous coal ³	58.79	150.72	262.27	344.88	350.71	398.72	396.63	367.97	375.40
Coking coal	99.59	141.01	135.61	132.03	139.03	135.82	130.55	133.71	134.16
Sub-bituminous coal	0.60	1.26	7.23	9.26	7.50	5.81	8.36	8.46	10.06
Lignite	4.69	4.40	1.46	0.48	0.57	1.13	0.98	0.66	0.69
Peat	-	0.10	0.10	0.14	0.16	0.07	0.06	0.04	0.04
Coal products ⁴	21.91	13.88	21.67	20.25	15.55	16.78	15.30	15.22	14.06
Total exports	176.68	287.55	308.15	327.98	409.60	515.25	511.07	495.51	504.16
Bituminous coal ³	44.50	104.66	130.92	132.71	158.55	237.60	242.17	231.33	234.05
Coking coal	105.43	161.25	162.61	177.44	231.99	259.35	251.05	247.16	249.34
Sub-bituminous coal	-	0.04	0.77	4.42	4.40	3.64	3.62	1.93	5.29
Lignite	4.38	4.32	1.33	0.82	0.80	1.21	1.06	0.68	0.70
Peat	0.01	0.12	0.08	0.06	0.04	0.00	0.02	0.01	0.01
Coal products ⁴	22.37	17.16	12.43	12.53	13.83	13.45	13.15	14.40	14.77

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

IEA

5. Total coal imports by origin¹

(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	178012	318354	452030	548493	561922	616190	612254	581702	594591
Coking coal	98417	137117	138490	134664	141492	138895	133563	136863	137308
Australia	29796	44764	69244	70273	74866	63648	74474	76478	69892
Canada	11598	22860	25397	19151	18552	14033	14994	16381	16578
Czech Republic	909	774	3388	3366	3704	2533	2068	2295	1564
Germany	10948	3145	2	289	1	17	9	13	38
Poland	6619	2571	3118	3246	1821	2265	2913	2420	2594
United Kingdom	79	52	-	6	1	-	-	-	-
United States	24605	45127	23088	21320	31000	32027	23843	21946	25170
Other OECD	116	338	358	789	444	656	320	378	372
China, People's Rep.	420	1528	6491	7910	2390	2471	1101	733	830
Colombia	-	65	140	313	858	1172	1169	1020	1846
Indonesia	-	88	650	-	44	493	730	584	654
South Africa	2566	1539	703	295	574	19	10	194	201
Former Soviet Union ⁴	5249	9180	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	5169	6156	6364	13453	10352	12980	15021
<i>Other FSU</i>	x	x	26	316	80	449	569	419	496
Venezuela	-	-	510	872	187	91	-	-	24
Viet Nam	-	-	148	-	37	-	-	-	-
Non-specified/other	5512	5085	58	362	567	5568	1011	1022	1934
Steam coal	66833	171214	310496	412785	419294	474732	476455	443463	455836
Australia	4556	38589	75417	95242	109878	127166	138519	130282	116939
Canada	970	4416	3256	2018	8433	15721	7495	3982	7207
Czech Republic	243	327	2435	1393	2880	2008	1449	925	887
Germany	6716	2122	464	601	611	680	4343	5305	3043
Poland	16292	13069	18887	15545	10730	6857	6160	6224	4294
United Kingdom	2285	2428	589	319	307	154	155	209	1473
United States	9296	33617	27983	16761	20672	40529	29777	20760	28023
Other OECD	986	3560	4343	3474	4223	4289	2636	2395	3728
China, People's Rep.	534	7457	37555	39112	11551	3021	2339	5678	4509
Colombia	-	10412	29521	48306	53957	66496	71520	71631	68213
Indonesia	-	1472	28689	61901	86304	74973	74885	73524	79321
South Africa	11967	34855	47143	53105	22758	26920	21800	13945	19155
Former Soviet Union ⁴	3012	9614	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	21018	60293	69730	92209	100002	96023	113300
<i>Other FSU</i>	x	x	835	2689	2772	5135	1580	1720	1385
Venezuela	-	1752	4985	5275	1371	495	431	81	185
Viet Nam	-	150	1597	2699	3512	1803	995	629	999
Non-specified/other	9976	7374	5648	4052	9604	6174	12185	10023	3032
Lignite	12762	10023	3044	1044	1136	2563	2236	1376	1447

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

IEA

6. Coking coal exports by destination¹

(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	107072	162292	168629	186708	243625	272293	262974	258886	261656
Total OECD	90313	122941	128525	132885	140067	139578	128509	129072	127631
Australia	-	-	122	49	-	-	-	-	43
Austria	1283	1351	1844	1753	1724	1440	1202	1336	1303
Belgium	3860	7450	4551	3429	2787	976	1826	1742	1790
Canada	5410	4018	3501	4034	3091	3945	3886	3425	3761
Chile	32	492	1088	1235	661	903	684	557	685
Czech Republic	-	-	214	523	720	1500	1366	1280	1618
Denmark	-	50	-	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	330	1005	1181	754	1207	878	928	843
France	8972	8494	6629	5535	4480	4754	4758	5020	4292
Germany	714	877	4891	4373	4040	3721	3277	3458	3458
Greece	245	-	-	-	-	-	-	-	-
Hungary	-	-	1075	449	542	290	346	443	187
Iceland	-	28	48	57	59	56	41	18	-
Ireland	-	3	4	15	-	1	1	1	85
Israel	-	50	56	129	55	-	-	-	-
Italy	8393	8734	7381	6494	4962	3280	2796	2571	2852
Japan	43380	55410	52798	54224	60323	52949	50046	52094	50651
Korea	2503	7852	15305	17954	23875	28237	28414	28786	27712
Latvia	x	-	-	-	96	-	-	-	-
Luxembourg	286	-	-	-	77	-	-	-	-
Mexico	10	3	1406	1582	1338	2074	769	456	917
Netherlands	3347	5273	4745	8055	8978	13238	11434	12352	12210
New Zealand	-	-	-	-	-	-	-	-	-
Norway	193	99	95	18	75	75	49	58	63
Poland	-	-	538	592	2882	2372	2557	2308	2935
Portugal	387	805	198	-	-	75	-	85	77
Slovak Republic	5126	3681	1570	1909	2092	1422	1142	1240	1394
Slovenia	x	-	-	163	223	420	198	374	502
Spain	3257	4499	4163	4598	2522	1965	2453	2031	1967
Sweden	840	1568	2128	1690	1887	1984	1627	1622	1975
Switzerland	18	3	46	-	37	1	-	-	-
Turkey	498	2869	3954	3599	3902	4459	3859	4244	3366
United Kingdom	1402	8230	8626	7366	6426	7479	4032	1938	2052
United States	157	772	544	1879	1459	755	868	705	893
Total non-OECD	8808	30067	36647	49389	96923	130790	132321	126732	130130
Brazil	2121	8867	10695	8049	12997	12694	12304	13451	13844
China ³	-	860	265	5286	35708	57102	49181	44265	45886
Chinese Taipei	1186	3155	7713	8365	6221	9941	10884	10645	10075
Egypt	218	1009	1211	1414	1366	434	341	257	779
India	232	5179	10795	19117	34749	42501	48734	49476	47503
Romania	1348	3915	505	593	812	773	544	255	406
Oth. Africa & Mid. East	521	1068	1825	3184	161	349	129	649	1083
Oth. non-OECD Americas	919	2129	781	1036	924	975	1191	1014	1107
Other Asia & Oceania	69	963	1051	841	409	1088	2835	1825	2016
Other non-OECD Europe and Eurasia	2194	2922	1806	1504	3576	4933	6178	4895	7431
Non-specified/Other	7951	9284	3457	4133	4584	-	20	2	2

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

IEA

7. Steam coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	49931	114504	146919	157405	185853	275719	280749	265885	272588
Total OECD	40497	96482	127191	132805	140750	189632	191128	188104	171703
Australia	-	2	-	-	105	30	41	24	16
Austria	275	1216	1643	2183	1447	1183	1528	824	1136
Belgium	2660	3952	1473	1298	977	2402	3705	2696	2880
Canada	8782	10083	13524	13644	7269	2161	1520	1123	1041
Chile	-	514	1349	668	1407	1321	1997	3209	3289
Czech Republic	274	2282	864	719	685	1157	1257	1526	1474
Denmark	4620	5858	2594	1220	873	493	385	331	488
Estonia	x	-	3	-	-	-	-	-	-
Finland	4095	2814	1228	965	356	190	85	157	58
France	6755	3975	3416	3660	3052	1548	1264	963	1590
Germany	4157	6210	16487	13657	9781	33225	35717	34752	23227
Greece	1	-	112	144	47	49	32	4	62
Hungary	-	-	322	321	158	22	67	129	160
Iceland	-	33	7	44	56	58	102	138	134
Ireland	540	2248	1208	1164	604	441	494	425	318
Israel	-	1058	2623	1170	516	342	172	-	1
Italy	1552	5051	1430	409	1785	3813	2133	565	937
Japan	1732	30637	51874	58539	68593	83711	83681	84160	84841
Korea	356	4352	13730	18719	29033	38014	38496	40370	33865
Latvia	x	-	-	-	33	42	104	134	-
Luxembourg	52	3	164	38	50	72	46	48	47
Mexico	-	188	373	4579	4487	4398	4337	7394	3283
Netherlands	1285	9559	3556	2240	2196	6758	8996	5902	6206
New Zealand	-	1	16	56	59	94	61	76	111
Norway	167	404	678	497	403	377	500	474	448
Poland	-	1	117	128	1451	1144	568	257	706
Portugal	15	1574	348	580	776	137	147	14	676
Slovak Republic	237	198	1217	721	449	515	522	609	727
Slovenia	x	-	12	10	186	2	19	3	14
Spain	21	766	2328	730	416	363	286	483	978
Sweden	244	1040	255	443	659	233	231	100	199
Switzerland	90	84	20	8	32	13	12	38	5
Turkey	79	15	110	178	438	384	152	441	551
United Kingdom	1081	2139	3874	3677	2118	4852	2304	436	1754
United States	1427	225	236	396	253	88	167	299	481
Total non-OECD	384	13016	19134	24434	44574	83690	88751	75605	96301
Brazil	11	345	22	726	138	602	173	163	263
China ³	-	2556	1440	2121	18127	48549	43374	30810	42261
Chinese Taipei	76	6866	10034	14332	19554	19570	21999	21159	26266
Egypt	-	1	2	4	168	79	184	557	1125
India	-	48	2469	1679	783	2903	9879	8272	10463
Romania	-	49	-	844	-	37	67	74	35
Oth. Africa & Mid. East	32	1039	828	499	1075	2568	528	821	1831
Oth. non-OECD Americas	82	128	89	14	134	276	176	208	191
Other Asia & Oceania	129	1621	3303	4020	4374	9004	12150	12949	13231
Other non-OECD Europe and Eurasia	54	363	947	195	221	102	221	592	635
Non-specified/Other	9050	5006	594	165	529	1838	420	128	1356

1. Please refer to the explanatory notes and definitions in Part I. Steam coal includes all sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

AUSTRALIA¹

Figure 1: Coal supply indicators (1971 = 100)

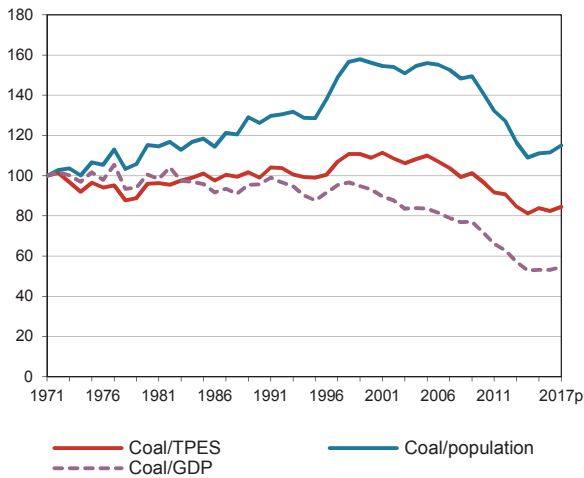


Figure 2: TPES by fuel (Mtce)

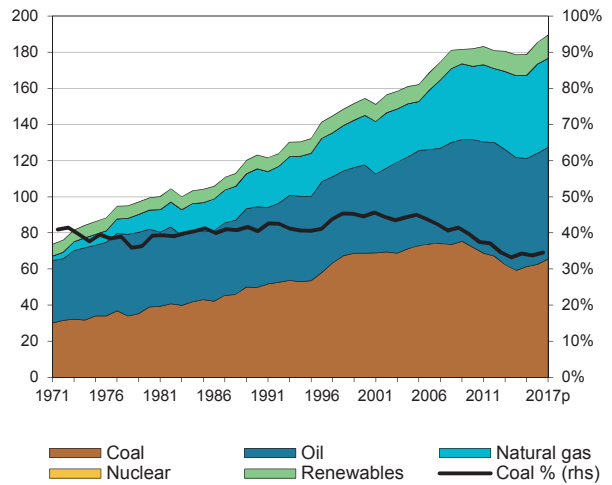


Figure 3: Primary coal supply (Mtce)

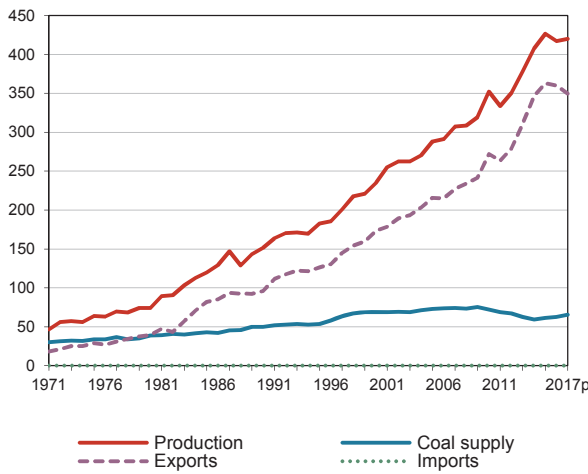


Figure 4: Coal consumption (Mtce)

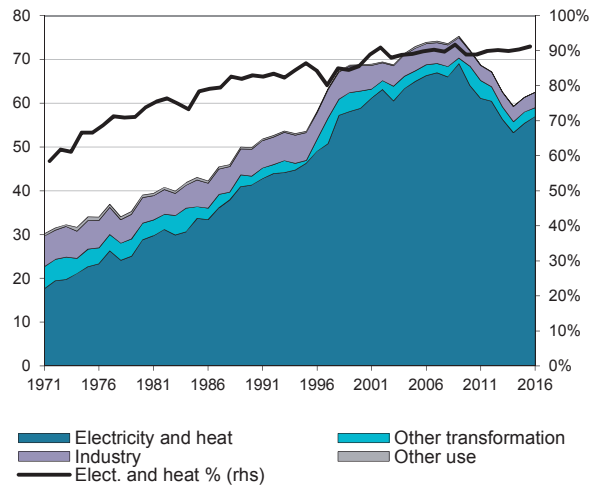


Figure 5: Electricity generation by fuel (TWh)

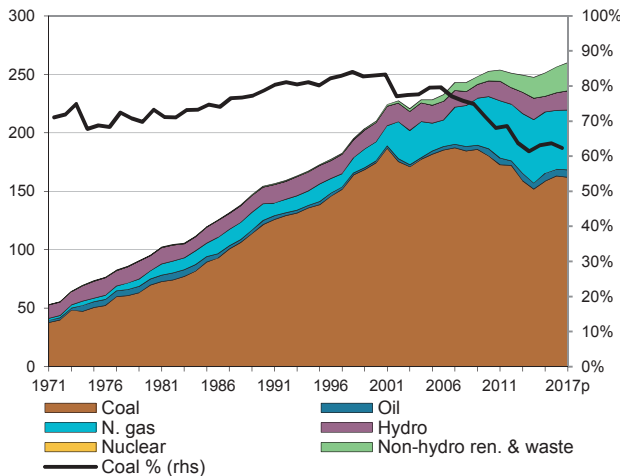
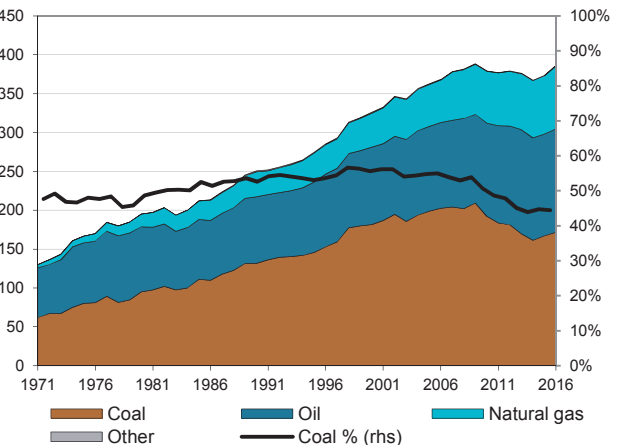


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

AUSTRALIA

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	57.5	74.1	151.6	235.1 e	352.2	426.5	417.2	419.8	5.9	4.0
Imports	-	0.0	-	-	0.1	0.2	0.2	0.2	-	-
Exports	-25.2	-39.7	-96.1	-173.5	-272.0	-362.9	-360.0	-349.8	8.2	5.2
Stock changes	-0.0	4.6	-5.6	7.1 e	-8.2	-2.6	5.1	-4.8		
Primary supply	32.3	39.0	49.8	68.8	72.1	61.3	62.5	65.5	2.6	0.9
Statistical differences	0.0	0.0	0.2	-1.6 e	0.2	-0.1	0.4	..		
Total transformation	-24.8 e	-31.9 e	-43.1 e	-60.8 e	-67.0 e	-56.7 e	-58.2 e	..	3.3	1.2
Electricity and heat gen.	-19.7	-28.8	-41.3	-58.8 e	-64.0	-55.4	-56.9	..	4.4	1.2
<i>Main activity producers</i> ³	-19.7	-28.1	-40.4	-58.2 e	-63.9	-55.4	-56.9	..	4.3	1.3
<i>Autoproducers</i>	-	-0.7	-0.9	-0.7 e	-0.1	-	-	..	-	-
Gas works	0.3	0.5	0.3	0.1	0.0	0.0	0.0	..	-0.4	-18.7
Coal transformation ⁴	-5.4 e	-3.6 e	-2.0 e	-2.0 e	-2.9 e	-1.3 e	-1.2 e	..	-5.6	-1.9
<i>BKB plants</i>	-0.2	-0.2	-0.1	-0.0 e	-0.0	-0.0	-	..	-5.3	-
<i>Blast furnaces</i>	-2.4 e	-2.2 e	-1.4 e	-1.7 e	-1.6 e	-0.9 e	-0.9 e	..	-3.3	-1.8
<i>Coke ovens</i>	-2.8	-1.2	-0.6	-0.3	-1.3	-0.5	-0.3	..	-9.0	-1.9
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-0.0	-0.7	-0.5	-0.5 e	-1.7	-1.2	-1.2	..	19.7	3.5
Losses	-	-	-	-	-	-	-	..		
Final consumption ⁶	7.4	6.4	6.5	6.0	3.6	3.3	3.5	..	-0.8	-2.3
Industry ⁷	7.0	5.8	6.1	5.8	3.5	3.3	3.5	..	-0.8	-2.1
<i>Iron and steel</i>	3.1 e	2.9 e	2.3 e	1.8 e	0.4 e	0.4 e	0.4 e	..	-1.8	-6.1
<i>Chemical</i>	0.4	0.4	0.4	0.3 e	0.2	0.2	0.2	..	0.2	-2.4
<i>Non-metallic minerals</i>	0.9	0.8	0.8	0.7 e	0.7	0.6	0.5	..	-0.7	-1.5
<i>Paper, pulp and print</i>	0.3	0.3	0.3	0.3	0.1	0.1	0.1	..	-0.4	-4.6
<i>Other industry</i> ⁸	2.3	1.5	2.3	2.7 e	2.0	2.0	2.2	..	0.1	-0.2
Transport ⁹	0.0	0.0	0.1	0.1	0.1	0.0	-	..	7.6	-
Other	0.4	0.6	0.3	0.1	0.0	0.0	0.0	..	-1.9	-11.6
<i>Comm. and pub. services</i>	0.1	0.3	0.2	0.1 e	0.0	0.0	0.0	..	2.7	-10.7
<i>Residential</i>	0.3	0.3	0.1	0.0 e	0.0	0.0	0.0	..	-6.8	-16.6
<i>Other sectors</i> ¹⁰	-	-	-	-	-	-	-	..	-	-
Non-energy use	-	-	-	-	-	-	-	..	-	-
Electricity gen. - TWh	48.2	69.8	121.5	174.2	180.2	158.6	163.1	161.9	5.6	1.1

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.

3. Main activity electricity and heat generation includes district heating.

4. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

5. Other transformation includes Liquefaction and Non-specified transformations.

6. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

7. Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.

8. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

9. Transport includes Rail and Inland waterways.

10. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

AUSTRALIA

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	61.93	95.29	128.12	134.04	111.42	117.18	116.67	3.66	0.78
Total electricity and heat	48.20	82.33	117.44 e	123.22	103.37	109.00	110.04	4.56	1.12
<i>Main activity producers</i>	46.85	80.82	116.16 e	123.22	103.37	109.00	110.04	4.65	1.19
<i>Autoproducers</i>	1.35	1.52	1.28 e	-	-	-	-	0.95	-
Patent fuel/BKB plants	2.85	1.78	0.96 e	0.48	0.57	0.10	-	-3.84	-
Coke ovens/Liquefaction ³	7.22	5.93	4.80	5.11	3.90	3.95	3.57	-1.62	-1.94
Blast furnace inputs	-	-	-	0.63 e	0.16 e	0.05 e	0.06 e	-	-
Gas manufacture	0.04	-	-	-	-	-	-	-	-
Industry	3.48	4.92	4.69	3.86	3.80	3.67	3.92	2.93	-0.87
<i>Iron and steel</i>	0.37	0.34	0.10 e	0.09 e	0.08 e	0.05 e	0.04 e	-0.73	-8.04
<i>Chemical</i>	0.15	0.16	0.09	0.23	0.23	0.25	0.22	0.11	1.31
<i>Non-metallic minerals</i>	0.88	0.98	0.79 e	0.96	0.79	0.75	0.70	0.85	-1.27
<i>Paper, pulp and print</i>	0.54	0.35	0.33	0.20	0.10	0.14	0.14	-3.62	-3.36
<i>Other industry</i>	1.54	3.10	3.39 e	2.38 e	2.60 e	2.47 e	2.82 e	6.04	-0.37
Other sectors ⁴	0.25	0.15	0.04	0.02	0.02	0.02	0.02	-4.05	-7.05
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	24.24	43.37	56.03	56.38	46.97	47.87	51.63	4.97	0.67
Total electricity and heat	20.89	38.20	51.10 e	51.66	43.01	44.16	47.65	5.16	0.85
<i>Main activity producers</i>	20.53	37.75	50.91 e	51.66	43.01	44.16	47.65	5.21	0.90
<i>Autoproducers</i>	0.36	0.45	0.19 e	-	-	-	-	1.82	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	0.63 e	0.16 e	0.05 e	0.06 e	-	-
Gas manufacture	0.04	-	-	-	-	-	-	-	-
Industry	3.17	4.85	4.69	3.85	3.80	3.66	3.92	3.59	-0.82
<i>Iron and steel</i>	0.37	0.34	0.10 e	0.09 e	0.08 e	0.05 e	0.04 e	-0.73	-8.04
<i>Chemical</i>	0.15	0.13	0.09	0.23	0.23	0.25	0.22	-1.34	2.00
<i>Non-metallic minerals</i>	0.88	0.97	0.79 e	0.95	0.79	0.75	0.70	0.83	-1.26
<i>Paper, pulp and print</i>	0.28	0.35	0.33	0.20	0.10	0.14	0.14	1.89	-3.36
<i>Other industry</i>	1.49	3.06	3.39 e	2.38 e	2.60 e	2.47 e	2.82 e	6.15	-0.32
Other sectors ⁴	0.25	0.15	0.04	0.02	0.00	0.00	0.00	-3.93	-13.10
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	7.22	5.93	4.80	5.11	3.90	3.95	3.57	-1.62	-1.94
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	7.22	5.93	4.80	5.11	3.90	3.95	3.57	-1.62	-1.94
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

AUSTRALIA

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	30.47	45.99	67.29	72.55	60.54	65.36	61.47	3.49	1.12
Total electricity and heat	27.32	44.14	66.34 e	71.56	60.36	64.85	62.39	4.08	1.34
<i>Main activity producers</i>	26.32	43.07	65.25 e	71.56	60.36	64.85	62.39	4.19	1.44
<i>Autoproducers</i>	0.99	1.07	1.09 e	-	-	-	-	0.62	-
Patent fuel/BKB plants	2.85	1.78	0.96 e	0.48	0.57	0.10	-	-3.84	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.31	0.07	-	0.00	-	0.01	0.01	-11.23	-9.80
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	0.03	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	0.00	-	0.00	-	-	-	-	-
<i>Paper, pulp and print</i>	0.26	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.04	0.05	-	-	-	0.01	0.01	0.96	-8.18
Other sectors ³	0.00	-	-	-	0.01	0.01	0.02	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

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3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	36.14	62.50	100.89	124.82	158.44	184.09	184.76	4.67	4.24
Steam coal	22.71	74.47	113.27 e	139.56	169.54	212.55	215.94	10.40	4.12
Lignite	9.64	14.61	20.95	23.59	24.26	20.56	19.15	3.52	1.32
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	37.67	64.63	103.75	128.36	162.93	189.30	190.00	4.60	4.22
Steam coal	30.88	93.94	135.68 e	171.70	200.40	249.57	253.80	9.72	3.83
Lignite	30.47	45.99	67.29	70.53	72.55	61.47	57.26	3.49	1.12
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	0.01	-	-	0.02	0.06	0.18	0.24	0.23	0.23
Bituminous coal ³	0.01	-	-	-	0.03	0.03	0.02	0.01	0.02
Coking coal	-	-	-	-	0.01	0.08	0.10	0.02	0.04
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	-	-	-	0.02	0.01	0.07	0.12	0.20	0.17
Total exports	34.17	96.10	173.47	215.70	271.99	346.90	362.86	360.02	349.78
Bituminous coal ³	4.24	39.96	77.02	94.23	118.70	170.63	179.49	176.55	176.92
Coking coal	29.77	55.58	96.43	121.47	152.93	175.49	182.49	182.82	172.32
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.16	0.55	0.02	c	0.35	0.78	0.87	0.66	0.54

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

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6. Coking coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	31029	57750	99161	124915	157265	180458	187664	187998	177199
Total OECD	29177	44002	73658	83834	81628	79752	79990	84562	77314
Australia	-	-	-	-	-	-	-	-	-
Austria	-	-	-	-	-	-	-	-	-
Belgium	374	1054	1833	1881	1034	165	759	710	655
Canada	-	-	-	-	-	-	-	-	-
Chile	32	200	463	555	389	337	296	349	348
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	-	-	392	76	-	-	-	52
France	1173	1917	3739	3895	2506	2836	3632	3889	2952
Germany	-	25	2619	1746	1160	701	709	1345	445
Greece	191	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	14	-	-	-	-	-
Israel	-	-	-	129	55	-	-	-	-
Italy	1319	1181	2914	2527	1559	655	668	870	510
Japan	22640	28579	39174	44962	48462	42385	39825	41905	39217
Korea	1330	4944	10358	12457	15864	19155	20460	20226	18747
Latvia	x	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-
Mexico	10	-	666	588	336	274	233	-	-
Netherlands	992	713	2194	5652	3342	7309	6696	8092	8366
New Zealand	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	957	1238	1403	1231
Portugal	-	-	-	-	-	-	-	-	-
Slovak Republic	-	-	-	-	-	-	-	-	-
Slovenia	x	-	-	-	-	233	-	374	397
Spain	593	694	1767	2470	1069	950	1318	929	1155
Sweden	-	702	992	1226	1486	1333	1020	1360	1057
Switzerland	-	-	-	-	-	-	-	-	-
Turkey	-	912	1451	720	909	239	1245	2028	809
United Kingdom	469	3081	5488	4451	3381	2223	1891	1082	1132
United States	54	-	-	169	-	-	-	-	241
Total non-OECD	1852	13748	25293	36950	69621	99395	105949	100803	96761
Brazil	164	1291	4988	3094	4234	3747	5615	6363	6278
China ³	-	560	174	4193	27282	48113	43392	37953	38403
Chinese Taipei	981	2798	6273	7091	5357	8921	9797	9394	8783
Egypt	-	323	-	353	324	-	-	77	-
India	32	4844	10588	17442	31377	36644	42600	43753	40271
Romania	675	2256	-	46	-	-	160	-	214
Oth. Africa & Mid. East	-	454	1554	2807	-	-	-	-	-
Oth. non-OECD Americas	-	300	595	784	603	562	779	794	482
Other Asia & Oceania	-	734	1051	737	299	1088	2781	1825	1897
Other non-OECD Europe and Eurasia	-	188	70	403	145	320	825	644	433
Non-specified/Other	-	-	210	4131	4210	-	20	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

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7. Steam coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	5522	45646	87801	107415	135352	194586	204684	201303	201739
Total OECD	4809	38304	70498	85460	95691	116651	119488	129341	114658
Australia	-	-	-	-	-	-	-	-	-
Austria	-	-	-	-	-	-	-	-	-
Belgium	-	129	428	17	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Chile	-	120	1301	412	309	497	1126	2600	2715
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	150	1149	142	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	-	-	-	-	-	-	-	-
France	682	934	434	469	66	-	-	-	-
Germany	458	125	72	115	-	-	-	-	-
Greece	-	-	110	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-
Ireland	-	133	284	568	-	-	-	-	-
Israel	-	528	2623	1165	516	342	172	-	-
Italy	-	-	428	141	-	-	-	-	66
Japan	1489	26569	47449	57574	66413	80569	81226	82175	81903
Korea	-	3633	11452	17970	24840	33253	35110	39172	27974
Latvia	x	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-
Mexico	-	-	-	4238	3109	1772	1332	5042	680
Netherlands	320	4236	2550	760	126	-	269	-	693
New Zealand	-	-	16	56	59	94	61	76	111
Norway	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
Portugal	-	-	-	-	-	-	-	-	-
Slovak Republic	-	-	-	-	-	-	-	-	-
Slovenia	x	-	-	-	-	-	-	-	-
Spain	-	205	1445	671	-	-	107	165	-
Sweden	-	155	83	164	73	41	30	-	-
Switzerland	-	29	-	-	-	-	-	-	-
Turkey	-	-	55	45	-	-	-	-	117
United Kingdom	932	328	1499	993	13	83	-	-	-
United States	778	31	127	102	167	-	55	111	399
Total non-OECD	193	7342	17303	21955	39661	77935	85020	70300	83973
Brazil	-	158	-	33	20	-	-	55	44
China ³	-	2443	1429	2121	15189	48059	43373	30561	41814
Chinese Taipei	76	3046	10034	14329	19553	18990	21835	20994	25936
Egypt	-	-	-	-	-	-	-	-	-
India	-	47	2469	1461	610	1889	7668	5837	3621
Romania	-	33	-	-	-	-	-	-	-
Oth. Africa & Mid. East	-	-	-	-	-	-	-	-	-
Oth. non-OECD Americas	-	-	72	-	-	-	-	-	-
Other Asia & Oceania	117	1615	3299	4011	4289	8997	12144	12853	12558
Other non-OECD Europe and Eurasia	-	-	-	-	-	-	-	-	-
Non-specified/Other	520	-	-	-	-	-	-	-	1100

1. Please refer to the explanatory notes and definitions in Part I. Steam coal includes all sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

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Figure 1: Coal supply indicators (1971 = 100)

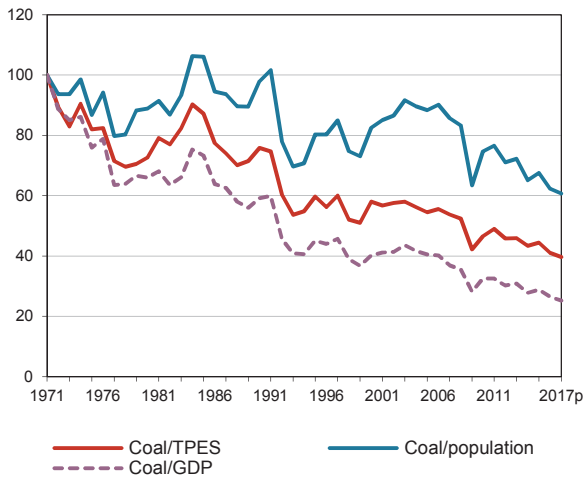


Figure 2: TPES by fuel (Mtce)

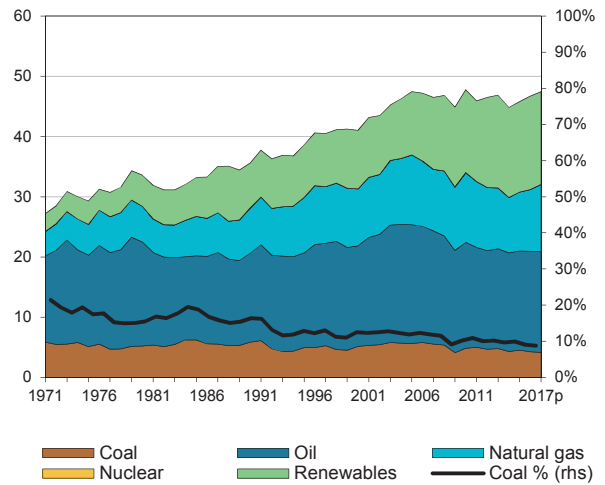


Figure 3: Primary coal supply (Mtce)

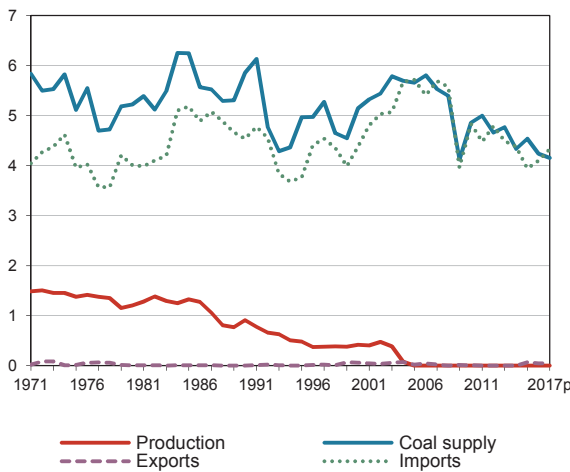


Figure 4: Coal consumption (Mtce)

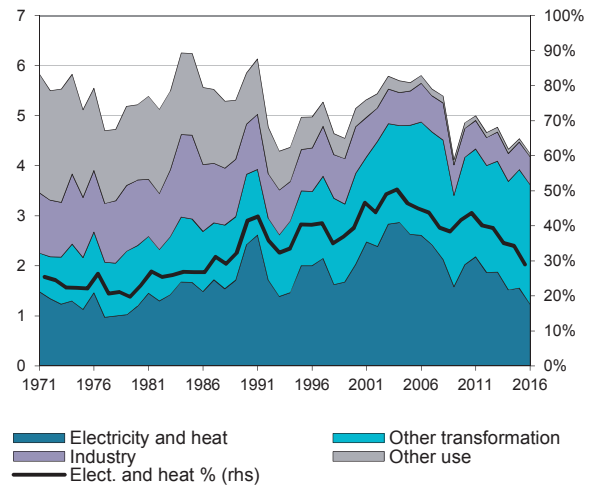


Figure 5: Electricity generation by fuel (TWh)

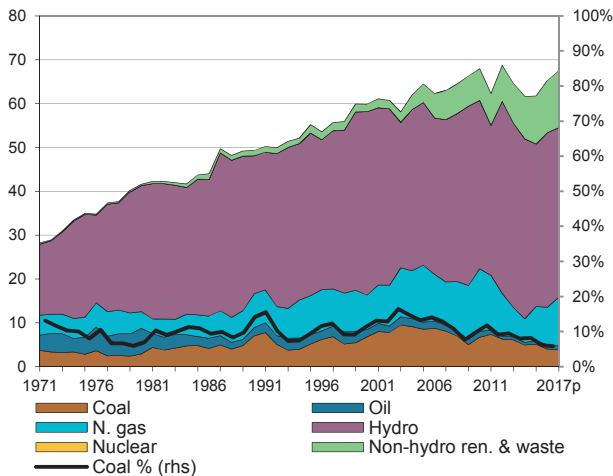
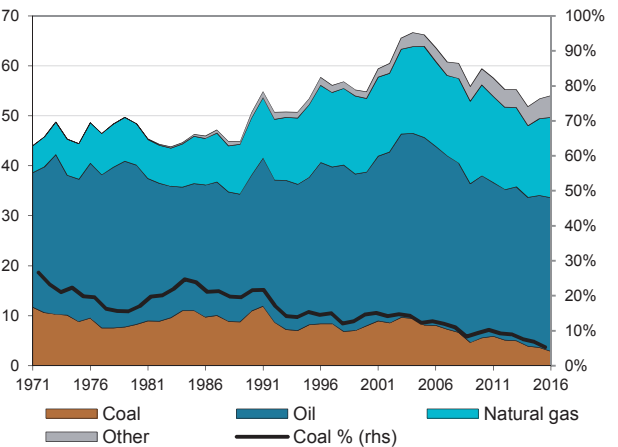


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

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1. Coal balance¹
(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	1.5	1.2	0.9	0.4	0.0	0.0	-	-	-2.7	-
Imports	4.4	4.0	4.5	4.4	4.8	3.9	4.1	4.3	0.2	-0.4
Exports	-0.1	-0.0	-0.0	-0.1	-0.0	-0.1	-0.0	-0.1	-17.3	-
Stock changes	-0.2	0.0	0.4	0.4	0.0	0.7	0.2	-0.1		
Primary supply	5.5	5.2	5.9	5.1	4.9	4.5	4.2	4.2	0.3	-1.2
Statistical differences	0.0	0.0	-0.0	-0.1	-0.0	-0.0	-0.0	..		
Total transformation	-1.8 e	-2.2 e	-3.3 e	-3.1 e	-3.4	-3.2	-2.9	..	3.7	-0.4
Electricity and heat gen.	-1.2	-1.2	-2.4	-2.0	-2.0	-1.6	-1.2	..	4.0	-2.6
<i>Main activity producers</i> ³	-1.0	-1.0	-2.1	-1.6	-1.4	-0.9	-0.6	..	4.2	-4.8
<i>Autoproducers</i>	-0.2	-0.2	-0.3	-0.4	-0.6	-0.7	-0.6	..	3.3	2.5
Gas works	0.5	-0.0	0.0	-	-	-	-	..	-15.7	-
Coal transformation ⁴	-1.1 e	-1.0 e	-0.9 e	-1.1 e	-1.3	-1.7	-1.7	..	-1.0	2.5
<i>BKB plants</i>	0.1	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-1.0 e	-0.9 e	-0.7 e	-1.0 e	-1.2	-1.6	-1.6	..	-2.0	3.1
<i>Coke ovens</i>	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	..	3.5	-2.2
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-0.3	-0.1	-0.5	-0.7	-0.8	-0.7	-0.6	..	4.2	0.7
Losses	-0.1	-0.0	-0.0	-	-0.0	-0.0	-0.0	..		
Final consumption ⁶	3.4	2.8	2.0	1.3	0.7	0.6	0.6	..	-2.9	-4.4
Industry ⁷	1.1	1.3	1.0	0.9	0.6	0.6	0.6	..	-0.5	-2.3
<i>Iron and steel</i>	0.7 e	1.1 e	0.7 e	0.5 e	0.3	0.3	0.4	..	-0.7	-2.4
<i>Chemical</i>	0.0	0.0	0.0	0.1	0.0	0.0	0.0	..	-	-
<i>Non-metallic minerals</i>	0.1	0.0	0.2	0.2	0.1	0.1	0.1	..	7.5	-3.9
<i>Paper, pulp and print</i>	0.0	0.0	0.1	0.1	0.1	0.1	0.1	..	4.4	0.4
<i>Other industry</i> ⁸	0.2	0.1	0.0	0.0	0.0	0.0	0.0	..	-13.0	-
Transport ⁹	0.2	0.0	0.0	0.0	-	-	-	..	-21.1	-
Other	2.1	1.5	1.0	0.3	0.1	0.0	0.0	..	-4.3	-12.5
<i>Comm. and pub. services</i>	0.1	0.2	0.0	0.0	0.0	0.0	0.0	..	-3.0	-
<i>Residential</i>	2.0	1.3	0.9	0.3	0.1	0.0	0.0	..	-4.4	-12.6
<i>Other sectors</i> ¹⁰	0.0	0.0	0.0	0.0	0.0	-	-	..	-	-
Non-energy use	0.0	0.0	0.0	0.0	0.0	0.0	0.0	..	-	-
Electricity gen. - TWh	3.2	2.9	7.0	6.7	6.7	5.1	4.0	3.9	4.7	-2.2

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

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2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	5.37	6.66	5.11	3.84	3.20	3.76	3.53	1.82	-2.42
Total electricity and heat	2.03	3.55	2.65	1.58	0.95	0.97	0.67	4.79	-6.20
<i>Main activity producers</i>	1.99	3.45	2.56	1.54	0.90	0.93	0.63	4.70	-6.32
<i>Autoproducers</i>	0.04	0.10	0.09	0.04	0.04	0.04	0.04	8.34	-3.54
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	2.01	2.34	1.88	1.84	1.77	1.77	1.82	1.28	-0.97
Blast furnace inputs	-	-	-	0.14	0.23	0.76	0.81	-	-
Gas manufacture	0.03	-	-	-	-	-	-	-	-
Industry	0.24	0.36	0.42	0.27	0.26	0.25	0.23	3.20	-1.72
<i>Iron and steel</i>	0.03	-	-	-	-	-	-	-	-
<i>Chemical</i>	0.00	0.01	0.06	0.02	0.03	0.03	0.03	11.00	5.62
<i>Non-metallic minerals</i>	0.03	0.21	0.21	0.16	0.13	0.12	0.10	18.28	-2.78
<i>Paper, pulp and print</i>	0.15	0.14	0.15	0.09	0.10	0.10	0.10	-0.93	-1.26
<i>Other industry</i>	0.04	0.00	-	-	-	0.00	-	-16.54	-
Other sectors ⁴	0.96	0.41	0.12	0.01	0.01	0.01	0.01	-6.93	-15.55
Non-energy use	-	0.00	0.00	0.00	-	-	-	-	-
Steam coal	0.37	1.82	1.89	1.97	1.42	1.98	1.70	14.21	-0.27
Total electricity and heat	0.00	1.42	1.42	1.58	0.95	0.97	0.67	83.11	-2.83
<i>Main activity producers</i>	0.00	1.37	1.36	1.54	0.90	0.93	0.63	82.59	-2.93
<i>Autoproducers</i>	-	0.05	0.06	0.04	0.04	0.04	0.04	-	-0.70
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	0.14	0.23	0.76	0.81	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.04	0.21	0.35	0.24	0.25	0.24	0.22	15.22	0.18
<i>Iron and steel</i>	0.01	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	0.01	0.06	0.02	0.03	0.03	0.03	-	5.62
<i>Non-metallic minerals</i>	0.02	0.20	0.21	0.13	0.12	0.11	0.09	21.10	-2.92
<i>Paper, pulp and print</i>	-	0.00	0.09	0.09	0.10	0.10	0.10	-	16.10
<i>Other industry</i>	0.00	-	-	-	-	-	-	-	-
Other sectors ⁴	0.32	0.19	0.08	0.01	0.00	0.01	0.00	-4.29	-13.76
Non-energy use	-	0.00	0.00	0.00	-	-	-	-	-
Coking coal	2.01	2.34	1.88	1.84	1.77	1.77	1.82	1.28	-0.97
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	2.01	2.34	1.88	1.84	1.77	1.77	1.82	1.28	-0.97
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

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2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	2.99	2.50	1.34	0.04	0.01	0.01	0.01	-1.47	-19.14
Total electricity and heat	2.03	2.13	1.23	-	-	-	-	0.43	-
<i>Main activity producers</i>	1.99	2.08	1.19	-	-	-	-	0.37	-
<i>Autoproducers</i>	0.04	0.05	0.04	-	-	-	-	2.75	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	0.03	-	-	-	-	-	-	-	-
Industry	0.21	0.15	0.07	0.03	0.01	0.01	0.01	-2.72	-10.21
<i>Iron and steel</i>	0.01	-	-	-	-	-	-	-	-
<i>Chemical</i>	0.00	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	0.01	0.01	0.00	0.03	0.01	0.01	0.01	2.69	-0.77
<i>Paper, pulp and print</i>	0.15	0.13	0.07	-	-	-	-	-1.05	-
<i>Other industry</i>	0.03	0.00	-	-	-	-	-	-15.69	-
Other sectors ³	0.64	0.22	0.05	0.01	0.00	0.00	0.00	-8.63	-18.69
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	-	0.00	0.00	0.00	0.00	0.00	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	0.00	0.00	0.00	0.00	0.00	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

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3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	1.35	0.91	0.42	-	-	-	-	-3.25	-
Peat	-	0.00	0.00	0.00	0.00	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	3.08	2.45	1.25	-	-	-	-	-1.88	-
Peat	-	0.00	0.00	0.00	0.00	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	3.57	4.54	4.38	5.72	4.83	4.38	3.94	4.10	4.33
Bituminous coal ³	0.30	1.18	1.60	2.18	1.60	1.26	1.21	1.44	1.62
Coking coal	1.99	2.36	1.72	2.05	1.89	1.81	1.71	1.76	1.71
Sub-bituminous coal	-	-	0.03	0.05	0.05	0.06	0.06	0.05	0.05
Lignite	0.11	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	1.17	0.99	1.03	1.42	1.28	1.24	0.95	0.84	0.94
Total exports	0.06	0.00	0.06	0.02	0.01	0.00	0.07	0.05	0.05
Bituminous coal ³	-	-	-	0.00	0.00	-	0.01	-	-
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	0.00	0.00	-	-	0.00	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.06	0.00	0.06	0.02	0.00	0.00	0.06	0.05	0.05

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

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5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	2553	3645	3463	4448	3746	3255	3120	3413	3557
Coking coal	2006	2376	1738	2063	1907	1824	1730	1797	1751
Australia	-	-	-	-	-	236	180	416	410
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	662	746	1187	992	986	772	593	567	399
Germany	205	-	-	9	-	-	-	-	-
Poland	470	566	551	519	366	250	266	346	407
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	456	-	501	539	542	641	468	524
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	16	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	669	608	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	31	-	-	-	-	-
<i>Other FSU</i>	x	x	-	11	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	24	50	-	11
Steam coal	301	1233	1709	2337	1796	1419	1379	1605	1796
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	307	922	837	509	361	444	476
Germany	8	29	44	72	74	185	85	124	122
Poland	260	1189	1358	1327	300	637	682	738	904
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	540	-	3	-	-
Other OECD	-	9	-	1	-	4	4	26	107
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	70	-	-	-
Indonesia	-	-	-	-	1	-	-	-	-
South Africa	-	6	-	10	-	-	-	-	-
Former Soviet Union ⁴	33	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	14	244	273	178
<i>Other FSU</i>	x	x	-	5	24	-	-	-	-
Venezuela	-	-	-	-	20	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	9
Lignite	246	36	16	48	43	12	11	11	10

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

BELGIUM¹

Figure 1: Coal supply indicators (1971 = 100)

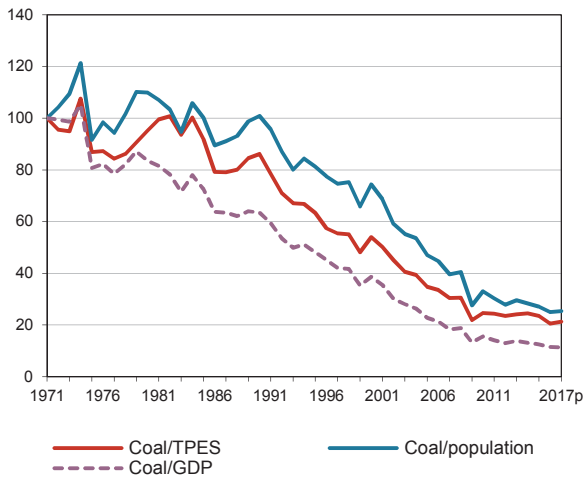


Figure 2: TPES by fuel (Mtce)

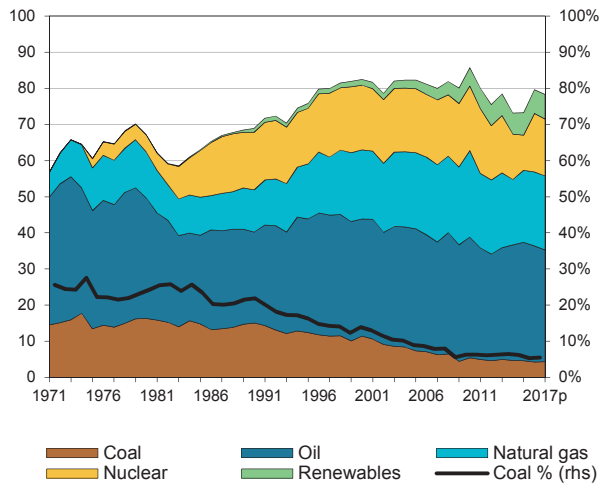


Figure 3: Primary coal supply (Mtce)

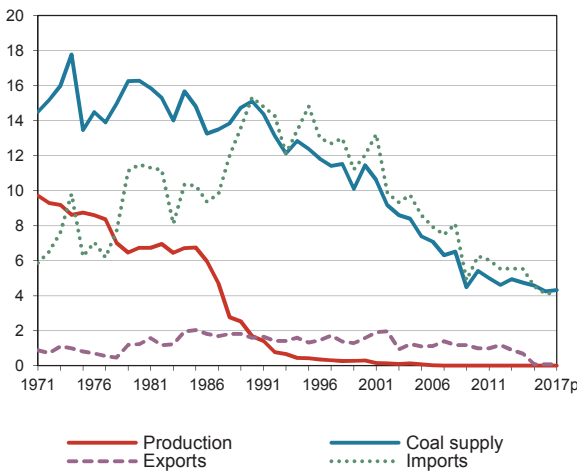


Figure 4: Coal consumption (Mtce)

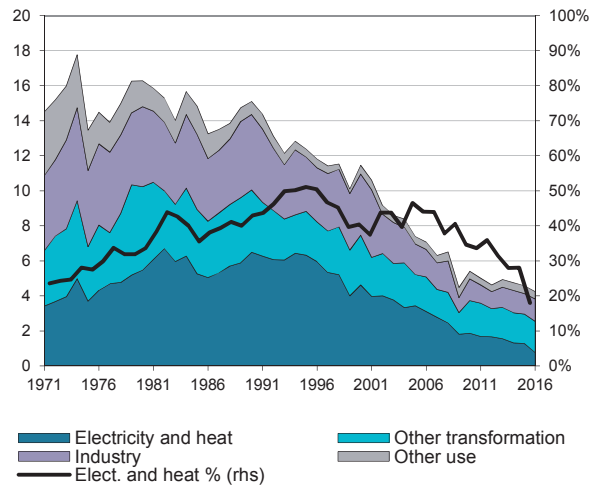


Figure 5: Electricity generation by fuel (TWh)

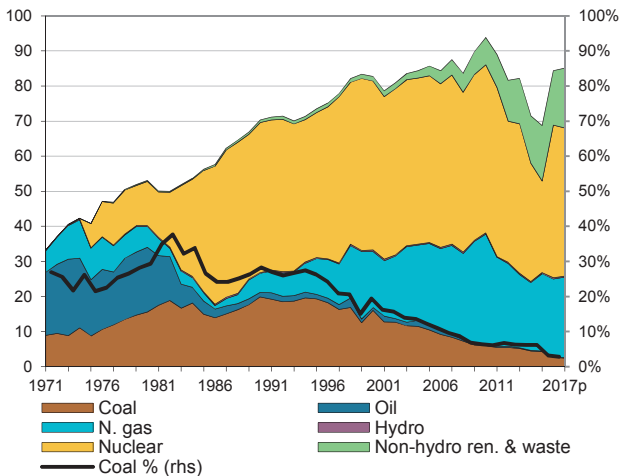
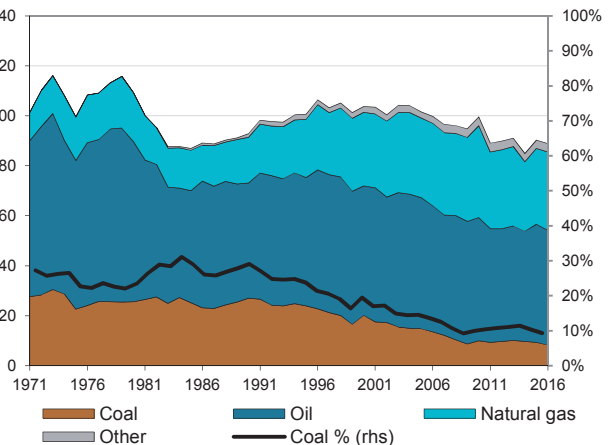


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

BELGIUM

1. Coal balance¹
(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	9.2	6.7	1.7	0.3	0.0	0.0	0.0	0.0	-9.5	-17.6
Imports	7.6	11.5	15.3	12.0	6.3	4.5	4.1	4.2	4.2	-5.0
Exports	-1.1	-1.2	-1.6	-1.6	-1.0	-0.1	-0.1	-0.1	2.2	-11.2
Stock changes	0.3	-0.7	-0.3	0.7	0.1	0.1	0.2	0.2		
Primary supply	16.0	16.3	15.1	11.5	5.4	4.6	4.2	4.3	-0.3	-4.8
Statistical differences	1.5	-0.4	-0.0	-0.6	-0.0	0.0	0.0	..		
Total transformation	-8.2	-9.1 e	-9.4 e	-6.6 e	-3.2 e	-2.6 e	-2.2 e	..	0.8	-5.4
Electricity and heat gen.	-3.9	-5.5	-6.5	-4.6	-1.9	-1.3	-0.8	..	3.0	-7.9
<i>Main activity producers</i> ³	-3.9	-4.8	-6.0	-4.5	-1.8	-1.3	-0.8	..	2.5	-7.7
<i>Autoproducers</i>	-	-0.7	-0.5	-0.1	-0.1	-0.0	-0.0	..	-	-13.3
Gas works	-0.0	0.0	-	-	-	-	-	..	-	-
Coal transformation ⁴	-4.2	-3.6 e	-2.9 e	-1.9 e	-1.4 e	-1.3 e	-1.4 e	..	-2.3	-2.6
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-3.8	-2.9 e	-2.3 e	-2.0 e	-1.3 e	-1.3 e	-1.4 e	..	-2.7	-2.0
<i>Coke ovens</i>	-0.6	-0.8	-0.5	0.1	-0.1	-0.0	-0.1	..	-0.6	-8.2
<i>Patent fuel plants</i>	0.1	0.0	0.0 e	0.0	-	-	-	..	-34.9	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-1.1	-0.8	-0.7	-0.3	-0.5	-0.4	-0.4	..	-2.6	-2.4
Losses	-0.0	-0.0	-	-	-	-0.0	-0.0	..		
Final consumption ⁶	8.2	6.0	5.1	4.0	1.7	1.6	1.7	..	-2.8	-4.1
Industry ⁷	5.1	4.6	4.3	3.5	1.2	1.2	1.3	..	-1.0	-4.6
<i>Iron and steel</i>	3.5	2.9 e	2.9 e	2.8 e	0.7 e	0.6 e	0.7 e	..	-1.1	-5.2
<i>Chemical</i>	0.1	0.1	0.2	0.0	-	-	-	..	2.2	-
<i>Non-metallic minerals</i>	1.0	1.5	0.8	0.5	0.4	0.5	0.5	..	-1.0	-2.2
<i>Paper, pulp and print</i>	-	0.0	0.0	0.0	0.0	0.0	0.0	..	-	-
<i>Other industry</i> ⁸	0.4	0.2	0.3	0.2	0.1	0.1	0.1	..	-2.0	-6.3
Transport ⁹	0.0	0.0	-	-	-	-	-	..	-	-
Other	3.1	1.5	0.7	0.3	0.2	0.1	0.1	..	-8.0	-6.8
<i>Comm. and pub. services</i>	0.0	0.0	-	-	-	-	-	..	-	-
<i>Residential</i>	3.1	1.5	0.7	0.3	0.2	0.1	0.1	..	-8.0	-7.2
<i>Other sectors</i> ¹⁰	-	-	-	-	0.0	0.0	0.0	..	-	-
Non-energy use	-	-	-	0.2	0.2	0.3	0.3	..	-	-
Electricity gen. - TWh	8.8	15.6	19.9	16.0	6.0	4.2	2.6	2.4	4.9	-7.5

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

BELGIUM

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	16.28	16.43	11.05	5.68	4.50	4.16	3.66	0.07	-5.61
Total electricity and heat	4.64	6.64	4.32	1.49	0.79	0.78	0.13	3.03	-14.09
<i>Main activity producers</i>	4.36	6.34	4.31	1.47	0.78	0.76	0.11	3.17	-14.32
<i>Autoproducers</i>	0.28	0.30	0.01	0.02	0.01	0.02	0.01	0.55	-11.07
Patent fuel/BKB plants	0.12	0.00 e	0.01	-	-	-	-	-32.76	-
Coke ovens/Liquefaction ³	7.22	7.16	3.86	2.59	1.95	1.67	1.64	-0.07	-5.52
Blast furnace inputs	-	0.41 e	0.98 e	0.79 e	1.01 e	0.98 e	1.12 e	-	3.92
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	2.66	1.64	0.98	0.50	0.65	0.59	0.65	-3.94	-3.48
<i>Iron and steel</i>	0.17	0.10 e	0.48 e	0.14 e	0.34 e	0.28 e	0.37 e	-4.36	5.21
<i>Chemical</i>	0.03	0.14	-	-	-	-	-	13.74	-
<i>Non-metallic minerals</i>	2.44	1.14	0.36	0.24	0.24	0.24	0.22	-6.12	-6.12
<i>Paper, pulp and print</i>	-	0.05	0.04	0.04	0.03	0.03	0.03	-	-2.25
<i>Other industry</i>	0.02	0.22 e	0.10 e	0.08 e	0.05 e	0.04 e	0.04 e	20.19	-6.69
Other sectors ⁴	1.63	0.70	0.30	0.20	0.12	0.12	0.12	-6.77	-6.73
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	8.76	9.00	7.00	3.06	2.56	2.48	2.02	0.22	-5.58
Total electricity and heat	4.44	6.64	4.32	1.49	0.79	0.78	0.13	3.41	-14.09
<i>Main activity producers</i>	4.18	6.34	4.31	1.47	0.78	0.76	0.11	3.53	-14.32
<i>Autoproducers</i>	0.26	0.30	0.01	0.02	0.01	0.02	0.01	1.22	-11.07
Patent fuel/BKB plants	0.12	0.00 e	0.01	-	-	-	-	-32.76	-
Coke ovens/Liquefaction ³	0.03	-	-	-	-	-	-	-	-
Blast furnace inputs	-	0.41 e	0.98 e	0.79 e	1.01 e	0.98 e	1.12 e	-	3.92
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	2.66	1.37	0.98	0.50	0.65	0.59	0.65	-5.39	-2.80
<i>Iron and steel</i>	0.17	0.10 e	0.48 e	0.14 e	0.34 e	0.28 e	0.37 e	-4.36	5.21
<i>Chemical</i>	0.03	0.14	-	-	-	-	-	13.74	-
<i>Non-metallic minerals</i>	2.44	0.87	0.36	0.24	0.24	0.24	0.22	-8.25	-5.12
<i>Paper, pulp and print</i>	-	0.05	0.04	0.04	0.03	0.03	0.03	-	-2.25
<i>Other industry</i>	0.02	0.22 e	0.10 e	0.08 e	0.05 e	0.04 e	0.04 e	20.19	-6.69
Other sectors ⁴	1.63	0.70	0.30	0.20	0.12	0.12	0.12	-6.77	-6.73
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	7.52	7.16	4.05	2.63	1.94	1.68	1.64	-0.42	-5.51
Total electricity and heat	0.20	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	0.18	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	0.02	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	7.19	7.16	3.86	2.59	1.95	1.67	1.64	-0.03	-5.52
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.00	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	0.00	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	0.00	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

BELGIUM

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	-	0.28	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	0.28	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	0.28	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

BELGIUM

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	3.81	-	-	-	-	-	-	-	-
Steam coal	3.19	1.69	0.29	0.08	0.01	0.01	0.01	-5.18	-17.65
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	3.81	-	-	-	-	-	-	-	-
Steam coal	4.90	2.36	0.38	0.11	0.02	0.01	0.02	-5.92	-17.89
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	7.72	15.33	12.04	8.59	6.27	5.53	4.52	4.09	4.19
Bituminous coal ³	3.51	7.24	6.84	4.61	3.04	3.01	2.15	1.86	1.78
Coking coal	3.49	7.13	3.82	3.53	2.80	1.92	1.69	1.47	1.63
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	0.08	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.71	0.88	1.38	0.45	0.43	0.60	0.68	0.76	0.78
Total exports	0.47	1.60	1.59	1.10	0.99	0.69	0.09	0.07	0.08
Bituminous coal ³	0.12	0.65	1.16	1.02	0.47	0.51	0.07	0.06	0.07
Coking coal	0.10	-	0.09	0.03	0.06	-	-	-	-
Sub-bituminous coal	-	0.03	0.04	0.02	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.24	0.92	0.30	0.03	0.46	0.18	0.01	0.01	0.01

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

BELGIUM

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	7007	15037	11347	8804	6275	5229	4064	3512	3570
Coking coal	3490	7132	3818	3533	2801	1921	1694	1477	1635
Australia	209	1015	1109	2003	1149	1005	1055	876	900
Canada	148	236	678	227	-	-	-	-	-
Czech Republic	59	-	-	-	-	-	-	-	-
Germany	1751	690	-	-	-	17	-	-	-
Poland	392	105	74	-	-	-	-	-	-
United Kingdom	22	32	-	-	-	-	-	-	-
United States	833	4897	1898	1303	1562	772	589	542	683
Other OECD	15	-	-	-	90	72	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	15	157	59	-	-	-	-	-	-
Former Soviet Union ⁴	46	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	55	50	59	47
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	5
Steam coal	3517	7629	7529	5271	3474	3308	2370	2035	1935
Australia	-	388	2354	947	200	282	370	400	365
Canada	26	66	12	43	19	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	2316	721	118	155	145	191	76	73	73
Poland	105	242	225	436	23	-	-	-	-
United Kingdom	129	67	76	62	46	24	25	22	33
United States	-	981	309	411	636	453	320	51	17
Other OECD	72	60	48	29	58	96	102	117	98
China, People's Rep.	-	292	167	58	-	-	-	-	-
Colombia	-	170	431	5	166	377	117	-	26
Indonesia	-	6	11	-	-	-	-	-	-
South Africa	606	4365	3028	2081	1120	464	125	117	36
Former Soviet Union ⁴	233	234	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	705	944	125	1321	1119	1168	1211
<i>Other FSU</i>	x	x	19	-	-	30	33	22	-
Venezuela	-	1	3	-	-	9	-	-	-
Viet Nam	-	-	23	98	-	-	-	-	-
Non-specified/other	30	36	-	2	936	61	83	65	76
Lignite	-	276	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

BELGIUM

7. Steam coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	122	724	1340	1199	545	557	79	66	72
Total OECD	122	724	1340	1199	535	545	78	65	70
Australia	-	-	-	-	-	-	-	-	-
Austria	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Chile	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	1	-	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	-	2	-	-	-	-	-	-
France	61	360	609	377	257	237	25	17	24
Germany	1	67	495	334	159	244	42	32	34
Greece	-	-	-	2	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-
Ireland	-	-	7	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	-	-
Italy	-	5	-	-	-	-	-	-	-
Japan	-	61	-	-	-	-	-	-	-
Korea	-	-	-	-	-	-	-	-	-
Latvia	x	-	-	-	-	-	-	-	-
Luxembourg	21	-	40	37	32	37	6	3	3
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	1	179	136	423	6	27	4	13	5
New Zealand	-	-	-	-	-	-	-	-	-
Norway	13	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
Portugal	6	4	-	-	-	-	-	-	-
Slovak Republic	-	-	-	-	-	-	-	-	-
Slovenia	x	-	-	-	-	-	-	-	-
Spain	18	43	6	-	-	-	-	-	-
Sweden	-	-	15	17	81	-	-	-	3
Switzerland	1	-	15	7	-	-	-	-	-
Turkey	-	-	-	-	-	-	-	-	-
United Kingdom	-	4	15	2	-	-	1	-	1
United States	-	-	-	-	-	-	-	-	-
Total non-OECD	-	-	-	-	-	-	-	-	-
Brazil	-	-	-	-	-	-	-	-	-
China ³	-	-	-	-	-	-	-	-	-
Chinese Taipei	-	-	-	-	-	-	-	-	-
Egypt	-	-	-	-	-	-	-	-	-
India	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-
Oth. Africa & Mid. East	-	-	-	-	-	-	-	-	-
Oth. non-OECD Americas	-	-	-	-	-	-	-	-	-
Other Asia & Oceania	-	-	-	-	-	-	-	-	-
Other non-OECD Europe and Eurasia	-	-	-	-	-	-	-	-	-
Non-specified/Other	-	-	-	-	10	12	1	1	2

1. Please refer to the explanatory notes and definitions in Part I. Steam coal includes all sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

CANADA¹

Figure 1: Coal supply indicators (1971 = 100)

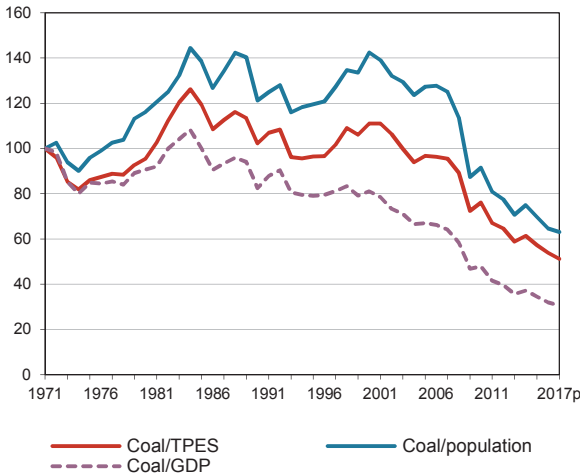


Figure 2: TPES by fuel (Mtce)

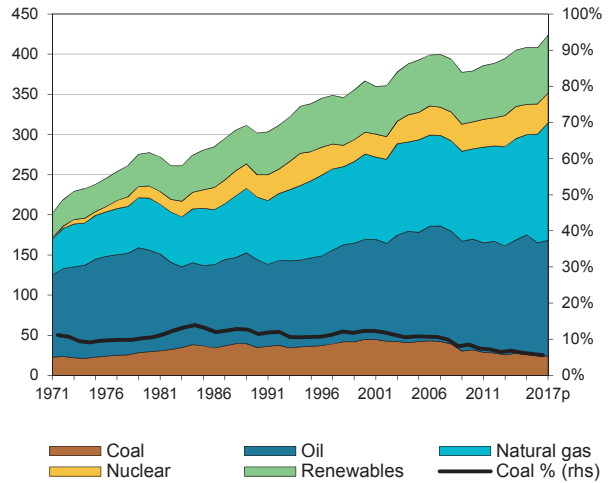


Figure 3: Primary coal supply (Mtce)

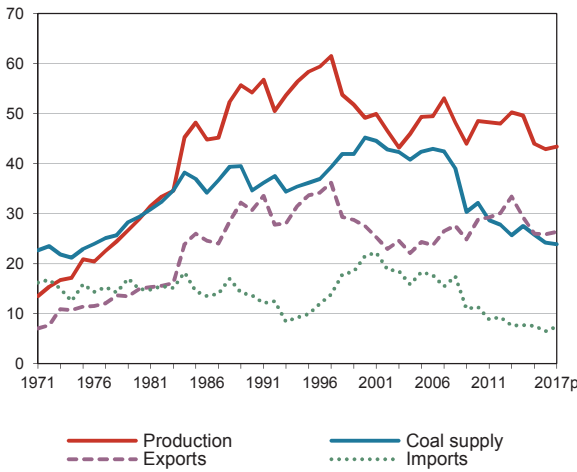


Figure 4: Coal consumption (Mtce)

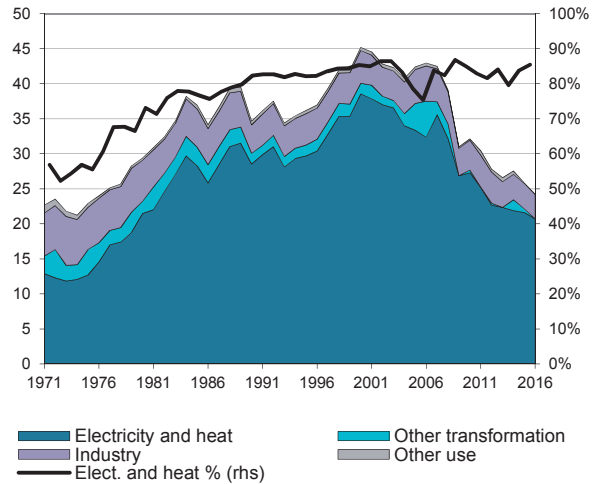


Figure 5: Electricity generation by fuel (TWh)

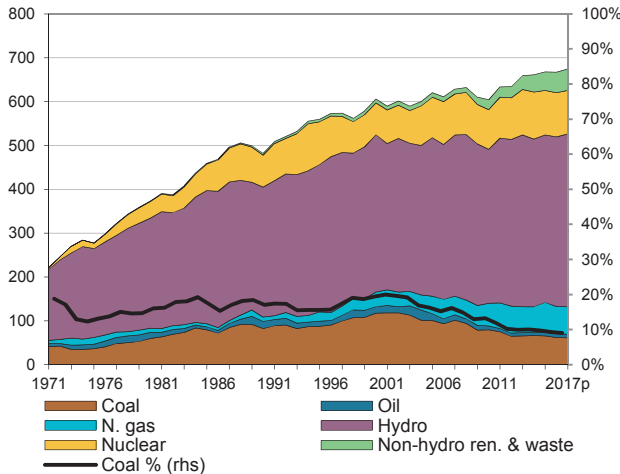
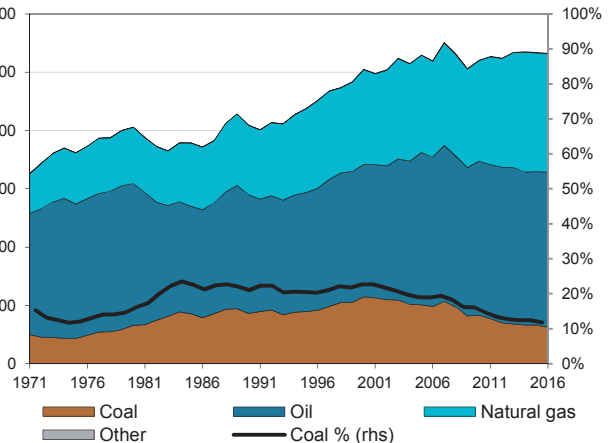


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

CANADA

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	16.7	28.9	54.2	49.2	48.5	44.0	42.9	43.4	7.2	-0.9
Imports	15.0	14.8	13.6	21.5	11.4	7.6	6.5	7.4	-0.5	-2.8
Exports	-10.9	-14.9	-30.6	-27.5	-28.8	-26.0	-25.8	-26.4	6.3	-0.7
Stock changes	1.0	0.5	-2.5	2.0	1.1	0.3	0.7	-0.5		
Primary supply	21.8	29.4	34.7	45.2	32.1	25.8	24.2	23.9	2.8	-1.4
Statistical differences	0.5	1.1	0.4	0.2	1.4	0.6	1.2	..		
Total transformation	-14.5 e	-24.3 e	-30.3 e	-40.1 e	-29.0 e	-22.7 e	-21.9 e	..	4.4	-1.3
Electricity and heat gen.	-11.9	-21.5	-28.5	-38.5	-27.3	-21.6	-20.7	..	5.3	-1.2
<i>Main activity producers</i> ³	-11.9	-21.4	-28.5	-38.4	-27.3	-21.6	-20.7	..	5.3	-1.2
<i>Autoproducers</i>	-	-0.0	-0.0	-0.1	-0.0	-0.0	-0.0	..	-	-
Gas works	-	-	-	-	-	-	-	..	-	-
Coal transformation ⁴	-2.7 e	-2.8 e	-1.8 e	-1.6 e	-1.7 e	-1.1 e	-1.2 e	..	-2.3	-1.7
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-1.9 e	-2.1 e	-1.5 e	-1.4 e	-1.2 e	-1.1 e	-1.1 e	..	-1.2	-1.3
<i>Coke ovens</i>	-0.7	-0.7	-0.3	-0.2	-0.5	-0.1	-0.1	..	-6.2	-5.2
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-0.1	-0.0	-0.1	-0.1	-0.0	-	-	..	2.6	-
Losses	-	-	-	-	-	-	-	..		
Final consumption ⁶	7.7	6.2	4.6	5.1	4.5	3.7	3.5	..	-3.0	-1.0
Industry ⁷	7.0	5.9	4.0	4.7	4.3	3.6	3.5	..	-3.2	-0.6
<i>Iron and steel</i>	3.9 e	4.1 e	2.6 e	2.8 e	2.4	2.2 e	2.3 e	..	-2.4	-0.4
<i>Chemical</i>	-	0.0	-	-	-	-	-	..	-	-
<i>Non-metallic minerals</i>	0.7	0.3	0.5	0.8	0.7	0.6	0.5	..	-1.2	-0.2
<i>Paper, pulp and print</i>	0.3	0.3	0.1	0.1	-	-	-	..	-4.4	-
<i>Other industry</i> ⁸	2.2	1.1	0.8	1.0	1.2	0.9	0.6	..	-5.6	-0.9
Transport ⁹	0.2	-	-	-	-	-	-	..	-	-
Other	0.6	0.1	0.1	0.1	0.0	0.0	0.0	..	-11.4	-7.7
<i>Comm. and pub. services</i>	0.0	0.0	0.0	0.0	-	-	-	..	-	-
<i>Residential</i>	0.6	0.1	0.1	0.1	0.0	0.0	0.0	..	-11.9	-7.4
<i>Other sectors</i> ¹⁰	-	-	-	-	-	-	-	..	-	-
Non-energy use	-	0.2	0.5	0.4	0.1	0.1	0.1	..	-	-7.1
Electricity gen. - TWh	34.9	59.8	82.2	117.6	79.5	65.2	62.1	60.7	5.2	-1.1

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

CANADA

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	31.46	49.15	62.97	48.48	40.69	39.50	37.11	3.79	-1.07
Total electricity and heat	22.91	42.15	55.83	43.75	35.92	36.05	34.37	5.21	-0.78
<i>Main activity producers</i>	22.90	42.14	55.82	43.75	35.92	36.05	34.37	5.21	-0.78
<i>Autoproducers</i>	0.01	0.02	0.01	-	-	-	-	2.12	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	6.98	5.00	4.23	3.87	3.03	2.94	2.83	-2.74	-2.16
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	1.70	1.69	2.20	2.41	1.92	2.03	1.63	-0.04	-0.13
<i>Iron and steel</i>	0.07	0.30	0.30	0.30	0.30	0.30	0.30	12.89	0.00
<i>Chemical</i>	0.26	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	0.36	0.68	1.03	0.88	0.82	0.68	0.58	5.40	-0.65
<i>Paper, pulp and print</i>	0.45	0.19	0.13	-	-	-	-	-6.88	-
<i>Other industry</i>	0.56	0.52	0.74	1.23	0.80	1.05	0.76	-0.66	1.47
Other sectors ⁴	0.29	0.10	0.09	0.09	0.04	0.02	0.02	-8.54	-6.19
Non-energy use	-	0.35	0.47	0.19	0.09	0.08	0.08	-	-5.64
Steam coal	19.71	34.77	47.30	34.55	27.83	27.72	26.02	4.84	-1.11
Total electricity and heat	18.31	33.07	44.97	33.64	28.27	27.21	25.51	5.05	-0.99
<i>Main activity producers</i>	18.30	33.05	44.97	33.64	28.27	27.21	25.51	5.05	-0.99
<i>Autoproducers</i>	0.01	0.02	0.01	-	-	-	-	2.12	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	1.42	1.22	1.74	1.83	1.40	1.45	1.13	-1.27	-0.29
<i>Iron and steel</i>	0.07	-	-	c	c	-	-	-	-
<i>Chemical</i>	0.26	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	0.36	0.68	1.03	0.88	0.82	0.68	0.58	5.40	-0.65
<i>Paper, pulp and print</i>	0.28	0.09	0.03	-	-	-	-	-8.64	-
<i>Other industry</i>	0.45	0.44	0.67	0.95	0.58	0.78	0.55	-0.17	0.86
Other sectors ⁴	0.18	0.09	0.05	-	-	-	-	-5.61	-
Non-energy use	-	0.26	0.33	0.03	0.01	0.00	0.00	-	-19.24
Coking coal	6.78	5.02	4.46	4.24	5.25	2.74	2.38	-2.46	-2.84
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	6.98	5.00	4.23	3.87	3.03	2.94	2.83	-2.74	-2.16
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	0.30	0.30	0.30	0.30	0.30	0.30	-	0.00
<i>Iron and steel</i>	-	0.30	0.30	0.30	0.30	0.30	0.30	-	0.00
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

CANADA

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	4.98	9.36	11.21	9.69	7.60	9.04	8.71	5.40	-0.27
Total electricity and heat	4.60	9.08	10.86	10.10	7.65	8.85	8.86	5.83	-0.10
<i>Main activity producers</i>	4.60	9.08	10.86	10.10	7.65	8.85	8.86	5.83	-0.10
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.28	0.17	0.16	0.28	0.22	0.28	0.20	-3.97	0.68
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	0.17	0.10	0.10	-	-	-	-	-4.60	-
<i>Other industry</i>	0.11	0.08	0.07	0.28	0.22	0.28	0.20	-3.07	3.92
Other sectors ³	0.11	0.01	0.04	0.09	0.04	0.02	0.02	-18.83	2.92
Non-energy use	-	0.09	0.14	0.16	0.08	0.08	0.08	-	-0.61
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

CANADA

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	13.39	27.17	23.92	26.04	23.80	21.15	22.71	6.07	-0.96
Steam coal	8.55	22.44	19.79	18.05 e	19.78	16.97	16.25	8.37	-1.07
Lignite	2.52	4.57	5.44	5.27 e	4.91	4.77	4.42	5.10	0.16
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	13.78	27.66	28.16	30.80	28.15	25.02	26.86	5.98	-0.39
Steam coal	11.64	31.27	29.81	28.22 e	29.48	26.35	25.26	8.58	-0.66
Lignite	5.07	9.41	11.19	11.02 e	10.26	9.96	9.25	5.29	0.22
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	14.21	13.64	21.50	18.30 e	11.35	7.71	7.56	6.52	7.44
Bituminous coal ³	8.51	9.10	14.00	8.64	5.33	2.05	2.02	1.48	2.11
Coking coal	5.30	4.22	4.15	4.07	3.00	3.79	3.75	3.34	3.68
Sub-bituminous coal	-	-	2.76	4.71	2.32	1.02	0.92	0.77	0.85
Lignite	-	-	-	0.00 e	0.00	0.01	0.01	0.00	0.01
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.40	0.32	0.59	0.89	0.71	0.84	0.87	0.92	0.79
Total exports	13.68	30.63	27.53	24.34	28.80	29.29	26.01	25.84	26.40
Bituminous coal ³	0.94	4.08	3.14	1.27	5.35	2.92	2.16	2.04	1.85
Coking coal	12.65	26.37	24.11	22.66	23.30	26.27	23.72	23.71	24.47
Sub-bituminous coal	-	-	-	0.01	0.00	0.00	0.01	0.01	0.03
Lignite	0.00	0.00	-	0.06	0.06	0.04	0.05	0.04	0.04
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.08	0.18	0.28	0.34	0.08	0.06	0.07	0.04	0.00

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

CANADA

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	14250	14169	23231	21086 e	12617	7819	7568	6319	7478
Coking coal	5454	4491	4296	4199	3092	3907	3872	3451	3794
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	5454	4491	4296	4131	3092	3898	3872	3451	3784
Other OECD	-	-	-	-	-	-	-	-	10
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	9 e	-	9	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	59	-	-	-	-	-
Steam coal	8796	9678	18935	16886	9521	3893	3684	2858	3666
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	21	2	1	2	2	1
United States	8796	9639	18531	13451	7245	2195	1812	1364	1768
Other OECD	-	-	-	1	26	-	-	-	-
China, People's Rep.	-	-	155	52 e	2	-	-	1	14
Colombia	-	-	-	2427	2049	1548	1795	1389	1735
Indonesia	-	-	-	7	-	-	-	-	-
South Africa	-	-	61	-	-	-	15	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	26	134 e	27	-	60	101	147
<i>Other FSU</i>	x	x	-	62 e	138	117	-	-	-
Venezuela	-	39	91	731	32	32	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	71	-	-	-	-	1	1
Lignite	-	-	-	1 e	4	19	12	10	18

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

CANADA

6. Coking coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	13017	26851	28386	26798	27557	31063	28049	28039	28945
Total OECD	12217	19908	22752	22130	20762	17954	17193	16665	17421
Australia	-	-	-	-	-	-	-	-	-
Austria	-	-	-	-	-	-	-	-	-
Belgium	147	6	374	58	48	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Chile	-	224	312	413	215	213	217	208	266
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	41	-	516	416	537	526	587	412
France	-	379	585	494	166	31	-	92	47
Germany	-	72	792	1757	1250	715	968	608	806
Greece	-	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	-	-
Italy	164	159	1170	1469	1015	403	288	283	317
Japan	10934	16569	12085	6792	8693	7119	6873	6495	6747
Korea	668	-	3851	4770	5296	6211	5303	5702	5651
Latvia	x	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-
Mexico	-	-	385	406	302	158	130	-	132
Netherlands	-	369	408	807	707	717	685	517	763
New Zealand	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	122	294	367	690
Portugal	-	519	-	-	-	-	-	-	-
Slovak Republic	-	-	-	-	59	59	-	-	-
Slovenia	x	-	-	-	-	-	-	-	-
Spain	150	-	338	344	60	-	-	62	33
Sweden	154	102	-	-	-	-	22	-	246
Switzerland	-	-	-	-	-	-	-	-	-
Turkey	-	51	819	1025	839	491	834	1039	659
United Kingdom	-	645	1093	1677	284	423	185	-	-
United States	-	772	540	1602	1412	755	868	705	652
Total non-OECD	800	1745	2795	4668	6726	13109	10768	11203	10930
Brazil	600	1108	1471	1718	1638	2188	1112	901	926
China ³	-	300	-	956	4342	7416	5361	5126	4600
Chinese Taipei	-	-	1324	1274	637	1020	1087	1251	1292
Egypt	-	-	-	426	-	59	193	180	119
India	200	-	-	-	-	1711	1700	2697	3085
Romania	-	-	-	-	-	403	155	76	-
Oth. Africa & Mid. East	-	129	-	-	-	-	-	-	-
Oth. non-OECD Americas	-	-	-	45	-	-	-	94	48
Other Asia & Oceania	-	208	-	104	109	-	54	-	-
Other non-OECD Europe and Eurasia	-	-	-	145	-	312	1106	878	860
Non-specified/Other	-	5198	2839	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

CANADA

7. Steam coal exports by destination¹

(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	971	4149	3696	1362	5752	3153	2337	2205	2031
Total OECD	971	2826	3419	1358 e	4203	2341	2169	2039	1551
Australia	-	-	-	-	-	-	-	-	-
Austria	-	-	-	-	-	-	-	-	-
Belgium	27	-	151	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Chile	-	120	-	180	45	61	149	430	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	309	479	-	-	-	-	-	-	301
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	-	-	-	-	-	-	-	-
France	-	18	-	36	-	-	-	-	73
Germany	492	64	55	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	-	-
Italy	-	-	14	-	1	-	-	-	-
Japan	83	1933	1244	729	2005	1731	1432	1420	494
Korea	56	-	1767	169	1670	464	474	-	568
Latvia	x	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-
Mexico	-	-	-	-	395	-	-	-	-
Netherlands	-	-	-	-	-	-	-	-	30
New Zealand	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
Portugal	-	-	-	-	-	-	-	-	-
Slovak Republic	-	-	-	-	-	-	-	-	-
Slovenia	x	-	-	-	-	-	-	-	-
Spain	-	-	-	-	1	1	2	1	3
Sweden	-	-	-	-	-	-	-	-	-
Switzerland	-	-	-	-	-	-	-	-	-
Turkey	-	-	-	-	-	-	-	-	-
United Kingdom	-	18	80	-	-	-	-	-	-
United States	4	194	108	244 e	86	84	112	188	82
Total non-OECD	-	98	-	3 e	1549	812	165	165	478
Brazil	-	98	-	-	55	75	-	-	-
China ³	-	-	-	-	1493	247	-	-	148
Chinese Taipei	-	-	-	2 e	1	489	164	165	330
Egypt	-	-	-	-	-	1	1	-	-
India	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-
Oth. Africa & Mid. East	-	-	-	-	-	-	-	-	-
Oth. non-OECD Americas	-	-	-	-	-	-	-	-	-
Other Asia & Oceania	-	-	-	1	-	-	-	-	-
Other non-OECD Europe and Eurasia	-	-	-	-	-	-	-	-	-
Non-specified/Other	-	1225	277	-	-	-	1	-	-

1. Please refer to the explanatory notes and definitions in Part I. Steam coal includes all sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

CHILE¹

Figure 1: Coal supply indicators (1971 = 100)

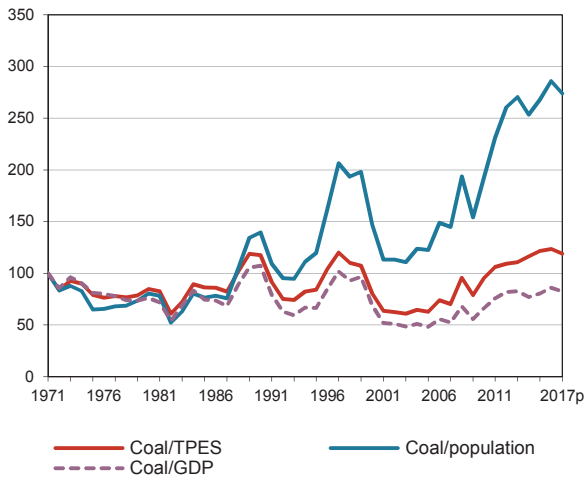


Figure 2: TPES by fuel (Mtce)

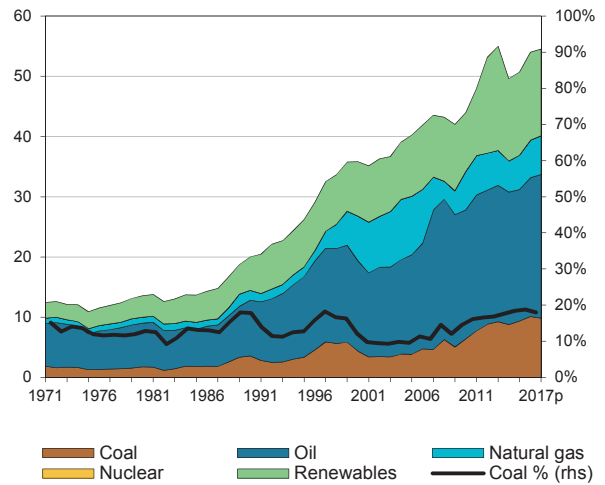


Figure 3: Primary coal supply (Mtce)

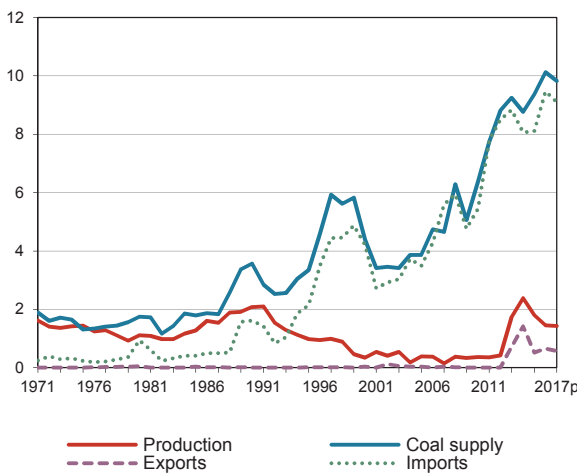


Figure 4: Coal consumption (Mtce)

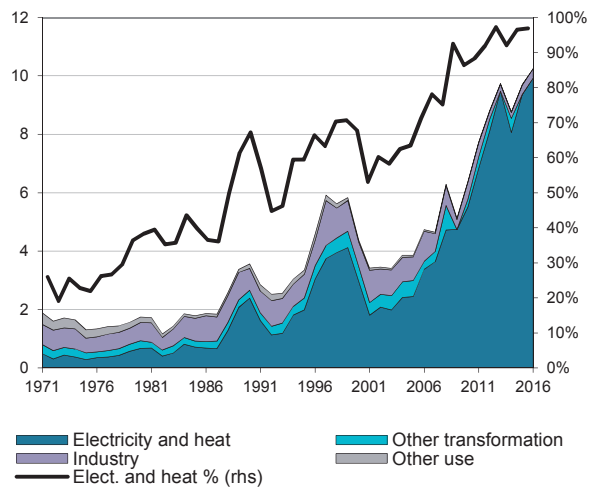


Figure 5: Electricity generation by fuel (TWh)

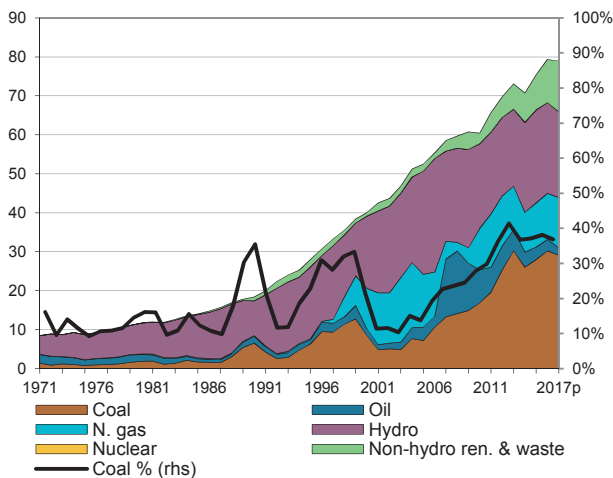
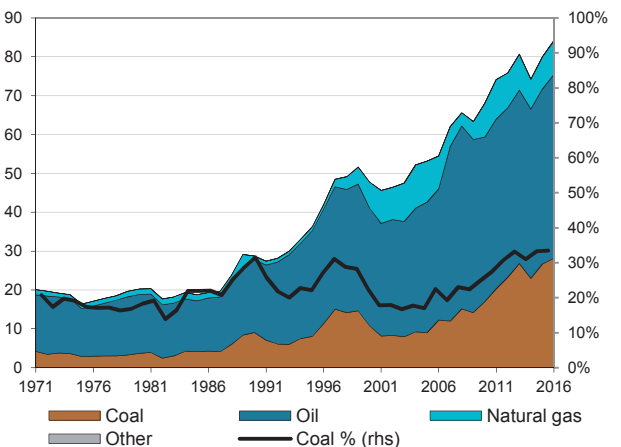


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

CHILE

1. Coal balance¹
(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	1.4	1.1	2.1	0.3	0.4	1.8	1.4	1.4	2.5	-1.4
Imports	0.3	0.9	1.6	4.2	5.4	8.1	9.5	9.1	10.7	7.0
Exports	-0.0	-0.0	-	-0.0	-	-0.5	-0.6	-0.6	-	-
Stock changes	0.1	-0.3	-0.1	-0.1	0.6	-0.0	-0.1	-0.1	-	-
Primary supply	1.7	1.7	3.6	4.4	6.4	9.4	10.1	9.8	4.4	4.1
Statistical differences	-	0.0	0.0	-0.0	0.1	0.7	0.5	..		
Total transformation	-0.6	-0.8	-2.6 e	-3.3 e	-5.7 e	-9.5 e	-10.1 e	..	8.8	5.4
Electricity and heat gen.	-0.4	-0.7	-2.4	-3.0	-5.5	-9.4	-9.9	..	10.5	5.6
<i>Main activity producers</i> ³	-0.4	-0.7	-1.6	-3.0	-5.5	-9.4	-9.9	..	8.0	7.3
<i>Autoproducers</i>	-0.0	-0.0	-0.8	-0.0	-	-	-	..	33.5	-
Gas works	0.0	0.0	0.1	0.1	0.0	0.0	0.0	..	5.2	-8.7
Coal transformation ⁴	-0.2	-0.2	-0.2 e	-0.4 e	-0.2 e	-0.2 e	-0.1 e	..	1.0	-2.7
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-0.1	-0.2	-0.2 e	-0.3 e	-0.2 e	-0.2 e	-0.2 e	..	4.2	-1.5
<i>Coke ovens</i>	-0.1	-0.0	-0.0	-0.0	-0.0	0.0	0.0	..	-8.4	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-0.0	-0.0	-0.1	-0.1	-0.1	-0.2	-0.2	..	4.0	2.9
Losses	-0.0	-0.1	-0.0	-0.1	-0.0	-0.0	-0.0	..		
Final consumption ⁶	1.0	0.8	0.9	0.9	0.6	0.3	0.3	..	-0.7	-3.9
Industry ⁷	0.7	0.6	0.7	0.8	0.6	0.3	0.3	..	0.7	-3.3
<i>Iron and steel</i>	0.2	0.2	0.1 e	0.1 e	0.1 e	0.1 e	0.1 e	..	-2.6	0.3
<i>Chemical</i>	-	-	-	-	-	-	-	..	-	-
<i>Non-metallic minerals</i>	0.2	0.2	0.2	0.2	0.1	0.0	0.0	..	-0.0	-12.2
<i>Paper, pulp and print</i>	0.0	0.0	0.0	0.0	-	-	0.0	..	-	-
<i>Other industry</i> ⁸	0.3	0.2	0.5	0.4	0.4	0.2	0.2	..	2.2	-3.3
Transport ⁹	0.2	0.1	-	-	-	-	-	..	-	-
Other	0.2	0.1	0.2	0.1	0.0	0.0	0.0	..	-0.4	-11.0
<i>Comm. and pub. services</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	..	-	-
<i>Residential</i>	0.1	0.1	0.1	0.0	0.0	0.0	0.0	..	2.1	-13.0
<i>Other sectors</i> ¹⁰	0.1	0.0	0.1	0.0	0.0	-	0.0	..	-2.2	-12.5
Non-energy use	-	-	-	-	-	-	-	..	-	-
Electricity gen. - TWh	1.2	1.9	6.5	8.5	16.9	28.0	30.2	29.1	10.3	6.1

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD World Energy Balances

CHILE

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	1.40	3.72	4.59	8.35	11.06	12.19	12.96	8.47	4.92
Total electricity and heat	0.45	2.48	3.13	7.42	9.98	11.18	11.92	15.25	6.22
<i>Main activity producers</i>	0.44	1.69	3.12	7.42	9.98	11.18	11.92	11.86	7.79
<i>Autoproducers</i>	0.01	0.79	0.01	-	-	-	-	42.76	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	0.39	0.49	0.71	0.51	0.65	0.53	0.52	2.06	0.18
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	0.03	-	-	-	-	-	-	-	-
Industry	0.38	0.66	0.72	0.50	0.33	0.39	0.34	4.78	-2.56
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	0.00	-	-	-	-
<i>Non-metallic minerals</i>	0.13	0.19	0.24	0.08	-	0.00	0.01	3.46	-10.45
<i>Paper, pulp and print</i>	0.00	0.01	0.04	-	0.01 e	-	0.01	7.32	2.41
<i>Other industry</i>	0.25	0.46	0.45	0.42	0.32 e	0.39	0.31	5.37	-1.48
Other sectors ⁴	0.06	0.09	0.02	0.01	0.00	0.01	0.00	3.64	-13.47
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	0.99	3.23	3.88	7.84	10.44	11.63	12.49	10.37	5.34
Total electricity and heat	0.42	2.48	3.13	7.42	9.98	11.18	11.92	15.91	6.22
<i>Main activity producers</i>	0.41	1.69	3.12	7.42	9.98	11.18	11.92	12.52	7.79
<i>Autoproducers</i>	0.01	0.79	0.01	-	-	-	-	42.76	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	0.03	-	-	-	-	-	-	-	-
Industry	0.38	0.66	0.72	0.50	0.33	0.39	0.34	4.78	-2.56
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	0.00	-	-	-	-
<i>Non-metallic minerals</i>	0.13	0.19	0.24	0.08	-	0.00	0.01	3.46	-10.45
<i>Paper, pulp and print</i>	0.00	0.01	0.04	-	0.01 e	-	0.01	7.32	2.41
<i>Other industry</i>	0.25	0.46	0.45	0.42	0.32 e	0.39	0.31	5.37	-1.48
Other sectors ⁴	0.06	0.09	0.02	0.01	0.00	0.01	0.00	3.64	-13.47
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	0.39	0.49	0.71	0.51	0.62	0.57	0.47	2.06	-0.20
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	0.39	0.49	0.71	0.51	0.65	0.53	0.52	2.06	0.18
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

CHILE

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	1.10	2.07	0.35	0.38	0.36	1.45	1.43	5.46	-1.37
Lignite	0.02	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	1.13	2.18	0.37	0.54	0.62	2.53	2.50	5.65	0.56
Lignite	0.03	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	0.28	1.62	4.20	3.49	5.44	8.06 e	8.11	9.46	9.10
Bituminous coal ³	-	1.11	3.50	2.75	5.00	7.45	7.55	9.01	8.54
Coking coal	0.18	0.47	0.68	0.68	0.44	0.61	0.55	0.46	0.56
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.10	0.04	0.03	0.06	0.00	0.01 e	0.00	-	-
Total exports	0.03	-	0.04	0.04	-	1.42	0.52	0.65	0.57
Bituminous coal ³	-	-	-	-	-	1.27	0.48	0.50	0.52
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.03	-	0.04	0.04	-	0.15	0.04	0.15	0.05

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

CHILE

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	185	1660	4402	4010	6933	9539	9894	11585	11116
Coking coal	185	492	714	692	450	623	566	467	575
Australia	-	-	-	411	296	359	301	321	354
Canada	-	-	-	281	154	161	220	146	221
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	103	45	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	185	492	714	-	-	-	-	-	-
Steam coal	-	1168	3688	3318	6483	8916	9328	11118	10541
Australia	-	-	1330	437	647	476	1756	3101	1916
Canada	-	-	805	260	-	59	77	540	7
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	523	1591	2469	3273	2544	1515
Other OECD	-	-	158	254	57	63	127	-	-
China, People's Rep.	-	-	62	-	-	-	-	-	-
Colombia	-	-	-	-	3427	5849	4095	4796	7032
Indonesia	-	-	631	1266	746	-	-	-	-
South Africa	-	-	121	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	137	71
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	111	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	1168	470	578	15	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

CZECH REPUBLIC¹

Figure 1: Coal supply indicators (1971 = 100)

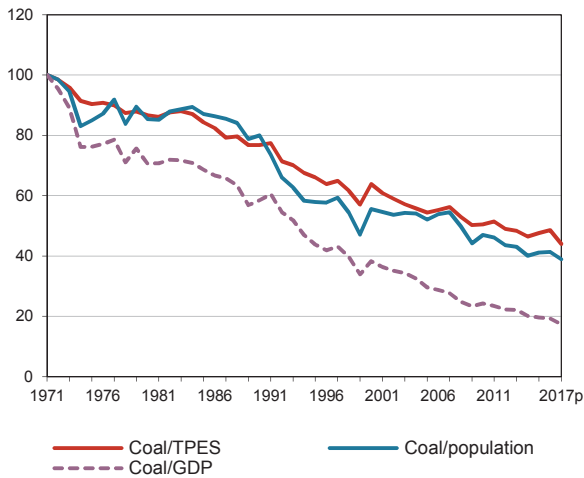


Figure 2: TPES by fuel (Mtce)

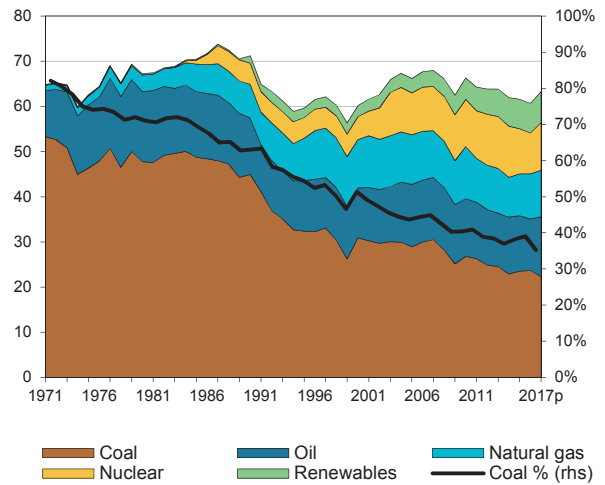


Figure 3: Primary coal supply (Mtce)

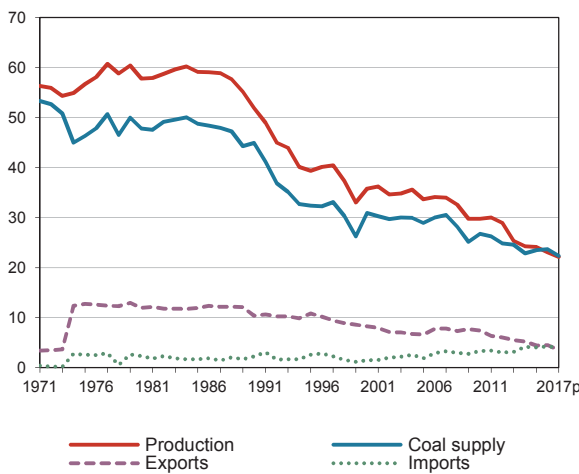


Figure 4: Coal consumption (Mtce)

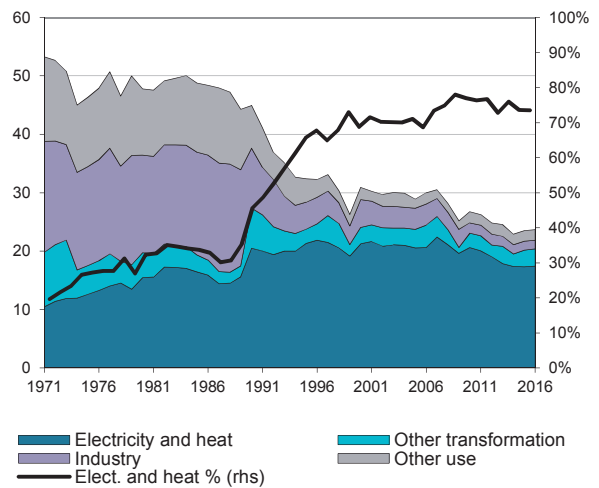


Figure 5: Electricity generation by fuel (TWh)

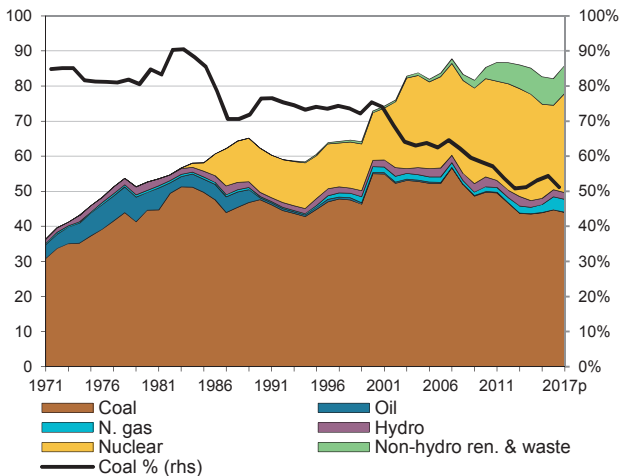
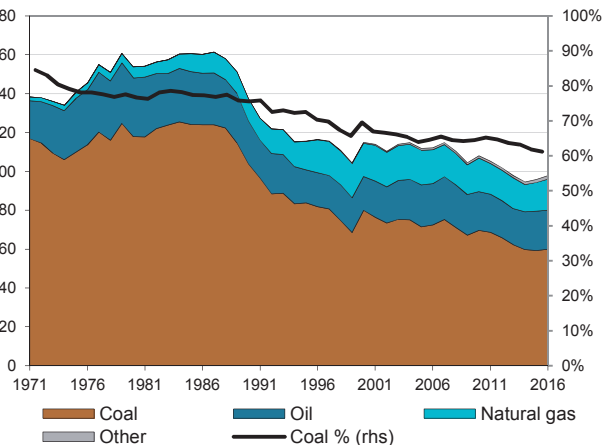


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

CZECH REPUBLIC

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	54.3 e	57.8	51.9	35.8	29.8	24.2	23.0	22.1	-0.3	-3.1
Imports	0.2 e	2.3	2.2	1.5	3.4	4.0	4.2	4.1	15.0	2.5
Exports	-3.7 e	-12.0	-10.4	-8.3	-7.5	-4.4	-4.5	-3.6	6.3	-3.2
Stock changes	-0.0 e	-0.3	1.2	1.9	1.1	-0.3	0.9	-0.3		
Primary supply	50.8	47.8	44.9	30.9	26.8	23.5	23.7	22.3	-0.7	-2.4
Statistical differences	1.8	2.0	-3.6	-0.5	-0.1	-0.3	-0.3	..		
Total transformation	-22.7 e	-20.7 e	-22.6 e	-23.1	-22.1	-18.8	-19.0	..	-0.0	-0.7
Electricity and heat gen.	-11.9 e	-15.5 e	-20.5 e	-21.3	-20.6	-17.3	-17.4	..	3.3	-0.6
<i>Main activity producers</i> ³	-11.9 e	-15.5 e	-17.4 e	-18.9	-18.5	-15.7	-15.8	..	2.3	-0.4
<i>Autoproducers</i>	-	-	-3.1 e	-2.4	-2.1	-1.6	-1.7	..	-	-2.4
Gas works	-0.9 e	-0.9	-0.4	-0.2	-0.3	-0.3	-0.3	..	-5.1	-0.1
Coal transformation ⁴	-10.0 e	-4.3 e	-1.8 e	-1.7	-1.1	-1.2	-1.2	..	-9.7	-1.3
<i>BKB plants</i>	0.0 e	0.0	-0.0	0.0	-0.0	-0.0	-0.0	..	-	-
<i>Blast furnaces</i>	-2.6 e	-2.6 e	-1.7 e	-1.3	-1.1	-1.2	-1.2	..	-2.3	-1.3
<i>Coke ovens</i>	-7.4 e	-1.8 e	-0.0 e	-0.4	0.0	-0.0	-0.0	..	-26.5	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-1.0 e	-1.0 e	-1.1 e	-0.5	-0.8	-0.9	-0.9	..	0.8	-0.6
Losses	-0.1 e	-0.1 e	-0.1 e	-0.0	-0.1	-0.1	-0.1	..		
Final consumption ⁶	28.9	28.0	17.6	6.8	3.7	3.3	3.3	..	-2.9	-6.2
Industry ⁷	16.3	16.7	10.3	4.7	1.8	1.5	1.5	..	-2.7	-7.1
<i>Iron and steel</i>	3.4 e	3.9 e	5.0 e	2.0	0.9	0.8	0.7	..	2.3	-7.1
<i>Chemical</i>	1.1 e	0.9 e	0.5	1.2	0.4	0.3	0.3	..	-4.6	-1.7
<i>Non-metallic minerals</i>	0.5 e	0.7 e	0.5	0.3	0.3	0.3	0.3	..	-0.3	-2.2
<i>Paper, pulp and print</i>	1.3 e	1.1 e	0.3	0.1	0.1	0.0	0.0	..	-7.7	-7.2
<i>Other industry</i> ⁸	9.9 e	10.1 e	3.9 e	1.1	0.1	0.1	0.1	..	-5.3	-12.9
Transport ⁹	0.2	0.1	-	-	0.0	0.0	0.0	..	-	-
Other	12.4	11.2	7.3	2.1	1.4	1.2	1.2	..	-3.1	-6.6
<i>Comm. and pub. services</i>	0.4 e	0.3 e	2.1 e	0.3	0.1	0.0	0.0	..	10.3	-13.6
<i>Residential</i>	9.3 e	8.0 e	4.6	1.3	1.4	1.2	1.2	..	-4.0	-5.1
<i>Other sectors</i> ¹⁰	2.7 e	2.8 e	0.6 e	0.4	0.0	0.0	0.0	..	-8.5	-14.1
Non-energy use	-	-	-	-	0.5	0.6	0.6	..	-	-
Electricity gen. - TWh	35.1	44.6	47.6	55.0	49.7	43.8	44.6	43.9	1.8	-0.2

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.

3. Main activity electricity and heat generation includes district heating.

4. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

5. Other transformation includes Liquefaction and Non-specified transformations.

6. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

7. Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.

8. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

9. Transport includes Rail and Inland waterways.

10. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

CZECH REPUBLIC

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	103.70	91.83	61.09	52.18	46.02	45.70	46.10	-1.01	-2.62
Total electricity and heat	37.97 e	48.65	45.05	42.35	36.91	36.97	37.06	2.09	-1.04
<i>Main activity producers</i>	37.97 e	42.32	41.16	39.21	34.65	34.62	34.64	0.91	-0.77
<i>Autoproducers</i>	-	6.33	3.90	3.14	2.27	2.35	2.42	-	-3.63
Patent fuel/BKB plants	1.96	1.94	0.44	0.37	0.25	0.21	0.20	-0.10	-8.36
Coke ovens/Liquefaction ³	12.57 e	8.54 e	4.56	3.24	3.28	3.04	2.89	-3.17	-4.09
Blast furnace inputs	-	-	-	-	0.28	0.30	0.32	-	-
Gas manufacture	6.35	2.69	1.35	1.57	1.46	1.42	1.40	-6.90	-2.48
Industry	24.42	11.58	6.44	1.52	1.14	1.07	1.12	-6.03	-8.60
<i>Iron and steel</i>	1.64 e	2.61 e	1.03	0.13	0.10	0.08	0.11	3.94	-11.34
<i>Chemical</i>	2.55 e	1.24	2.56	0.79	0.57	0.54	0.55	-5.83	-3.06
<i>Non-metallic minerals</i>	0.96 e	0.95	0.45	0.24	0.20	0.18	0.18	-0.10	-6.19
<i>Paper, pulp and print</i>	2.99 e	0.82	0.25	0.18	0.11	0.10	0.10	-10.23	-7.70
<i>Other industry</i>	16.29 e	5.97 e	2.15	0.19	0.16	0.17	0.17	-8.03	-12.81
Other sectors ⁴	20.83	12.21	4.07	2.09	1.87	1.83	1.82	-4.35	-7.06
Non-energy use	-	-	-	0.00	0.00	0.00	0.00	-	-
Steam coal	9.81	10.12	5.75	4.42	3.81	4.18	4.77	0.26	-2.85
Total electricity and heat	-	4.94	3.90	3.87	3.23	3.61	3.59	-	-1.22
<i>Main activity producers</i>	-	3.75	3.79	3.65	3.14	3.55	3.54	-	-0.22
<i>Autoproducers</i>	-	1.19	0.11	0.21	0.09	0.06	0.06	-	-10.98
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	0.28	0.30	0.32	-	-
Gas manufacture	-	0.03	-	-	-	-	-	-	-
Industry	7.85	3.05	1.46	0.39	0.34	0.29	0.31	-7.58	-8.38
<i>Iron and steel</i>	1.10 e	0.85	0.79	0.10	0.09	0.06	0.10	-2.11	-8.05
<i>Chemical</i>	0.05 e	0.04	0.15	0.06	0.06	0.04	0.04	-2.32	-0.30
<i>Non-metallic minerals</i>	0.60 e	0.47	0.25	0.20	0.18	0.16	0.16	-2.01	-4.08
<i>Paper, pulp and print</i>	0.04 e	0.03	0.01	0.02	-	-	-	-2.51	-
<i>Other industry</i>	6.05 e	1.66	0.26	0.02	0.02	0.03	0.02	-10.23	-15.63
Other sectors ⁴	1.96	1.47	0.21	0.30	0.32	0.35	0.34	-2.36	-5.49
Non-energy use	-	-	-	0.00	0.00	0.00	0.00	-	-
Coking coal	12.57	9.94	4.97	3.55	3.85	3.70	3.12	-1.93	-4.36
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	12.57 e	8.54 e	4.56	3.24	3.28	3.04	2.89	-3.17	-4.09
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	1.40	0.04	-	-	-	-	-	-
<i>Iron and steel</i>	-	1.40 e	0.04	-	-	-	-	-	-
<i>Chemical</i>	-	-	0.00	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

CZECH REPUBLIC

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	81.32	71.77	50.37	44.21	38.35	37.82	38.22	-1.04	-2.39
Total electricity and heat	37.97 e	43.71	41.15	38.48	33.68	33.36	33.47	1.18	-1.02
<i>Main activity producers</i>	37.97 e	38.58	37.36	35.56	31.50	31.07	31.10	0.13	-0.82
<i>Autoproducers</i>	-	5.13	3.79	2.92	2.18	2.29	2.36	-	-2.94
Patent fuel/BKB plants	1.96	1.94	0.44	0.37	0.25	0.21	0.20	-0.10	-8.36
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	6.35	2.67	1.35	1.57	1.46	1.42	1.40	-6.97	-2.44
Industry	16.58	7.12	4.94	1.13	0.81	0.78	0.80	-6.80	-8.05
<i>Iron and steel</i>	0.54	0.35	0.21	0.03	0.02	0.02	0.02	-3.52	-10.81
<i>Chemical</i>	2.49	1.20	2.41	0.73	0.51	0.50	0.51	-5.93	-3.20
<i>Non-metallic minerals</i>	0.36	0.48	0.20	0.04	0.02	0.01	0.02	2.43	-11.47
<i>Paper, pulp and print</i>	2.95	0.79	0.23	0.16	0.11	0.10	0.10	-10.39	-7.57
<i>Other industry</i>	10.24	4.31	1.90	0.17	0.15	0.15	0.15	-6.96	-12.14
Other sectors ³	18.87	10.74	3.86	1.80	1.55	1.48	1.48	-4.59	-7.34
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	0.60	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.60	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.60	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

CZECH REPUBLIC

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	14.81	13.78	7.92	6.92	5.87	3.28	2.82	-0.60	-5.38
Steam coal	6.57	4.98	5.54	5.09	4.85	3.31	2.54	-2.28	-1.56
Lignite	37.25	33.12	22.32	21.66	19.03	16.44	16.77	-0.98	-2.66
Peat	0.17	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	18.55	14.38	8.14	7.14	6.02	3.38	2.91	-2.10	-5.41
Steam coal	10.60	8.03	6.72	6.12	5.57	3.63	2.79	-2.28	-3.01
Lignite	88.84	78.98	50.31	48.77	43.77	38.53	39.31	-0.98	-2.72
Peat	0.60	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	0.52	2.25	1.48	1.91	3.36	4.21	4.05	4.24	4.08
Bituminous coal ³	0.25	2.09	0.68	0.66	1.10	1.23	1.21	1.51	1.25
Coking coal	-	-	0.22	0.42	0.92	1.72	1.58	1.66	2.06
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	0.00	0.00	0.06	0.53	0.38	0.07	0.08
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.27	0.15	0.59	0.83	1.28	0.73	0.88	1.00	0.69
Total exports	12.32	10.38	8.26	6.60	7.45	5.20	4.43	4.49	3.55
Bituminous coal ³	0.37	0.47	2.51	2.06	2.50	1.82	1.54	1.42	0.94
Coking coal	5.56	4.22	3.42	2.99	3.43	2.34	1.86	2.02	1.42
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	3.31	4.03	1.29	0.54	0.60	0.54	0.53	0.52	0.58
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	3.09	1.66	1.03	1.02	0.93	0.50	0.50	0.53	0.61

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

CZECH REPUBLIC

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	274 e	2282	1095	1264	2355	4835	4176	3703	3809
Coking coal	-	-	217	492	907	1781	1579	1661	2060
Australia	-	-	-	-	10	-	17	-	-
Canada	-	-	-	-	-	-	-	2	203
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	217	492	803	1591	1440	1582	1676
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	94	190	120	77	148
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	2	-	33
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Steam coal	274 e	2282	877	771	1319	1647	1566	1904	1577
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	2	2	5	1	1	16
Poland	274 e	2282	869	733	919	1540	1467	1791	1445
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	-	-	-	1	8	1	-	-	7
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	6	32	384	71	86	107	106
<i>Other FSU</i>	x	x	2	3	6	30	12	5	3
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Lignite	-	-	1	1	129	1407	1031	138	172

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

CZECH REPUBLIC

6. Coking coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	5934 e	4504	3427	3210	3499	2386	1895	2088	1466
Total OECD	5934 e	4504 e	3427	3103	3388	2367	1880	2078	1407
Australia	-	-	-	-	-	-	-	-	-
Austria	600 e	785 e	1244	994	945	799	543	561	410
Belgium	59 e	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Chile	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	-	-	-	-	-	-	-	-
France	-	-	-	-	-	-	-	-	-
Germany	-	28 e	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-
Hungary	-	-	744	230	383	253	226	368	162
Iceland	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	-	-
Italy	-	-	-	-	-	-	-	-	-
Japan	-	-	-	-	-	-	-	-	-
Korea	-	-	-	-	-	-	-	-	-
Latvia	x	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	69 e	10 e	-	-	-	-	-	-	-
New Zealand	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-
Poland	-	-	538	592	727	689	512	319	259
Portugal	-	-	-	-	-	-	-	-	-
Slovak Republic	5126 e	3681 e	901	1287	1333	626	599	830	576
Slovenia	x	-	-	-	-	-	-	-	-
Spain	-	-	-	-	-	-	-	-	-
Sweden	80 e	-	-	-	-	-	-	-	-
Switzerland	-	-	-	-	-	-	-	-	-
Turkey	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Total non-OECD	-	-	-	107	111	19	15	10	59
Brazil	-	-	-	-	-	-	-	-	-
China ³	-	-	-	-	-	-	-	-	-
Chinese Taipei	-	-	-	-	-	-	-	-	-
Egypt	-	-	-	-	-	-	-	-	-
India	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-
Oth. Africa & Mid. East	-	-	-	-	-	-	-	-	-
Oth. non-OECD Americas	-	-	-	-	-	-	-	-	-
Other Asia & Oceania	-	-	-	-	-	-	-	-	-
Other non-OECD Europe and Eurasia	-	-	-	107	111	19	15	10	59
Non-specified/Other	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

CZECH REPUBLIC

7. Steam coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	394	498	2459	2051	2773	1978	1670	1428	948
Total OECD	394 e	498	2442	2042	2772	1978	1667	1311	881
Australia	-	-	-	-	-	-	-	-	-
Austria	-	-	331	981	1000	505	312	296	219
Belgium	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Chile	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	6 e	40	-	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	-	-	-	-	-	-	-	-
France	-	-	-	-	-	-	-	-	-
Germany	100 e	220	1033	526	27	402	529	376	162
Greece	1 e	-	-	-	-	-	-	-	-
Hungary	-	-	43	21	103	4	21	45	6
Iceland	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	-	-
Italy	-	-	-	-	-	-	-	-	-
Japan	-	-	-	-	-	-	-	-	-
Korea	-	-	-	-	-	-	-	-	-
Latvia	x	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	36 e	-	-	-	-	-	-	-	-
New Zealand	-	-	-	-	-	-	-	-	-
Norway	-	32	-	-	-	-	-	-	-
Poland	-	-	102	45	1257	807	561	226	197
Portugal	-	-	-	-	-	-	-	-	-
Slovak Republic	237 e	198	931	469	315	258	242	365	294
Slovenia	x	-	-	-	1	2	2	2	2
Spain	-	-	-	-	-	-	-	-	-
Sweden	6 e	6	2	-	69	-	-	1	1
Switzerland	8 e	-	-	-	-	-	-	-	-
Turkey	-	-	-	-	-	-	-	-	-
United Kingdom	-	2	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Total non-OECD	-	-	17	9	1	-	3	117	67
Brazil	-	-	-	-	-	-	-	-	-
China ³	-	-	-	-	-	-	-	-	-
Chinese Taipei	-	-	-	-	-	-	-	-	-
Egypt	-	-	-	-	-	-	-	-	-
India	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	8	-
Oth. Africa & Mid. East	-	-	-	-	-	-	-	-	-
Oth. non-OECD Americas	-	-	-	-	-	-	-	-	-
Other Asia & Oceania	-	-	-	-	-	-	-	-	-
Other non-OECD Europe and Eurasia	-	-	17	9	1	-	3	109	67
Non-specified/Other	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I. Steam coal includes all sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

DENMARK¹

Figure 1: Coal supply indicators (1971 = 100)

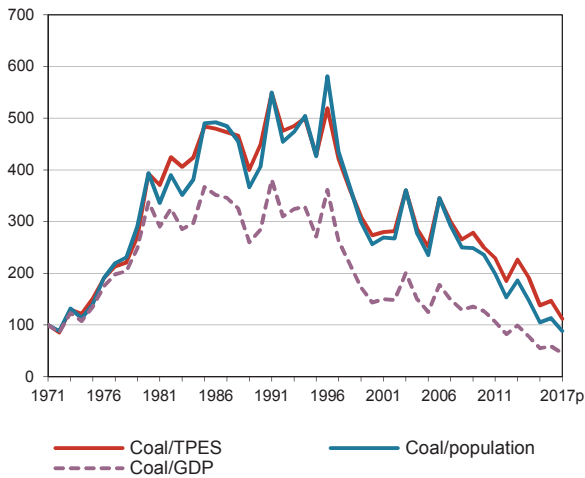


Figure 2: TPES by fuel (Mtce)

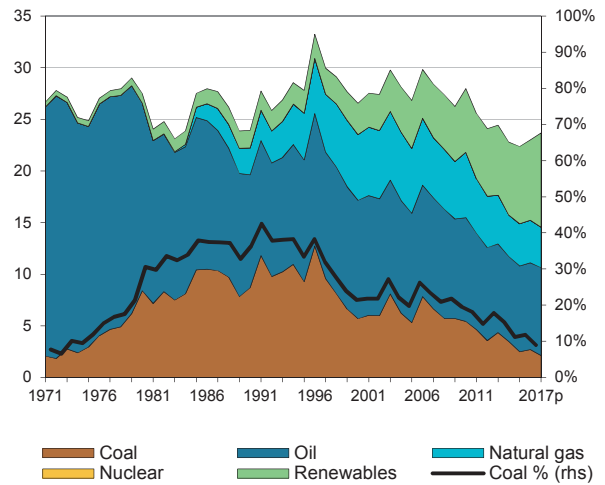


Figure 3: Primary coal supply (Mtce)

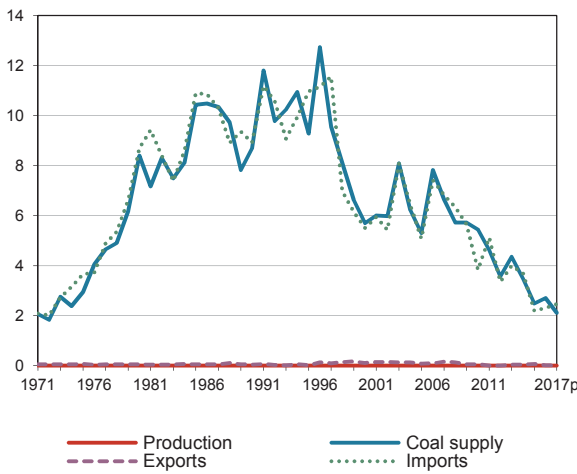


Figure 4: Coal consumption (Mtce)

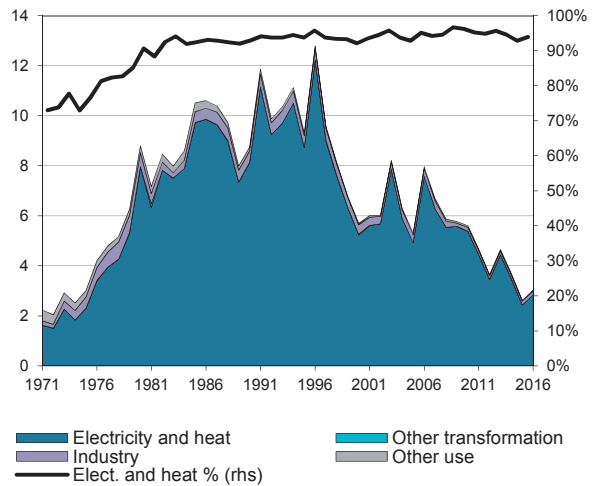


Figure 5: Electricity generation by fuel (TWh)

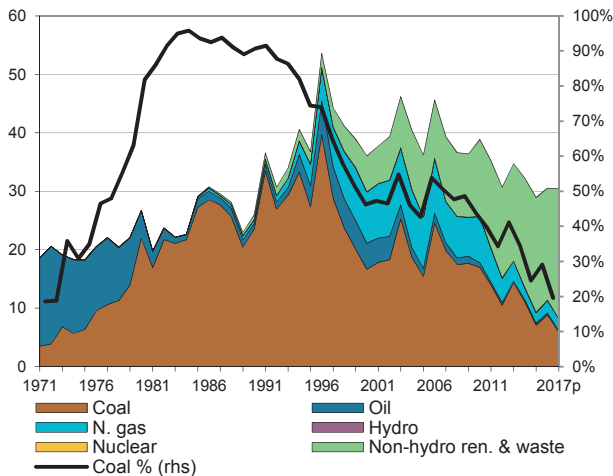
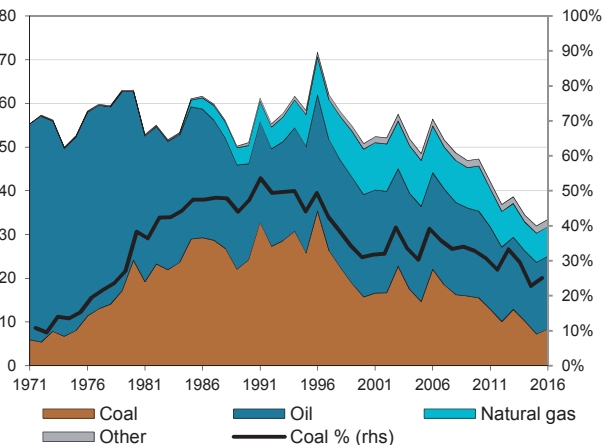


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

DENMARK

1. Coal balance¹
(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	-	-	-	-	-	-	-	-	-	-
Imports	2.7	8.7	8.9	5.5	3.8	2.2	2.3	2.5	7.2	-5.1
Exports	-0.1	-0.1	-0.0	-0.1	-0.1	-0.1	-0.0	-	-1.0	-
Stock changes	0.1	-0.3	-0.2	0.3	1.7	0.4	0.4	-0.3		
Primary supply	2.8	8.4	8.7	5.7	5.4	2.5	2.7	2.1	7.0	-4.4
Statistical differences	0.0	0.2	-0.0	-0.0	0.1	0.1	0.3	..		
Total transformation	-2.1	-7.8	-8.1	-5.2	-5.4	-2.4	-2.8	..	8.2	-4.0
Electricity and heat gen.	-2.3	-8.0	-8.1	-5.2	-5.4	-2.4	-2.8	..	7.8	-4.0
<i>Main activity producers</i> ³	-2.3	-7.9	-8.1	-5.2	-5.4	-2.4	-2.8	..	7.7	-3.9
<i>Autoproducers</i>	-	-0.1	-0.1	-0.0	-0.0	-0.0	-	..	-	-
Gas works	0.2	0.2	0.1	0.0	0.0	0.0	0.0	..	-6.4	-3.0
Coal transformation ⁴	-	-	-	-	-	-	-	..	-	-
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-	-	-	-	-	-	-	..	-	-
<i>Coke ovens</i>	-	-	-	-	-	-	-	..	-	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-0.0	-0.0	-	-	-	-	-	..	-	-
Losses	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	..		
Final consumption ⁶	0.7	0.8	0.6	0.4	0.2	0.2	0.2	..	-0.3	-4.5
Industry ⁷	0.3	0.6	0.5	0.4	0.2	0.2	0.1	..	2.1	-4.3
<i>Iron and steel</i>	0.0	0.0	0.0	0.0	-	-	-	..	-	-
<i>Chemical</i>	0.0	0.0	0.0	0.0	-	0.0	0.0	..	-	-
<i>Non-metallic minerals</i>	0.1	0.4	0.2	0.2	0.1	0.1	0.1	..	2.4	-3.6
<i>Paper, pulp and print</i>	0.0	0.1	0.0	0.0	-	-	-	..	-	-
<i>Other industry</i> ⁸	0.2	0.1	0.2	0.1	0.1	0.0	0.0	..	1.3	-5.6
Transport ⁹	0.0	-	-	-	-	-	-	..	-	-
Other	0.3	0.3	0.2	0.1	0.1	0.0	0.0	..	-4.2	-5.5
<i>Comm. and pub. services</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	..	-	-
<i>Residential</i>	0.3	0.2	0.1	0.0	0.0	0.0	0.0	..	-8.5	-5.5
<i>Other sectors</i> ¹⁰	-	0.0	0.1	0.0	0.0	0.0	0.0	..	-	-5.4
Non-energy use	-	-	-	-	-	-	-	..	-	-
Electricity gen. - TWh	6.8	21.9	23.6	16.7	17.0	7.1	8.9	5.9	7.5	-3.7

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

DENMARK

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	5.65	9.99	6.64	6.50	4.27	3.14	3.39	4.86	-4.08
Total electricity and heat	4.99	9.40	6.19	6.46	4.14	2.97	3.43	5.43	-3.80
<i>Main activity producers</i>	4.93	9.34	6.18	6.46	4.14	2.97	3.43	5.47	-3.78
<i>Autoproducers</i>	0.06	0.06	0.02	0.01	0.00	0.00	-	0.41	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	0.09	-	-	-	-	-	-	-	-
Industry	0.69	0.47	0.38	0.15	0.15	0.15	0.16	-3.20	-4.06
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	0.00	0.02	-	0.02	0.02	0.02	-	7.77
<i>Non-metallic minerals</i>	0.55	0.20	0.23	0.08	0.08	0.08	0.09	-8.07	-3.13
<i>Paper, pulp and print</i>	0.06	0.05	-	-	-	-	-	-1.35	-
<i>Other industry</i>	0.09	0.22	0.13	0.07	0.05	0.05	0.05	7.81	-5.35
Other sectors ⁴	0.01	0.12	0.04	0.05	0.04	0.03	0.02	20.35	-6.00
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	5.65	9.99	6.64	6.50	4.27	3.14	3.39	4.86	-4.08
Total electricity and heat	4.99	9.40	6.19	6.46	4.14	2.97	3.43	5.43	-3.80
<i>Main activity producers</i>	4.93	9.34	6.18	6.46	4.14	2.97	3.43	5.47	-3.78
<i>Autoproducers</i>	0.06	0.06	0.02	0.01	0.00	0.00	-	0.41	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	0.09	-	-	-	-	-	-	-	-
Industry	0.69	0.47	0.38	0.15	0.15	0.15	0.16	-3.20	-4.06
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	0.00	0.02	-	0.02	0.02	0.02	-	7.77
<i>Non-metallic minerals</i>	0.55	0.20	0.23	0.08	0.08	0.08	0.09	-8.07	-3.13
<i>Paper, pulp and print</i>	0.06	0.05	-	-	-	-	-	-1.35	-
<i>Other industry</i>	0.09	0.22	0.13	0.07	0.05	0.05	0.05	7.81	-5.35
Other sectors ⁴	0.01	0.12	0.04	0.05	0.04	0.03	0.02	20.35	-6.00
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

DENMARK

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹
(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	5.36	8.93	5.51	5.09	3.83	3.69	2.19	2.31	2.46
Bituminous coal ³	5.24	8.88	5.46	5.05	3.81	3.67	2.18	2.30	2.45
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.12	0.05	0.05	0.04	0.02	0.02	0.01	0.01	0.01
Total exports	0.06	0.05	0.10	0.08	0.06	0.04	0.07	0.02	-
Bituminous coal ³	-	0.05	0.10	0.08	0.06	0.04	0.07	0.02	-
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.06	-	0.00	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

DENMARK

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	6110	10255	6416	6031	4570	4533	2758	2886	3075
Coking coal	-	-	-	-	-	-	-	-	-
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Steam coal	6110	10255	6416	6031	4570	4533	2758	2886	3075
Australia	177	1127	143	129	-	-	-	-	-
Canada	307	646	-	-	-	-	-	-	-
Czech Republic	6	39	-	-	37	-	-	-	-
Germany	941	52	-	-	-	1	7	14	13
Poland	3078	972	2311	830	459	363	150	132	6
United Kingdom	145	592	3	-	-	-	-	-	4
United States	2	3223	-	66	375	2	41	114	169
Other OECD	8	8	177	369	255	90	147	170	11
China, People's Rep.	-	57	-	-	-	-	-	-	-
Colombia	-	2057	812	1254	1338	1833	575	411	483
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	868	-	1672	1852	735	309	407	187	610
Former Soviet Union ⁴	528	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	1295	1531	1371	1690	1431	1858	1779
<i>Other FSU</i>	x	x	-	-	-	230	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	3	-	-	-	-	-	-
Non-specified/other	50	1482	-	-	-	15	-	-	-
Lignite	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

ESTONIA¹

Figure 1: Coal supply indicators (1971 = 100)

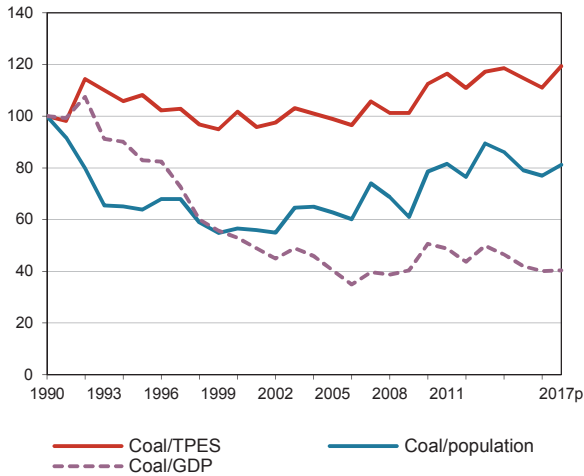


Figure 2: TPES by fuel (Mtce)

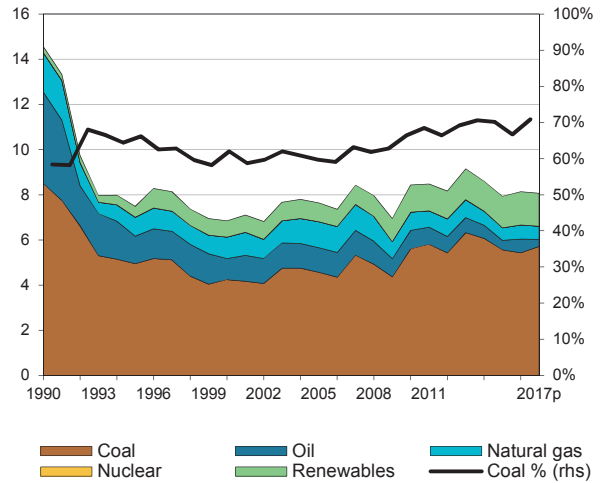


Figure 3: Primary coal supply (Mtce)

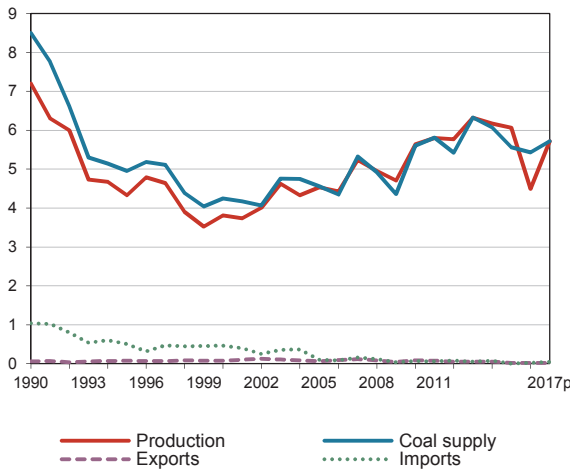


Figure 4: Coal consumption (Mtce)

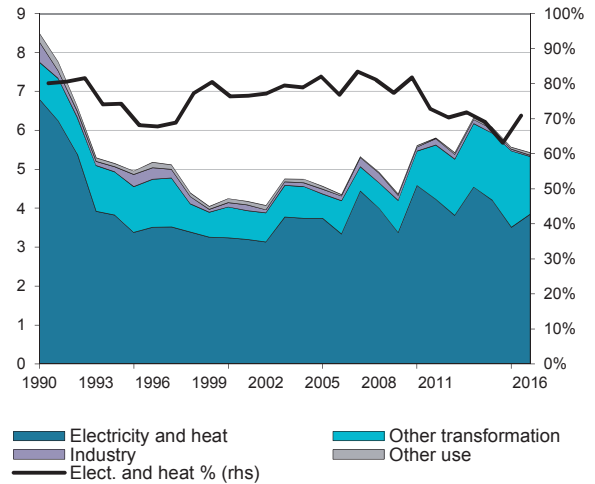


Figure 5: Electricity generation by fuel (TWh)

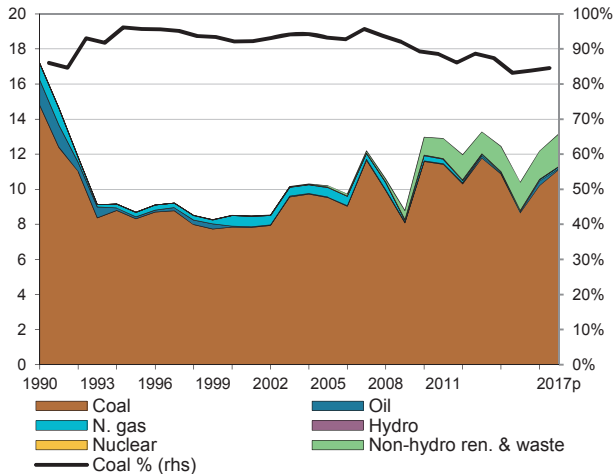
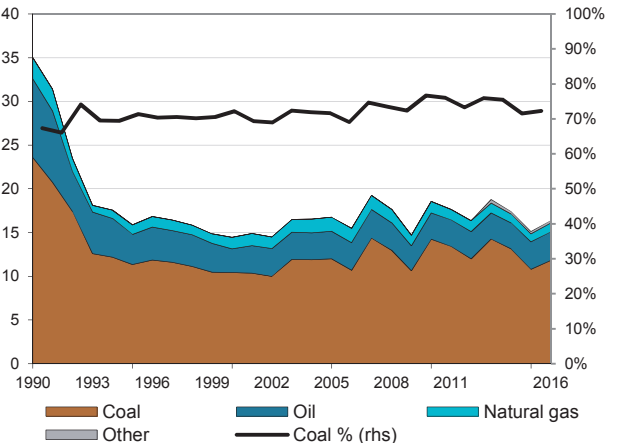


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

ESTONIA

1. Coal balance¹
(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	x	x	7.2	3.8	5.6	6.1	4.5	5.7	-	-1.8
Imports	x	x	1.0	0.5	0.1	0.0	0.0	0.0	-	-13.9
Exports	x	x	-0.1	-0.1	-0.1	-0.0	-0.0	-0.0	-	-4.3
Stock changes	x	x	0.3	0.0	-0.0	-0.5	0.9	-0.0		
Primary supply	x	x	8.5	4.2	5.6	5.6	5.4	5.7	-	-1.7
Statistical differences	x	x	-0.4	-0.1	0.4	0.0	0.3	..		
Total transformation	x	x	-7.2	-3.9	-5.9	-5.5	-5.6	..	-	-1.0
Electricity and heat gen.	x	x	-6.8	-3.2	-4.6	-3.5	-3.8	..	-	-2.2
<i>Main activity producers</i> ³	x	x	-6.8	-3.2	-4.6	-3.5	-3.8	..	-	-2.2
<i>Autoproducers</i>	x	x	-	-0.0	-0.0	-0.0	-0.0	..	-	-
Gas works	x	x	-0.1	-0.1	-0.2	-0.1	-0.1	..	-	0.2
Coal transformation ⁴	x	x	-0.0	-0.0	-0.0	-0.0	-0.0	..	-	-
<i>BKB plants</i>	x	x	-0.0	-0.0	-0.0	-0.0	-	..	-	-
<i>Blast furnaces</i>	x	x	-	-	-	-	-	..	-	-
<i>Coke ovens</i>	x	x	-0.0	-0.0	-0.0	-0.0	-0.0	..	-	-
<i>Patent fuel plants</i>	x	x	-	-	-	-	-	..	-	-
Other transformation ⁵	x	x	-0.3	-0.5	-1.1	-1.8	-1.6	..	-	7.4
Energy ind. own use	x	x	-0.1	-0.0	-0.0	-0.0	-0.0	..	-	-8.6
Losses	x	x	-0.0	-0.0	-	-	-	..		
Final consumption ⁶	x	x	0.7	0.2	0.1	0.1	0.1	..	-	-7.3
Industry ⁷	x	x	0.5	0.1	0.1	0.0	0.0	..	-	-10.1
<i>Iron and steel</i>	x	x	-	-	-	-	-	..	-	-
<i>Chemical</i>	x	x	0.0	0.0	-	-	-	..	-	-
<i>Non-metallic minerals</i>	x	x	0.0	0.1	0.1	0.0	0.0	..	-	-
<i>Paper, pulp and print</i>	x	x	-	0.0	-	-	-	..	-	-
<i>Other industry</i> ⁸	x	x	0.5	0.0	0.0	-	-	..	-	-
Transport ⁹	x	x	0.0	-	-	-	-	..	-	-
Other	x	x	0.2	0.1	0.0	0.0	0.0	..	-	-11.5
<i>Comm. and pub. services</i>	x	x	0.0	0.0	0.0	0.0	0.0	..	-	-
<i>Residential</i>	x	x	0.1	0.0	0.0	0.0	0.0	..	-	-13.2
<i>Other sectors</i> ¹⁰	x	x	0.1	0.0	-	-	0.0	..	-	-11.4
Non-energy use	x	x	-	0.0	0.0	0.0	0.1	..	-	-
Electricity gen. - TWh	x	x	14.8	7.8	11.6	8.6	10.2	11.1	-	-1.4

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD World Energy Balances

ESTONIA

2a. Use of coal for selected end-uses¹
(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	x	0.38	0.09	0.06	0.08	0.03	0.03	-	-9.69
Total electricity and heat	x	0.17	0.01	0.00	0.00	0.00	-	-	-
<i>Main activity producers</i>	x	0.17	0.00	0.00	0.00	-	-	-	-
<i>Autoproducers</i>	x	-	0.01	0.00	-	0.00	-	-	-
Patent fuel/BKB plants	x	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	x	-	-	-	-	-	-	-	-
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	-	-	-	-	-	-	-	-
Industry	x	0.09	0.04	0.05	0.07	0.02	0.02	-	-5.46
<i>Iron and steel</i>	x	-	-	-	-	-	-	-	-
<i>Chemical</i>	x	0.00	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	x	-	0.04	0.05	0.06	0.02	0.02	-	-
<i>Paper, pulp and print</i>	x	-	-	-	-	-	-	-	-
<i>Other industry</i>	x	0.08	0.00	0.00	0.00	-	-	-	-
Other sectors ⁴	x	0.12	0.04	0.01	0.01	0.00	0.01	-	-10.30
Non-energy use	x	-	-	-	-	-	-	-	-
Steam coal	x	0.38	0.09	0.06	0.08	0.03	0.03	-	-9.69
Total electricity and heat	x	0.17	0.01	0.00	0.00	0.00	-	-	-
<i>Main activity producers</i>	x	0.17	0.00	0.00	0.00	-	-	-	-
<i>Autoproducers</i>	x	-	0.01	0.00	-	0.00	-	-	-
Patent fuel/BKB plants	x	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	x	-	-	-	-	-	-	-	-
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	-	-	-	-	-	-	-	-
Industry	x	0.09	0.04	0.05	0.07	0.02	0.02	-	-5.46
<i>Iron and steel</i>	x	-	-	-	-	-	-	-	-
<i>Chemical</i>	x	0.00	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	x	-	0.04	0.05	0.06	0.02	0.02	-	-
<i>Paper, pulp and print</i>	x	-	-	-	-	-	-	-	-
<i>Other industry</i>	x	0.08	0.00	0.00	0.00	-	-	-	-
Other sectors ⁴	x	0.12	0.04	0.01	0.01	0.00	0.01	-	-10.30
Non-energy use	x	-	-	-	-	-	-	-	-
Coking coal	x	-	-	-	-	-	-	-	-
Total electricity and heat	x	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	x	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	x	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	x	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	x	-	-	-	-	-	-	-	-
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	-	-	-	-	-	-	-	-
Industry	x	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	x	-	-	-	-	-	-	-	-
<i>Chemical</i>	x	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	x	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	x	-	-	-	-	-	-	-	-
<i>Other industry</i>	x	-	-	-	-	-	-	-	-
Other sectors ⁴	x	-	-	-	-	-	-	-	-
Non-energy use	x	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

ESTONIA

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	x	-	-	-	-	-	-	-	-
Total electricity and heat	x	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	x	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	x	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	x	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	x	-	-	-	-	-	-	-	-
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	-	-	-	-	-	-	-	-
Industry	x	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	x	-	-	-	-	-	-	-	-
<i>Chemical</i>	x	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	x	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	x	-	-	-	-	-	-	-	-
<i>Other industry</i>	x	-	-	-	-	-	-	-	-
Other sectors ³	x	-	-	-	-	-	-	-	-
Non-energy use	x	-	-	-	-	-	-	-	-
Peat	x	0.87	0.33	0.35	0.23	0.13	0.13	-	-7.17
Total electricity and heat	x	0.33	0.09	0.21	0.12	0.12	0.10	-	-4.41
<i>Main activity producers</i>	x	0.33	0.06	0.19	0.10	0.10	0.09	-	-5.07
<i>Autoproducers</i>	x	-	0.04	0.01	0.02	0.02	0.02	-	-
Patent fuel/BKB plants	x	0.39	0.20	0.15	0.10	0.01	-	-	-
Coke ovens/Liquefaction ²	x	-	-	-	-	-	-	-	-
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	-	-	-	-	-	-	-	-
Industry	x	0.01	0.01	-	-	-	-	-	-
<i>Iron and steel</i>	x	-	-	-	-	-	-	-	-
<i>Chemical</i>	x	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	x	0.01	0.00	-	-	-	-	-	-
<i>Paper, pulp and print</i>	x	-	0.00	-	-	-	-	-	-
<i>Other industry</i>	x	-	0.00	-	-	-	-	-	-
Other sectors ³	x	-	0.00	-	-	-	0.00	-	-
Non-energy use	x	-	-	-	-	-	-	-	-
Oil shale and oil sands	x	25.95	13.23	17.89	20.63	17.90	18.84	-	-1.22
Total electricity and heat	x	22.57	10.84	13.55	15.23	12.08	13.49	-	-1.96
<i>Main activity producers</i>	x	22.57	10.82	13.53	15.23	12.00	13.44	-	-1.97
<i>Autoproducers</i>	x	-	0.02	0.02	-	0.08	0.05	-	-
Patent fuel/BKB plants	x	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	x	0.88	1.39	3.09	4.08	4.90	4.41	-	6.41
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	0.65	0.61	1.03	1.04	0.75	0.66	-	0.08
Industry	x	1.39	0.22	0.16	0.16	0.07	0.05	-	-12.14
<i>Iron and steel</i>	x	-	-	-	-	-	-	-	-
<i>Chemical</i>	x	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	x	-	0.22	0.16	0.16	0.07	0.05	-	-
<i>Paper, pulp and print</i>	x	-	-	-	-	-	-	-	-
<i>Other industry</i>	x	1.39	0.00	-	-	-	-	-	-
Other sectors ³	x	-	0.00	-	-	-	-	-	-
Non-energy use	x	-	0.15	0.06	0.10	0.14	0.21	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

ESTONIA

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	x	-	-	-	-	-	-	-	-
Steam coal	x	-	-	-	-	-	-	-	-
Lignite	x	-	-	-	-	-	-	-	-
Peat	x	0.29	0.12	0.12	0.13	0.01	0.02	-	-14.41
Oil shale and oil sands	x	6.91	3.70	4.42	5.51	4.49	5.70	-	-1.64
Mt:									
Coking coal	x	-	-	-	-	-	-	-	-
Steam coal	x	-	-	-	-	-	-	-	-
Lignite	x	-	-	-	-	-	-	-	-
Peat	x	0.90	0.35	0.38	0.36	0.01	0.05	-	-14.80
Oil shale and oil sands	x	22.49	11.73	14.59	17.93	15.76	20.01	-	-1.36

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	x	0.34	0.09	0.05	0.07	0.08	0.01	0.02	0.04
Bituminous coal ³	x	0.32	0.09	0.05	0.07	0.08	0.01	0.02	0.04
Coking coal	x	-	-	-	-	-	-	-	-
Sub-bituminous coal	x	-	-	-	-	-	-	-	-
Lignite	x	-	-	-	-	-	-	-	-
Peat	x	-	-	-	-	-	-	-	-
Coal products ⁴	x	0.01	0.00	-	-	-	-	-	-
Total exports	x	0.03	0.04	0.04	0.05	0.03	0.02	0.02	0.02
Bituminous coal ³	x	-	-	-	-	-	-	-	-
Coking coal	x	-	-	-	-	-	-	-	-
Sub-bituminous coal	x	-	-	-	-	-	-	-	-
Lignite	x	-	-	-	-	-	-	-	-
Peat	x	-	0.02	0.00	0.03	-	0.01	0.01	-
Coal products ⁴	x	0.03	0.02	0.04	0.02	0.03	0.01	0.01	0.02

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

ESTONIA

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	x	373	101	54	71	82	7	23	45
Coking coal	x	-	-	-	-	-	-	-	-
Australia	x	-	-	-	-	-	-	-	-
Canada	x	-	-	-	-	-	-	-	-
Czech Republic	x	-	-	-	-	-	-	-	-
Germany	x	-	-	-	-	-	-	-	-
Poland	x	-	-	-	-	-	-	-	-
United Kingdom	x	-	-	-	-	-	-	-	-
United States	x	-	-	-	-	-	-	-	-
Other OECD	x	-	-	-	-	-	-	-	-
China, People's Rep.	x	-	-	-	-	-	-	-	-
Colombia	x	-	-	-	-	-	-	-	-
Indonesia	x	-	-	-	-	-	-	-	-
South Africa	x	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	x	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	x	-	-	-	-	-	-	-	-
Viet Nam	x	-	-	-	-	-	-	-	-
Non-specified/other	x	-	-	-	-	-	-	-	-
Steam coal	x	373	101	54	71	82	7	23	45
Australia	x	-	-	-	-	-	-	-	-
Canada	x	-	-	-	-	-	-	-	-
Czech Republic	x	-	-	-	-	-	-	-	-
Germany	x	-	-	-	-	-	-	-	-
Poland	x	-	3	-	-	-	-	-	-
United Kingdom	x	-	-	-	-	-	-	-	-
United States	x	-	-	-	-	-	-	-	-
Other OECD	x	-	-	-	-	-	-	-	-
China, People's Rep.	x	-	-	-	-	-	-	-	-
Colombia	x	-	-	-	-	-	-	-	-
Indonesia	x	-	-	-	-	-	-	-	-
South Africa	x	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	x	373	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	98	54	71	75	7	23	45
<i>Other FSU</i>	x	x	-	-	-	7	-	-	-
Venezuela	x	-	-	-	-	-	-	-	-
Viet Nam	x	-	-	-	-	-	-	-	-
Non-specified/other	x	-	-	-	-	-	-	-	-
Lignite	x	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

FINLAND¹

Figure 1: Coal supply indicators (1971 = 100)

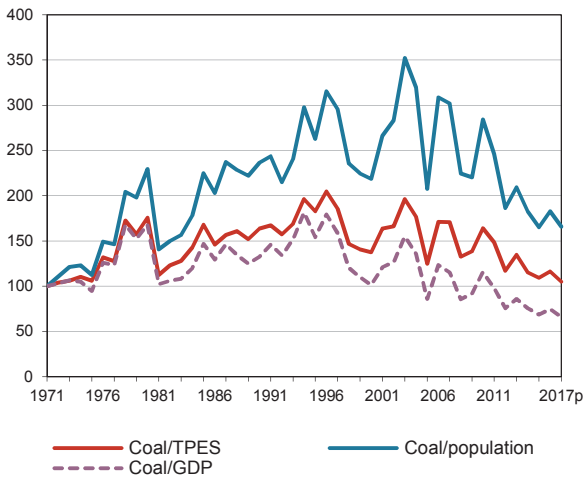


Figure 2: TPES by fuel (Mtce)

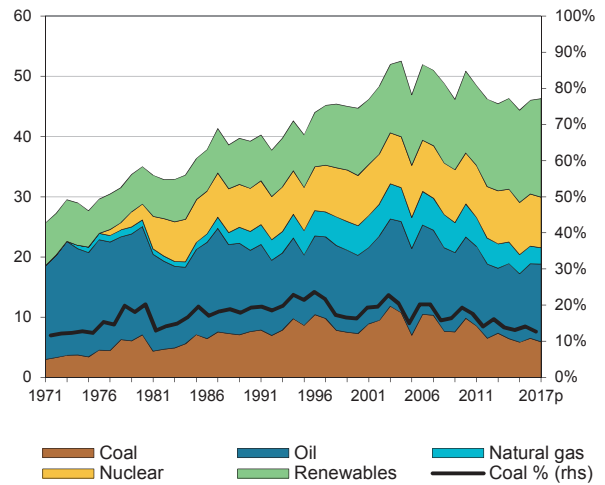


Figure 3: Primary coal supply (Mtce)

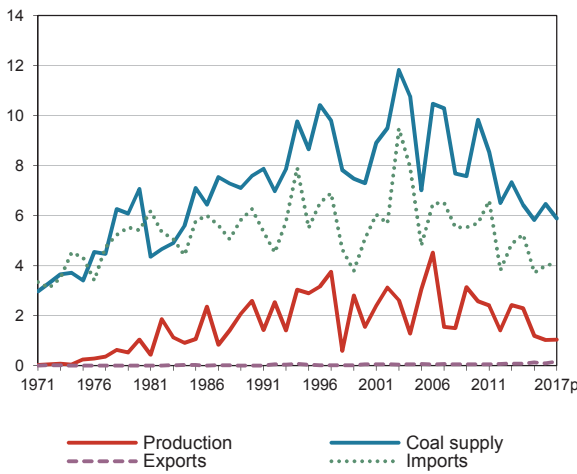


Figure 4: Coal consumption (Mtce)

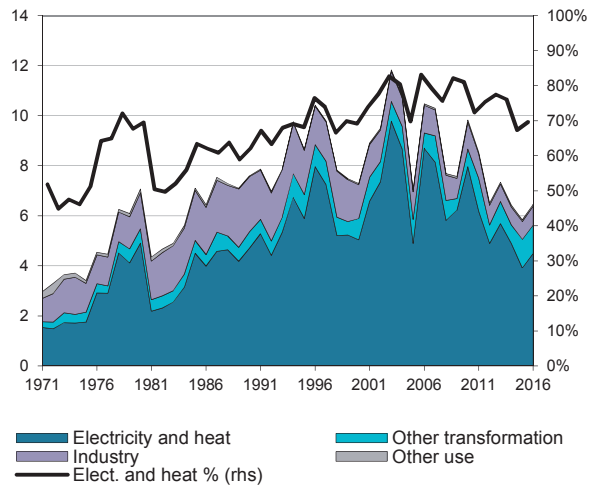


Figure 5: Electricity generation by fuel (TWh)

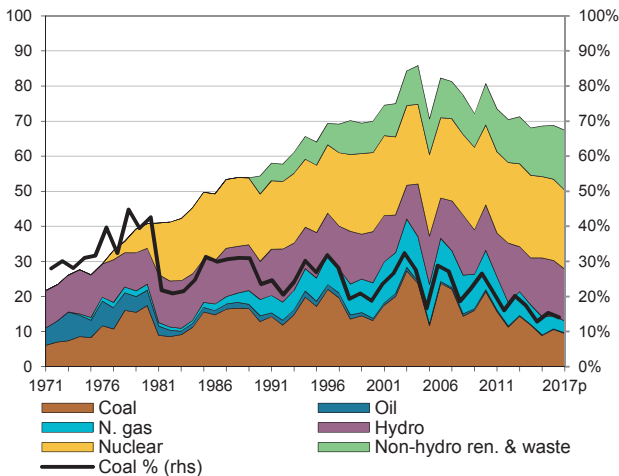
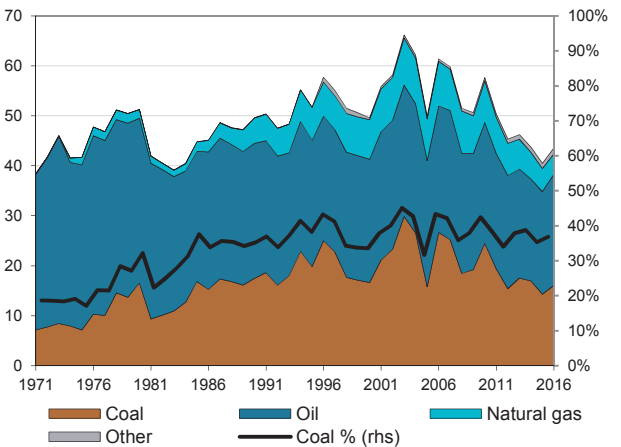


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

FINLAND

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017 ^{p2}	Average annual percent change	
									73-90	90-16
Production	0.1	1.0	2.6	1.6	2.6	1.2	1.0	1.0	22.6	-3.5
Imports	3.5	5.4	6.3	5.1	5.7	3.7	4.0	4.1	3.5	-1.7
Exports	-0.0	-0.0	-0.0	-0.1	-0.1	-0.1	-0.1	-0.2	-	19.5
Stock changes	0.1	0.6	-1.3	0.7	1.6	1.0	1.5	0.9		
Primary supply	3.6	7.1	7.6	7.3	9.8	5.8	6.5	5.9	4.4	-0.6
Statistical differences	-0.0	-0.2	-0.1	0.0	0.0	-0.2	-0.1	..		
Total transformation	-2.1 e	-5.3 e	-5.3 e	-5.6 e	-8.5 e	-4.5 e	-5.2 e	..	5.5	-0.0
Electricity and heat gen.	-1.7	-4.9	-4.7	-5.0	-8.0	-3.9	-4.5	..	6.1	-0.2
<i>Main activity producers</i> ³	-1.7	-4.5	-4.4	-4.6	-7.5	-3.8	-4.4	..	5.7	-0.0
<i>Autoproducers</i>	-	-0.5	-0.3	-0.4	-0.4	-0.1	-0.1	..	-	-3.5
Gas works	0.0	0.0	0.0	-	-	-	-	..	-	-
Coal transformation ⁴	-0.4 e	-0.4 e	-0.5 e	-0.5 e	-0.5 e	-0.5 e	-0.6 e	..	2.2	0.4
<i>BKB plants</i>	-	-	-	-	-0.0	-	-	..	-	-
<i>Blast furnaces</i>	-0.4 e	-0.4 e	-0.5 e	-0.5 e	-0.4 e	-0.4 e	-0.6 e	..	2.0	0.4
<i>Coke ovens</i>	-	-	-0.0	-0.1	-0.1	-0.0	-0.0	..	-	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-0.1	-0.0	-0.1	-0.1	..	-	-
Energy ind. own use	-0.0	-	-	-0.3	-0.2	-0.3	-0.3	..	-	-
Losses	-0.0	-0.0	-0.0	-0.0	-0.1	-0.1	-0.0	..		
Final consumption ⁶	1.5	1.6	2.2	1.4	1.2	0.8	0.8	..	2.3	-3.7
Industry ⁷	1.3	1.4	2.2	1.4	1.1	0.7	0.8	..	2.9	-4.0
<i>Iron and steel</i>	0.4 e	0.5 e	0.8 e	0.6 e	0.5 e	0.3 e	0.3 e	..	4.3	-3.2
<i>Chemical</i>	0.0	0.0	0.1	0.1	-	-	-	..	17.2	-
<i>Non-metallic minerals</i>	-	0.5	0.7	0.2	0.1	0.1	0.1	..	-	-7.0
<i>Paper, pulp and print</i>	0.0	0.3	0.5	0.4	0.3	0.3	0.3	..	20.2	-2.4
<i>Other industry</i> ⁸	0.9	0.2	0.1	0.0	0.1	0.0	0.0	..	-15.0	-2.5
Transport ⁹	0.0	-	-	-	-	-	-	..	-	-
Other	0.2	0.2	0.0	0.0	0.1	0.1	0.1	..	-8.6	3.1
<i>Comm. and pub. services</i>	-	-	-	0.0	0.0	0.0	0.0	..	-	-
<i>Residential</i>	0.2	0.2	0.0	0.0	0.0	0.0	0.0	..	-8.6	-
<i>Other sectors</i> ¹⁰	-	-	-	0.0	0.1	0.1	0.1	..	-	-
Non-energy use	-	-	-	-	-	-	-	..	-	-
Electricity gen. - TWh	7.3	17.4	12.8	13.1	21.4	8.8	10.5	9.4	3.3	-0.8

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.

3. Main activity electricity and heat generation includes district heating.

4. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

5. Other transformation includes Liquefaction and Non-specified transformations.

6. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

7. Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.

8. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

9. Transport includes Rail and Inland waterways.

10. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

FINLAND

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	5.31	5.65	5.19	6.98	4.59	4.05	4.90	0.52	-0.55
Total electricity and heat	4.57	3.88	3.55	5.59	3.41	2.39	3.10	-1.34	-0.86
<i>Main activity producers</i>	4.52	3.77	3.51	5.54	3.40	2.37	3.06	-1.49	-0.80
<i>Autoproducers</i>	0.05	0.11	0.04	0.05	0.01	0.02	0.05	7.24	-3.41
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	0.71	1.28	1.20	1.24	1.22	1.22	-	2.10
Blast furnace inputs	-	-	-	-	-	0.05 e	0.27 e	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.67	1.04	0.35	0.17	0.11	0.13	0.21	3.82	-6.05
<i>Iron and steel</i>	0.09	0.08	-	-	-	0.01 e	0.04 e	-0.61	-2.68
<i>Chemical</i>	0.01	0.08	0.08	-	-	-	-	16.10	-
<i>Non-metallic minerals</i>	0.41	0.76	0.18	0.13	0.07	0.05	0.06	5.22	-9.20
<i>Paper, pulp and print</i>	-	0.09	0.09	0.02	0.01	0.05	0.08	-	-0.43
<i>Other industry</i>	0.15	0.02	0.01	0.02	0.03	0.02 e	0.02 e	-14.26	-0.51
Other sectors ⁴	0.08	0.01	0.01	0.01	0.01	0.00	0.00	-16.20	-3.07
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	5.31	4.94	3.91	5.77	3.28	2.80	3.70	-0.60	-1.11
Total electricity and heat	4.57	3.88	3.55	5.59	3.41	2.39	3.10	-1.34	-0.86
<i>Main activity producers</i>	4.52	3.77	3.51	5.54	3.40	2.37	3.06	-1.49	-0.80
<i>Autoproducers</i>	0.05	0.11	0.04	0.05	0.01	0.02	0.05	7.24	-3.41
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	0.05 e	0.27 e	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.67	1.04	0.35	0.17	0.11	0.13	0.21	3.82	-6.05
<i>Iron and steel</i>	0.09	0.08	-	-	-	0.01 e	0.04 e	-0.61	-2.68
<i>Chemical</i>	0.01	0.08	0.08	-	-	-	-	16.10	-
<i>Non-metallic minerals</i>	0.41	0.76	0.18	0.13	0.07	0.05	0.06	5.22	-9.20
<i>Paper, pulp and print</i>	-	0.09	0.09	0.02	0.01	0.05	0.08	-	-0.43
<i>Other industry</i>	0.15	0.02	0.01	0.02	0.03	0.02 e	0.02 e	-14.26	-0.51
Other sectors ⁴	0.08	0.01	0.01	0.01	0.01	0.00	0.00	-16.20	-3.07
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	-	0.71	1.28	1.21	1.31	1.25	1.20	-	2.03
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	0.71	1.28	1.20	1.24	1.22	1.22	-	2.10
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

FINLAND

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	1.47	4.81	6.02	9.50	5.98	5.72	5.65	10.37	0.62
Total electricity and heat	0.85	3.23	4.81	8.37	5.10	4.84	4.78	11.76	1.52
<i>Main activity producers</i>	0.43	3.10	4.43	8.01	4.84	4.58	4.55	18.01	1.48
<i>Autoproducers</i>	0.43	0.13	0.38	0.35	0.26	0.26	0.23	-9.52	2.26
Patent fuel/BKB plants	-	-	-	0.04	0.02	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.50	1.51	1.21	1.02	0.81	0.73	0.66	9.68	-3.16
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	0.16	0.08	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	0.00	-	-	0.00	-	-
<i>Paper, pulp and print</i>	0.50	1.28	1.04	0.92	0.74	0.71	0.65	8.13	-2.56
<i>Other industry</i>	-	0.08	0.09	0.10	0.07	0.02	0.01	-	-9.48
Other sectors ³	0.12	0.07	0.12	0.25	0.20	0.18	0.22	-4.70	4.47
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

FINLAND

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	0.63	2.59	1.56	3.05	2.58	1.03	1.05	12.47	-3.48
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	2.21	7.15	4.42	9.14	7.49	3.03	3.09	10.28	-3.25
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	5.23	6.27	5.09	4.81	5.70	5.25	3.72	3.99	4.11
Bituminous coal ³	4.31	4.85	3.32	2.89	3.93	3.49	1.93	2.37	2.35
Coking coal	-	0.64	1.26	1.40	1.33	1.34	1.32	1.29	1.50
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	0.01	0.00	0.02	0.02	0.02	0.00
Coal products ⁴	0.92	0.77	0.50	0.50	0.44	0.40	0.45	0.32	0.25
Total exports	-	0.00	0.06	0.07	0.05	0.08	0.13	0.10	0.17
Bituminous coal ³	-	-	-	-	-	-	-	-	-
Coking coal	-	-	-	-	-	-	-	-	0.01
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	0.02	0.02	0.01	0.00	0.00	-	0.01
Coal products ⁴	-	0.00	0.04	0.05	0.05	0.08	0.13	0.10	0.16

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

FINLAND

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	4789	6101	5072	4723	5920	5467	3601	4012	4210
Coking coal	-	711	1258	1401	1327	1344	1322	1289	1502
Australia	-	-	-	487	406	-	-	176	-
Canada	-	-	100	519	416	599	517	518	675
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	2	-	-	-	6	13	1
Poland	-	203	705	13	-	-	-	-	26
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	45	360	382	437	602	461	486	412
Other OECD	-	-	-	-	1	71	17	13	1
China, People's Rep.	-	-	-	-	3	-	-	6	-
Colombia	-	-	-	-	64	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	463	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	91	-	-	72	321	77	387
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Steam coal	4789	5390	3814	3322	4593	4123	2279	2723	2708
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	7	-	-	-	-
Germany	-	-	-	-	6	8	9	-	-
Poland	4089	2609	1313	551	211	176	79	42	33
United Kingdom	3	253	-	3	-	-	-	-	-
United States	-	41	-	-	166	-	-	-	-
Other OECD	-	-	51	32	14	9	-	3	20
China, People's Rep.	-	100	-	-	-	-	-	-	-
Colombia	-	334	-	-	413	5	4	3	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	697	1905	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	2448	2736	3680	3742	1895	2440	2529
<i>Other FSU</i>	x	x	2	-	55	183	292	233	126
Venezuela	-	148	-	-	41	-	-	2	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

FRANCE¹

Figure 1: Coal supply indicators (1971 = 100)

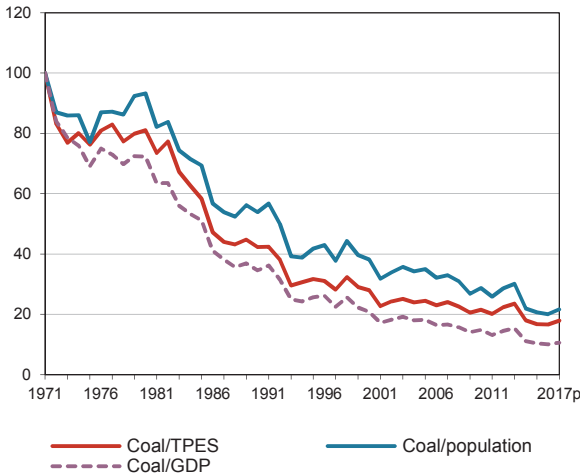


Figure 2: TPES by fuel (Mtce)

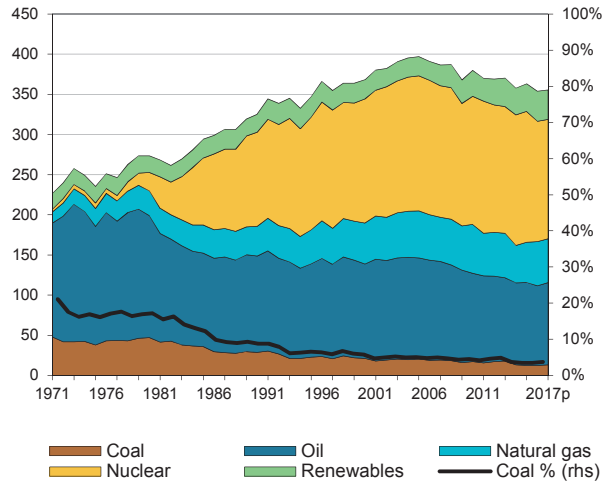


Figure 3: Primary coal supply (Mtce)

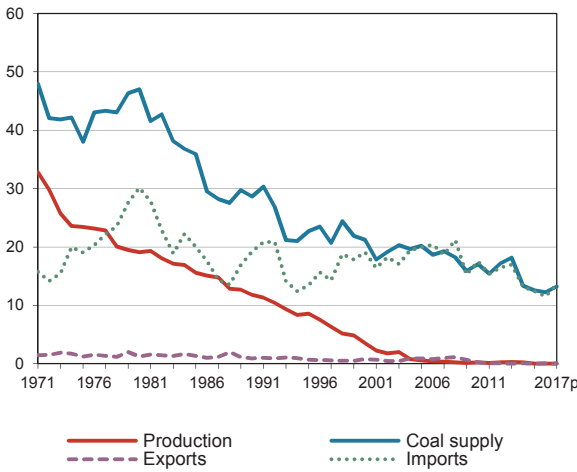


Figure 4: Coal consumption (Mtce)

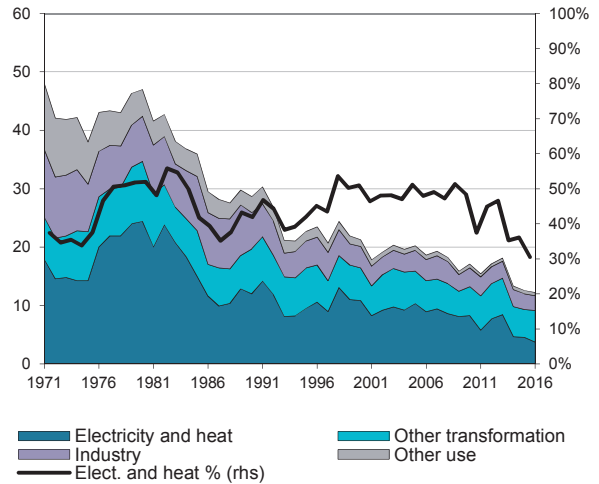


Figure 5: Electricity generation by fuel (TWh)

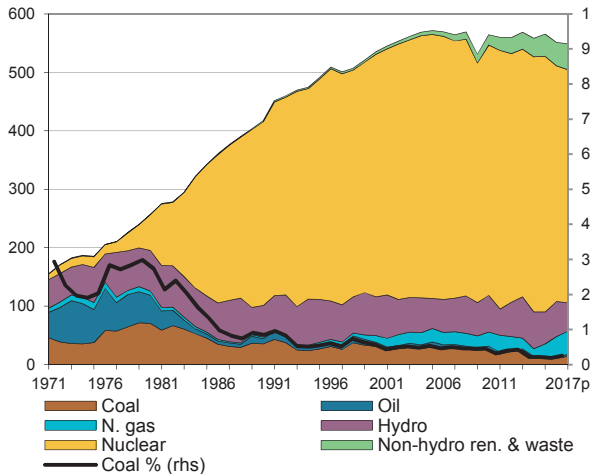
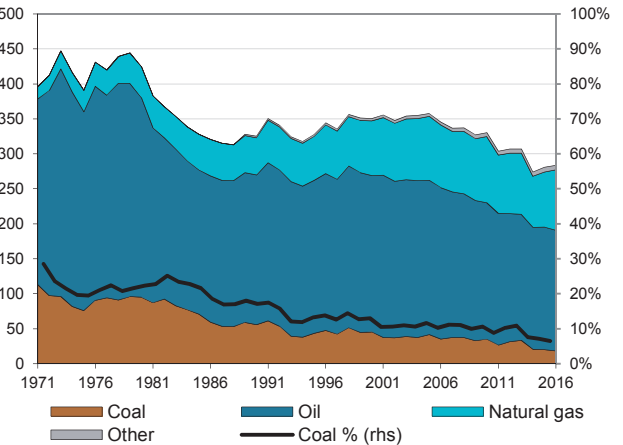


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

FRANCE

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	25.8	19.1	11.8	3.5	0.2	-	-	-	-4.5	-
Imports	15.4	30.1	19.2	19.1	17.5	12.4	11.5	13.6	1.3	-2.0
Exports	-1.9	-1.2	-0.9	-0.8	-0.3	-0.0	-0.1	-0.0	-4.1	-9.0
Stock changes	2.5	-1.0	-1.5	-0.6	-0.4	0.2	0.8	-0.4		
Primary supply	41.9	47.0	28.6	21.3	17.1	12.6	12.2	13.2	-2.2	-3.2
Statistical differences	2.0	-0.0	-0.4	0.4	-0.2	-0.3	-1.1	..		
Total transformation	-20.8	-31.8 e	-16.1 e	-14.5 e	-11.5 e	-7.6 e	-6.6 e	..	-1.5	-3.3
Electricity and heat gen.	-14.8	-24.4	-12.0	-10.8	-8.3	-4.5	-3.7	..	-1.2	-4.4
<i>Main activity producers</i> ³	-14.8	-16.9	-6.9	-9.4	-7.8	-3.8	-3.3	..	-4.4	-2.8
<i>Autoproducers</i>	-	-7.5	-5.1	-1.4	-0.5	-0.7	-0.4	..	-	-9.1
Gas works	1.1	0.0	-	-	-	-	-	..	-	-
Coal transformation ⁴	-7.1	-7.4 e	-4.1 e	-3.7 e	-3.2 e	-3.0 e	-2.9 e	..	-3.2	-1.3
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-6.3	-6.3 e	-3.8 e	-3.6 e	-2.7 e	-2.6 e	-2.5 e	..	-2.8	-1.7
<i>Coke ovens</i>	-1.3	-1.5	-0.5	-0.1	-0.5	-0.4	-0.4	..	-5.8	-0.3
<i>Patent fuel plants</i>	0.4	0.3	0.2	0.0	-	-	-	..	-3.9	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-2.5	-2.7	-3.0	-2.3	-1.6	-1.4	-1.4	..	1.1	-2.8
Losses	-0.6	-0.2	-0.2	-0.1	-	-	-	..		
Final consumption ⁶	19.9	12.3	9.0	4.8	3.9	3.3	3.1	..	-4.6	-4.0
Industry ⁷	10.4	7.7	6.2	3.7	3.2	2.7	2.5	..	-3.0	-3.5
<i>Iron and steel</i>	6.3	4.6 e	2.6 e	1.3 e	1.6 e	1.3 e	1.3 e	..	-5.0	-2.7
<i>Chemical</i>	1.2	0.8	1.0 e	c	0.4	0.5	0.5	..	-0.9	-2.7
<i>Non-metallic minerals</i>	0.5	0.6	1.0 e	0.2 e	0.6	0.4	0.4	..	4.1	-3.8
<i>Paper, pulp and print</i>	0.2	0.1	0.4 e	0.1 e	0.0	0.0	0.0	..	5.6	-10.7
<i>Other industry</i> ⁸	2.3	1.6	1.2 e	2.1	0.6	0.4	0.3	..	-3.7	-4.7
Transport ⁹	0.1	0.0	-	-	-	-	-	..	-	-
Other	9.5	4.6	2.4	0.9	0.6	0.1	0.1	..	-7.8	-10.9
<i>Comm. and pub. services</i>	0.3	0.0	1.0	0.4	0.2	0.1	0.1	..	7.5	-10.0
<i>Residential</i>	9.2	4.6	1.4	0.5	0.3	0.1	0.1	..	-10.4	-11.8
<i>Other sectors</i> ¹⁰	-	-	-	-	0.1	0.0	0.0	..	-	-
Non-energy use	-	-	0.4	0.2	0.1	0.4	0.4	..	-	0.8
Electricity gen. - TWh	35.9	70.4	35.4	30.9	26.3	12.3	10.5	13.8	-0.1	-4.6

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

FRANCE

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	47.20	30.89	22.16	17.39	13.56	13.04	12.84	-3.47	-3.32
Total electricity and heat	24.50	12.87	10.69	7.58	4.00	3.95	3.33	-5.22	-5.07
<i>Main activity producers</i>	17.92	7.59	9.75	7.38	3.77	3.70	3.12	-6.91	-3.36
<i>Autoproducers</i>	6.58	5.28	0.94	0.20	0.23	0.25	0.21	-1.82	-11.73
Patent fuel/BKB plants	2.09	0.38	0.11	-	-	-	-	-13.19	-
Coke ovens/Liquefaction ³	12.98	9.52	6.54	4.33	4.50	4.47	4.34	-2.55	-2.97
Blast furnace inputs	-	1.09 e	2.03 e	1.88 e	2.14 e	1.88 e	1.85 e	-	2.07
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	3.11	4.91	2.51	2.21	1.96	1.91	1.78	3.88	-3.83
<i>Iron and steel</i>	1.47	1.63 e	0.43 e	0.56 e	0.71 e	0.57 e	0.58 e	0.88	-3.94
<i>Chemical</i>	0.39	0.90 e	..	0.44	0.65	0.55	0.52	7.23	-2.09
<i>Non-metallic minerals</i>	0.15	0.99 e	0.20 e	0.56	0.35	0.36	0.35	16.95	-3.97
<i>Paper, pulp and print</i>	0.04	0.49 e	0.16 e	0.04	0.02	0.03	0.03	22.74	-10.69
<i>Other industry</i>	1.06	0.89 e	1.72 e	0.61 e	0.23 e	0.40 e	0.31 e	-1.39	-3.97
Other sectors ⁴	3.16	1.73	0.73	0.51	0.09	0.09	0.10	-4.92	-10.52
Non-energy use	-	-	-	-	0.22	0.22	0.31	-	-
Steam coal	31.60	19.12	15.26	12.83	7.91	8.45	8.39	-4.10	-3.12
Total electricity and heat	22.16	11.03	10.42	7.58	4.00	3.95	3.33	-5.65	-4.50
<i>Main activity producers</i>	16.75	7.00	9.49	7.38	3.77	3.70	3.12	-7.01	-3.06
<i>Autoproducers</i>	5.41	4.03	0.94	0.20	0.23	0.25	0.21	-2.43	-10.81
Patent fuel/BKB plants	2.09	0.38	0.11	-	-	-	-	-13.19	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	1.09 e	2.03 e	1.88 e	1.39 e	1.88 e	1.85 e	-	2.07
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	2.91	4.68	2.46	2.16	1.56	1.79	1.67	4.04	-3.88
<i>Iron and steel</i>	1.47	1.63 e	0.43 e	0.56 e	0.46 e	0.57 e	0.57 e	0.88	-3.94
<i>Chemical</i>	0.38	0.81 e	..	0.44	0.64	0.55	0.51	6.50	-1.79
<i>Non-metallic minerals</i>	0.15	0.99 e	0.20 e	0.56	0.30	0.34	0.32	17.02	-4.26
<i>Paper, pulp and print</i>	0.04	0.49 e	0.16 e	0.04	0.02	0.03	0.03	22.74	-10.69
<i>Other industry</i>	0.87	0.76 e	1.67 e	0.56 e	0.15 e	0.31 e	0.25 e	-1.14	-4.20
Other sectors ⁴	3.09	1.65	0.70	0.51	0.09	0.09	0.10	-5.10	-10.36
Non-energy use	-	-	-	-	0.22	0.22	0.31	-	-
Coking coal	12.98	9.67	6.54	4.50	5.50	4.47	4.34	-2.42	-3.03
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	12.98	9.52	6.54	4.33	4.50	4.47	4.34	-2.55	-2.97
Blast furnace inputs	-	-	-	-	0.75 e	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	0.25	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	0.25 e	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

FRANCE

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	2.62	2.09	0.36	0.05	0.15	0.13	0.11	-1.85	-10.81
Total electricity and heat	2.34	1.84	0.27	-	-	-	-	-1.97	-
<i>Main activity producers</i>	1.17	0.59	0.27	-	-	-	-	-5.51	-
<i>Autoproducers</i>	1.17	1.25	-	-	-	-	-	0.55	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	0.00 e	0.00 e	0.00 e	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.20	0.23	0.05	0.05	0.15	0.12	0.11	1.17	-2.97
<i>Iron and steel</i>	-	-	-	-	0.00 e	0.00 e	0.00 e	-	-
<i>Chemical</i>	0.01	0.09 e	-	-	0.02	0.01	0.01	20.31	-6.99
<i>Non-metallic minerals</i>	0.00	-	-	-	0.05	0.03	0.03	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.19	0.14 e	0.05	0.05	0.08 e	0.09 e	0.06 e	-2.59	-2.91
Other sectors ³	0.07	0.08	0.04	-	-	-	-	0.80	-
Non-energy use	-	-	-	-	0.00	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

FRANCE

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	4.80	1.83	-	-	-	-	-	-7.70	-
Steam coal	14.14	8.55	3.37	0.55	0.23	-	-	-4.11	-
Lignite	1.17	1.43	0.17	-	-	-	-	1.68	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	4.66	1.82	-	-	-	-	-	-7.54	-
Steam coal	16.50	9.38	3.80	0.62	0.26	-	-	-4.60	-
Lignite	2.73	2.33	0.30	-	-	-	-	-1.30	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	23.52	19.23	19.12	19.96	17.50	13.19	12.41	11.52	13.62
Bituminous coal ³	12.96	10.05	11.03	12.06	11.50	7.06	7.48	6.56	8.74
Coking coal	8.55	7.90	6.59	6.30	4.65	5.39	4.36	4.49	4.32
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	0.00	0.04	0.03	0.02	0.03	0.09	0.07	0.06	0.04
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	2.00	1.24	1.47	1.59	1.33	0.65	0.51	0.41	0.53
Total exports	1.16	0.92	0.77	0.88	0.25	0.05	0.03	0.08	0.01
Bituminous coal ³	0.38	0.53	0.08	0.23	0.02	-	-	-	-
Coking coal	-	-	-	0.03	0.11	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	0.00	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.77	0.39	0.69	0.61	0.12	0.05	0.03	0.08	0.01

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

FRANCE

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	23451	19458	19032	19887	17631	13233	12624	11823	14084
Coking coal	8316	7848	6543	6255	4615	5351	4332	4463	4287
Australia	987	2071	2818	3800	2811	2890	3143	3402	2863
Canada	-	637	577	421	8	31	-	-	110
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	4364	817	-	263	-	-	-	-	36
Poland	1311	254	182	3	-	-	-	-	2
United Kingdom	1	-	-	-	-	-	-	-	-
United States	1462	4019	2667	1627	1636	1537	1072	978	1204
Other OECD	-	50	1	80	-	39	-	56	72
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	130	61	-	-	7	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	191	-	154	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	107	709	25	27	-
<i>Other FSU</i>	x	x	-	-	-	27	-	-	-
Venezuela	-	-	14	-	-	-	-	-	-
Viet Nam	-	-	-	-	37	-	-	-	-
Non-specified/other	-	-	-	-	16	118	85	-	-
Steam coal	15125	11541	12437	13596	12964	7727	8174	7261	9736
Australia	785	1480	1022	1509	670	221	1153	1334	1091
Canada	-	50	-	70	163	-	134	-	81
Czech Republic	-	-	-	-	2	2	1	-	-
Germany	2217	718	98	55	159	35	21	33	26
Poland	3441	141	881	1451	1349	-	235	176	8
United Kingdom	891	311	61	35	7	12	13	12	7
United States	36	2586	425	301	1648	746	631	296	1253
Other OECD	98	222	1125	1149	460	230	100	100	78
China, People's Rep.	-	1776	524	15	6	9	34	8	24
Colombia	-	2033	1043	2455	3024	1690	1413	1394	1802
Indonesia	-	-	6	245	-	-	-	1	-
South Africa	6643	863	5694	4225	2407	2608	1923	1072	1057
Former Soviet Union ⁴	853	777	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	383	905	2753	1949	2388	2703	3988
<i>Other FSU</i>	x	x	-	-	27	150	20	24	9
Venezuela	-	560	935	542	262	29	6	5	6
Viet Nam	-	-	140	100	23	-	-	9	-
Non-specified/other	161	24	100	539	4	46	102	94	306
Lignite	10	69	52	36	52	155	118	99	61

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

GERMANY¹

Figure 1: Coal supply indicators (1971 = 100)

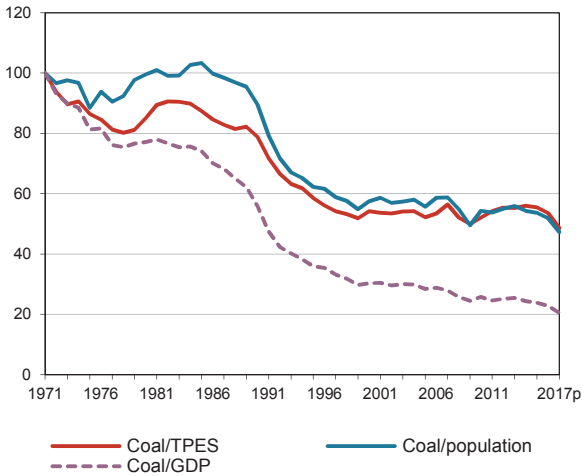


Figure 2: TPES by fuel (Mtce)

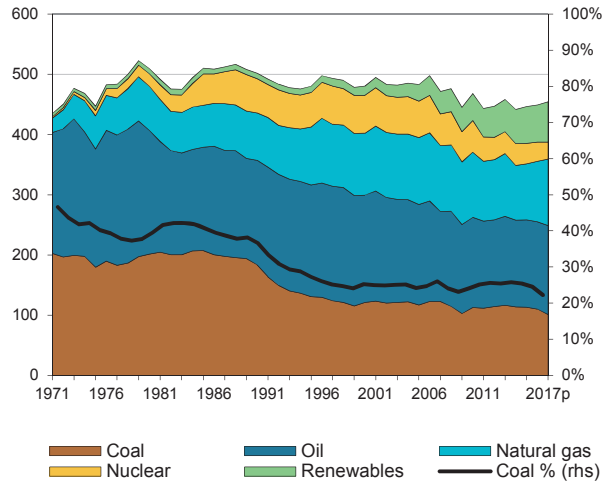


Figure 3: Primary coal supply (Mtce)

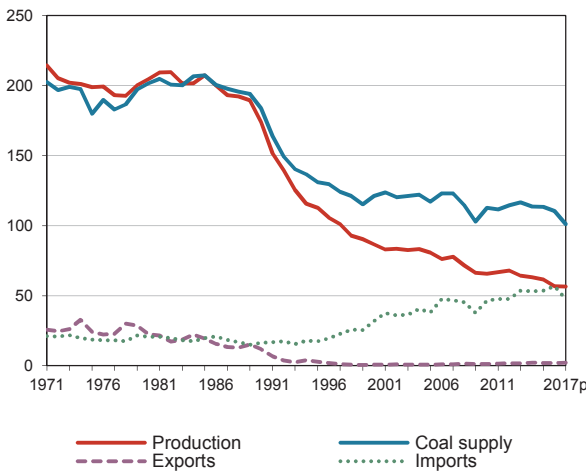


Figure 4: Coal consumption (Mtce)

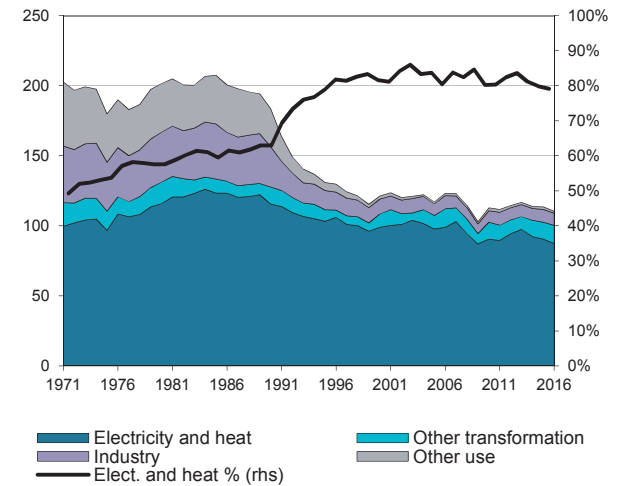


Figure 5: Electricity generation by fuel (TWh)

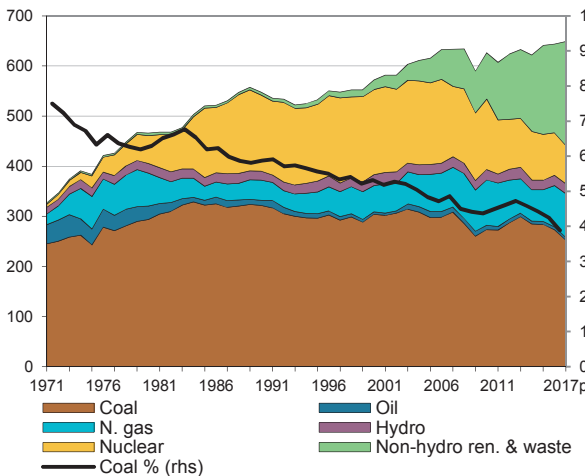
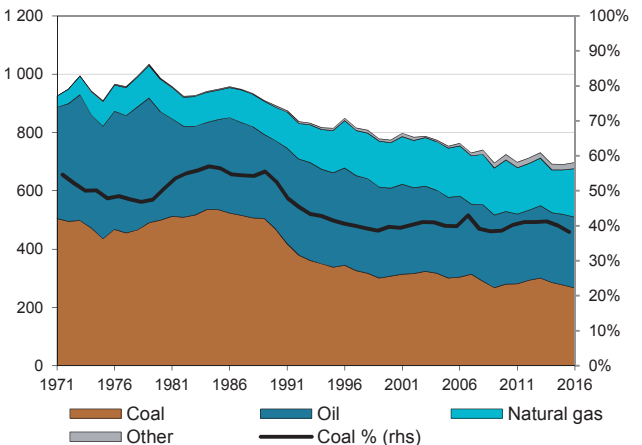


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

GERMANY

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	202.0	204.5	174.0	86.6	65.6	61.4	56.7	56.4	-0.9	-4.2
Imports	21.8	20.6	16.4	31.7	46.6	53.5	56.7	47.5	-1.6	4.9
Exports	-26.1	-22.5	-11.7	-0.8	-1.4	-2.0	-2.0	-2.1	-4.6	-6.6
Stock changes	1.5	-1.1	5.0	3.6	2.0	0.5	-1.1	-0.7		
Primary supply	199.1	201.5	183.7	121.2	112.8	113.4	110.3	101.1	-0.5	-1.9
Statistical differences	0.4	0.2	0.6	0.4	-1.8	-1.3	-1.5	..		
Total transformation	-111.3 e	-125.3 e	-124.1 e	-106.6 e	-98.6	-99.4	-96.5	..	0.6	-1.0
Electricity and heat gen.	-104.2	-115.9	-115.6 e	-98.8 e	-90.4	-90.5	-87.3	..	0.6	-1.1
<i>Main activity producers</i> ³	-99.8	-94.2	-98.7 e	-91.5 e	-84.3	-85.9	-81.8	..	-0.1	-0.7
<i>Autoproducers</i>	-4.3	-21.6	-16.9 e	-7.3	-6.1	-4.6	-5.4	..	8.4	-4.3
Gas works	0.8	1.8	1.9	0.0	-	-	-	..	5.0	-
Coal transformation ⁴	-8.0 e	-11.2 e	-10.5 e	-7.8 e	-8.2	-8.9	-9.2	..	1.6	-0.5
<i>BKB plants</i>	1.9	1.2	-1.4	-0.2	0.1	-0.3	-0.5	..	-	-4.1
<i>Blast furnaces</i>	-9.2 e	-10.1 e	-8.0 e	-7.9 e	-7.7	-7.9	-7.9	..	-0.8	-0.1
<i>Coke ovens</i>	-0.9	-2.5	-1.2	0.2	-0.6	-0.6	-0.9	..	1.5	-1.2
<i>Patent fuel plants</i>	0.3	0.2	0.2	0.0	-	-	-	..	-3.6	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-7.0	-5.1	-3.5	-1.7 e	-1.3	-1.2	-1.2	..	-4.0	-4.1
Losses	-1.7	-1.0	-0.6	-0.5 e	-0.8	-0.8	-1.2	..		
Final consumption ⁶	79.6	70.3	56.1	12.8	10.3	10.9	10.0	..	-2.0	-6.4
Industry ⁷	38.9	35.6	28.9	10.6	8.2	9.2	8.6	..	-1.7	-4.5
<i>Iron and steel</i>	13.7 e	10.6 e	7.9 e	5.6 e	4.4	4.7	4.1	..	-3.2	-2.5
<i>Chemical</i>	9.3	8.3	6.4	0.6 e	0.9	1.5	1.4	..	-2.2	-5.8
<i>Non-metallic minerals</i>	1.8	3.0	3.5	2.8 e	1.9	2.0	1.9	..	3.8	-2.3
<i>Paper, pulp and print</i>	1.2	1.3	1.3	0.5 e	0.5	0.5	0.5	..	0.2	-3.6
<i>Other industry</i> ⁸	12.9	12.4	9.9	1.0 e	0.5	0.5	0.8	..	-1.5	-9.3
Transport ⁹	2.5	0.4	0.0	0.0	-	-	-	..	-24.2	-
Other	34.9	32.1	25.9	1.8	1.6	1.1	0.8	..	-1.7	-12.6
<i>Comm. and pub. services</i>	10.2	10.8	8.9	0.4 e	0.1	0.3	0.0	..	-0.8	-18.8
<i>Residential</i>	22.0	19.0	15.4	1.3 e	1.4	0.9	0.7	..	-2.1	-11.0
<i>Other sectors</i> ¹⁰	2.7	2.3	1.7	0.1 e	-	-	-	..	-2.7	-
Non-energy use	3.2	2.2	1.2	0.4	0.5	0.6	0.6	..	-5.6	-2.8
Electricity gen. - TWh	258.3	293.5	321.6	304.2	273.5	283.7	273.2	252.4	1.3	-0.6

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.

3. Main activity electricity and heat generation includes district heating.

4. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

5. Other transformation includes Liquefaction and Non-specified transformations.

6. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

7. Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.

8. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

9. Transport includes Rail and Inland waterways.

10. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

GERMANY

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	470.13	451.02	238.91	231.42	238.69	238.52	231.53	-0.35	-2.53
Total electricity and heat	265.63	279.81 e	209.20 e	198.40	205.33	203.50	196.84	0.43	-1.34
<i>Main activity producers</i>	237.64	249.41 e	201.24 e	192.32	202.57	200.79	193.44	0.40	-0.97
<i>Autoproducers</i>	27.99	30.39 e	7.97	6.08	2.76	2.72	3.39	0.69	-8.09
Patent fuel/BKB plants	131.49	105.69	11.51	12.48	14.40	14.40	14.40	-1.80	-7.38
Coke ovens/Liquefaction ³	34.30	24.09	11.42	11.16	11.81	11.99	12.90	-2.90	-2.38
Blast furnace inputs	-	1.73	2.53	3.96	4.65	4.88	4.84	-	4.04
Gas manufacture	1.02	0.14	-	-	-	-	-	-15.18	-
Industry	25.70	26.89	2.89	2.92	2.69	3.52	3.71	0.38	-7.34
<i>Iron and steel</i>	0.49	0.76	0.21	0.81	0.85	1.08	1.21	3.68	1.80
<i>Chemical</i>	12.51	10.12	0.57	0.88	0.84	1.44	1.31	-1.75	-7.57
<i>Non-metallic minerals</i>	0.61	2.13	1.35	0.49	0.46	0.44	0.40	10.92	-6.24
<i>Paper, pulp and print</i>	1.16	1.16	0.43	0.44	0.26	0.28	0.25	-0.03	-5.72
<i>Other industry</i>	10.92	12.72	0.32	0.30	0.28	0.29	0.54	1.28	-11.42
Other sectors ⁴	5.25	9.37	0.41	0.30	0.24	0.47	0.15	4.94	-14.64
Non-energy use	-	0.01	0.02	0.09	0.05	0.05	0.06	-	7.70
Steam coal	45.08	44.75	44.50	45.70	47.44	49.83	45.36	-0.06	0.05
Total electricity and heat	34.59	33.78 e	38.77 e	38.01	40.38	41.45	37.22	-0.20	0.37
<i>Main activity producers</i>	21.05	26.06 e	35.67 e	35.41	40.08	41.20	36.22	1.79	1.27
<i>Autoproducers</i>	13.55	7.73 e	3.10	2.60	0.30	0.26	1.00	-4.57	-7.56
Patent fuel/BKB plants	1.46	0.78	0.15	-	-	-	-	-5.14	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	1.73	2.53	3.96	4.65	4.88	4.84	-	4.04
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	5.15	6.53	2.44	2.35	2.15	3.00	3.12	2.00	-2.81
<i>Iron and steel</i>	0.25	-	0.21	0.81	0.85	1.08	1.21	-	-
<i>Chemical</i>	1.88	2.57	0.27	0.48	0.42	1.07	0.89	2.66	-4.01
<i>Non-metallic minerals</i>	0.48	1.64	1.35	0.47	0.46	0.44	0.40	10.75	-5.29
<i>Paper, pulp and print</i>	0.28	0.56	0.43	0.44	0.26	0.28	0.25	5.92	-3.07
<i>Other industry</i>	2.26	1.76	0.19	0.15	0.15	0.14	0.37	-2.05	-5.82
Other sectors ⁴	2.87	0.99	0.36	0.30	0.24	0.47	0.15	-8.47	-6.94
Non-energy use	-	0.01	-	0.06	0.03	0.03	0.03	-	4.94
Coking coal	41.88	42.22	24.46	15.97	14.29	11.72	15.13	0.07	-3.87
Total electricity and heat	6.58	18.12	13.04	5.37	3.04	0.28	2.74	8.81	-7.01
<i>Main activity producers</i>	5.70	14.24	10.17	5.01	3.02	0.28	2.74	7.93	-6.14
<i>Autoproducers</i>	0.88	3.88	2.87	0.37	0.02	-	-	13.17	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	34.30	24.09	11.42	10.60	11.25	11.44	12.39	-2.90	-2.53
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	1.01	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

GERMANY

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	383.17	364.05	169.94	169.74	176.96	176.97	171.04	-0.43	-2.86
Total electricity and heat	224.46	227.90 e	157.39 e	155.01	161.92	161.77	156.88	0.13	-1.43
<i>Main activity producers</i>	210.89	209.11 e	155.39 e	151.90	159.48	159.31	154.48	-0.07	-1.16
<i>Autoproducers</i>	13.57	18.79	2.00	3.11	2.44	2.46	2.39	2.75	-7.62
Patent fuel/BKB plants	130.03	104.92	11.36	12.48	14.40	14.40	14.40	-1.77	-7.35
Coke ovens/Liquefaction ²	-	-	-	0.57	0.56	0.55	0.51	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	0.02	0.14	-	-	-	-	-	18.25	-
Industry	20.55	20.36	0.45	0.57	0.55	0.53	0.59	-0.08	-12.72
<i>Iron and steel</i>	0.24	0.76	-	-	-	-	-	10.07	-
<i>Chemical</i>	10.63	7.55	0.31	0.40	0.42	0.37	0.42	-2.81	-10.52
<i>Non-metallic minerals</i>	0.13	0.49	0.00	0.02	-	-	-	11.48	-
<i>Paper, pulp and print</i>	0.88	0.60	0.00	-	-	-	-	-3.20	-
<i>Other industry</i>	8.66	10.96	0.13	0.14	0.13	0.15	0.17	1.98	-14.73
Other sectors ³	2.38	8.38	0.05	-	-	-	-	11.06	-
Non-energy use	-	-	0.02	0.03	0.02	0.02	0.03	-	-
Peat	-	-	0.01	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	0.01	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

GERMANY

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	51.64	44.06	18.66	15.01	8.06	2.14	2.34	-1.32	-10.98
Steam coal	34.97	27.23	15.86	10.75	5.15	1.91	1.47	-2.06	-9.71
Lignite	106.08	102.55	52.05	54.89	52.37	52.70	52.62	-0.28	-2.53
Peat	-	0.12	0.04	0.04	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	52.24	44.58	18.86	15.17	8.15	2.16	2.36	-1.31	-10.98
Steam coal	37.95	31.98	18.51	12.85	5.96	1.91	1.47	-1.42	-10.26
Lignite	377.89	357.47	167.69	177.91	169.40	171.55	171.29	-0.46	-2.78
Peat	-	0.43	0.15	0.13	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	17.48	16.43	31.74	37.97	46.55	53.14	53.54	56.66	47.50
Bituminous coal ³	9.61	10.75	20.28	26.82	34.19	39.90	42.73	41.96	32.40
Coking coal	2.41	1.69	4.56	7.36	7.71	9.61	7.76	12.19	12.71
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	1.34	1.06	0.91	0.00	-	0.01	0.01	0.02	0.02
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	4.12	2.94	5.99	3.78	4.66	3.62	3.03	2.50	2.37
Total exports	30.12	11.65	0.80	0.89	1.35	2.23	2.01	2.00	2.15
Bituminous coal ³	5.29	1.63	0.28	0.25	0.25	0.21	0.18	0.28	0.22
Coking coal	13.20	3.96	0.00	-	0.01	0.00	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	0.00	0.05	0.00	0.00	-	0.43	0.33	-	-
Peat	-	0.12	0.04	0.03	-	-	-	-	-
Coal products ⁴	11.63	5.89	0.47	0.61	1.09	1.60	1.49	1.72	1.92

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

GERMANY

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	17656	15663	29744	37114	45725	53753	54548	57783	47950
Coking coal	2435	1706	4608	7152	7793	9710	7845	12320	12847
Australia	-	58	3414	3403	2577	1989	3321	6088	5493
Canada	-	25	865	1485	557	1989	249	1487	1481
Czech Republic	-	28	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	116	50	832	-	-	732	2	1
United Kingdom	48	-	-	-	-	-	-	-	-
United States	553	48	257	1135	2393	2916	2293	2896	3311
Other OECD	89	2	19	-	-	-	-	47	33
China, People's Rep.	-	-	2	-	-	-	-	-	-
Colombia	-	-	-	132	312	168	181	-	-
Indonesia	-	-	-	-	-	-	-	149	-
South Africa	-	-	1	90	574	19	10	194	201
Former Soviet Union ⁴	20	177	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	49	1030	1754	734	1263	1783
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	1725	1252	-	26	350	875	325	194	544
Steam coal	10430	11874	23340	29953	37932	44030	46683	45437	35073
Australia	763	1094	301	768	1529	350	2831	4069	142
Canada	428	45	-	172	587	1578	1050	846	-
Czech Republic	152	248	1061	12	15	354	350	-	160
Germany	-	-	-	-	-	-	-	-	-
Poland	2041	2583	6744	7924	5835	3291	2463	2451	1239
United Kingdom	554	284	37	-	1	5	8	4	1253
United States	399	689	432	132	3321	7765	5186	6182	5749
Other OECD	637	637	1236	64	137	524	319	135	1528
China, People's Rep.	21	8	67	-	-	14	16	12	12
Colombia	-	128	2719	2937	7548	7360	6876	8054	6173
Indonesia	-	38	149	-	-	-	-	-	1
South Africa	1108	4512	4577	8215	2714	5070	2603	1251	1426
Former Soviet Union ⁴	96	157	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	937	7497	10104	12146	13998	15029	17224
<i>Other FSU</i>	x	x	-	-	-	86	56	50	69
Venezuela	-	-	341	-	-	-	-	-	5
Viet Nam	-	-	114	-	-	-	-	-	-
Non-specified/other	4231	1451	4625	2232	6141	5487	10927	7354	92
Lignite	4791	2083	1796	9	-	13	20	26	30

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

GERMANY

6. Coking coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	13354	4002	3	-	6	5	-	-	-
Total OECD	12335	3902	3	-	6	5	-	-	-
Australia	-	-	-	-	-	-	-	-	-
Austria	213	-	1	-	-	-	-	-	-
Belgium	1897	717	1	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Chile	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	-	-	-	-	-	-	-	-
France	5020	1443	1	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	-	-
Italy	2480	859	-	-	-	-	-	-	-
Japan	375	-	-	-	-	-	-	-	-
Korea	-	-	-	-	-	-	-	-	-
Latvia	x	-	-	-	-	-	-	-	-
Luxembourg	286	-	-	-	-	-	-	-	-
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	975	465	-	-	-	-	-	-	-
New Zealand	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	6	4	-	-	-
Portugal	-	-	-	-	-	-	-	-	-
Slovak Republic	-	-	-	-	-	-	-	-	-
Slovenia	x	-	-	-	-	-	-	-	-
Spain	447	415	-	-	-	-	-	-	-
Sweden	234	-	-	-	-	-	-	-	-
Switzerland	18	3	-	-	-	1	-	-	-
Turkey	89	-	-	-	-	-	-	-	-
United Kingdom	198	-	-	-	-	-	-	-	-
United States	103	-	-	-	-	-	-	-	-
Total non-OECD	1019	100	-	-	-	-	-	-	-
Brazil	15	-	-	-	-	-	-	-	-
China ³	-	-	-	-	-	-	-	-	-
Chinese Taipei	-	-	-	-	-	-	-	-	-
Egypt	-	100	-	-	-	-	-	-	-
India	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-
Oth. Africa & Mid. East	520	-	-	-	-	-	-	-	-
Oth. non-OECD Americas	5	-	-	-	-	-	-	-	-
Other Asia & Oceania	-	-	-	-	-	-	-	-	-
Other non-OECD Europe and Eurasia	479	-	-	-	-	-	-	-	-
Non-specified/Other	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

GERMANY

7. Steam coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	5737	1510	276	255	247	203	179	278	222
Total OECD	5381	1186	275	252	41	45	56	142	97
Australia	-	-	-	-	-	-	-	-	-
Austria	15	6	98	9	3	8	3	3	3
Belgium	2123	678	82	78	5	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Chile	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	2	1	2	1	2	1
Denmark	944	3	-	1	1	5	7	11	11
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	-	-	-	-	-	-	-	-
France	1574	81	75	74	-	1	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Greece	-	-	1	-	-	-	-	-	-
Hungary	-	-	-	-	1	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-
Ireland	7	5	-	-	-	-	-	-	-
Israel	-	-	-	5	-	-	-	-	-
Italy	32	28	6	-	-	-	-	-	-
Japan	-	-	-	-	-	-	-	-	-
Korea	-	-	-	-	-	-	-	-	-
Latvia	x	-	-	-	-	-	-	-	-
Luxembourg	14	1	-	-	1	-	-	-	-
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	467	48	3	3	2	16	33	93	50
New Zealand	-	-	-	-	-	-	-	-	-
Norway	18	45	-	-	-	-	-	1	-
Poland	-	1	-	75	2	4	5	29	26
Portugal	6	-	-	-	-	-	-	-	-
Slovak Republic	-	-	-	2	1	-	-	-	-
Slovenia	x	-	-	1	2	-	1	-	1
Spain	-	42	3	-	-	-	-	-	-
Sweden	38	5	1	-	3	-	1	-	2
Switzerland	60	38	5	1	10	8	4	3	3
Turkey	32	-	-	-	4	1	1	-	-
United Kingdom	51	205	1	1	5	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Total non-OECD	53	324	-	1	1	-	-	15	14
Brazil	-	5	-	-	-	-	-	-	-
China ³	-	-	-	-	-	-	-	-	-
Chinese Taipei	-	-	-	-	-	-	-	-	-
Egypt	-	-	-	-	-	-	-	-	1
India	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	15	13
Oth. Africa & Mid. East	-	3	-	-	-	-	-	-	-
Oth. non-OECD Americas	-	-	-	-	-	-	-	-	-
Other Asia & Oceania	-	-	-	1	1	-	-	-	-
Other non-OECD Europe and Eurasia	53	316	-	-	-	-	-	-	-
Non-specified/Other	303	-	1	2	205	158	122	121	111

1. Please refer to the explanatory notes and definitions in Part I. Steam coal includes all sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

GREECE¹

Figure 1: Coal supply indicators (1971 = 100)

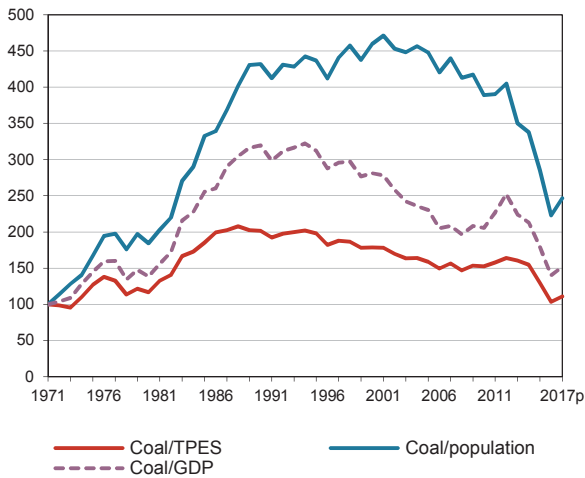


Figure 2: TPES by fuel (Mtce)

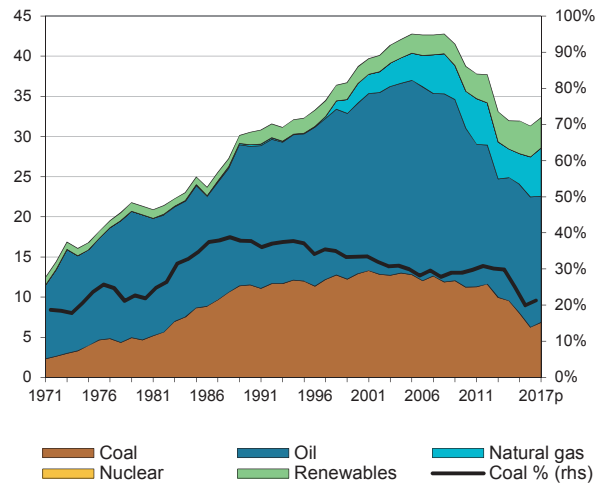


Figure 3: Primary coal supply (Mtce)

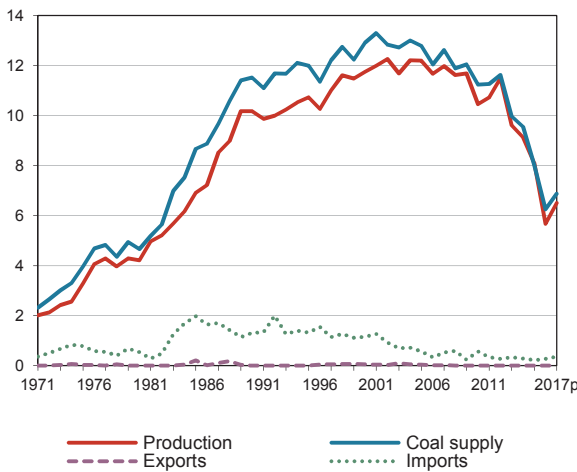


Figure 4: Coal consumption (Mtce)

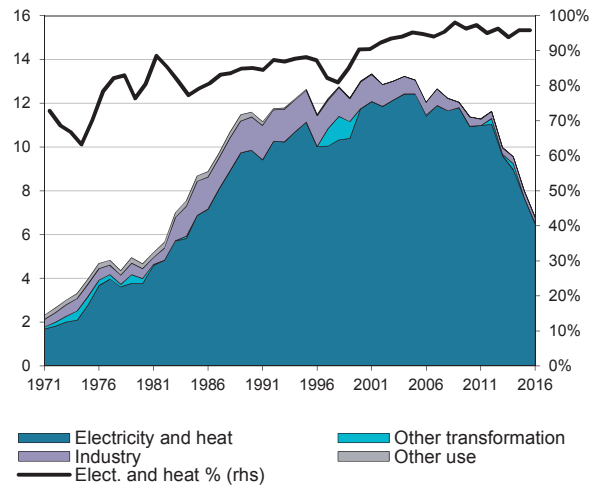


Figure 5: Electricity generation by fuel (TWh)

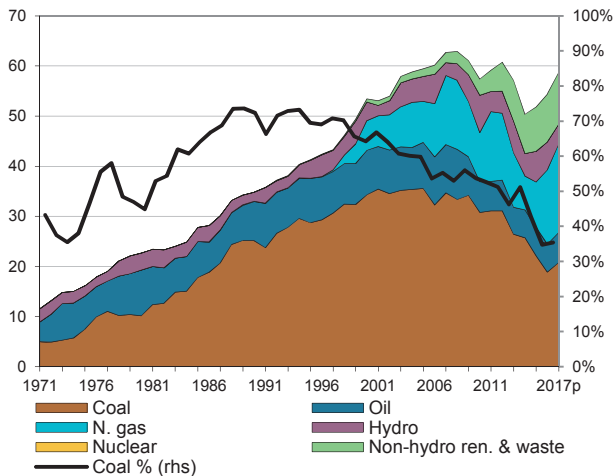
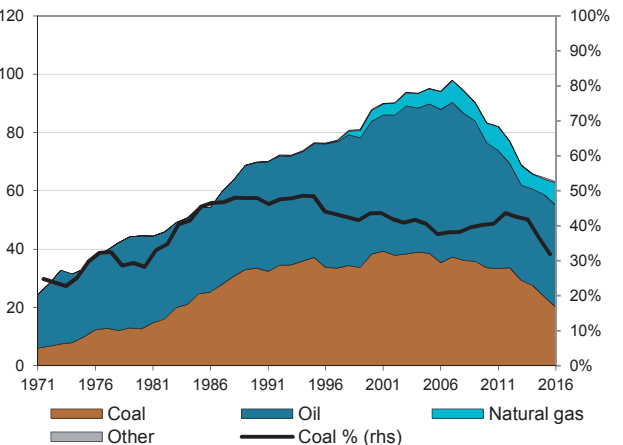


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

GREECE

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	2.4	4.2	10.2	11.7	10.5	8.1	5.7	6.5	8.8	-2.2
Imports	0.7	0.5	1.3	1.2	0.6	0.2	0.3	0.4	4.0	-5.9
Exports	-0.0	-	-	-0.1	-	-	-	-0.0	-	-
Stock changes	-0.1	-0.1	0.0	0.1	0.2	-0.3	0.3	0.0		
Primary supply	3.0	4.7	11.5	12.9	11.2	8.0	6.2	6.9	8.2	-2.3
Statistical differences	-0.0	-0.0	0.1	0.1	0.1	-0.0	0.6	..		
Total transformation	-2.1 e	-3.9 e	-9.9	-11.8	-10.9	-7.7	-6.5	..	9.5	-1.6
Electricity and heat gen.	-2.0	-3.8	-9.8	-11.8	-10.9	-7.7	-6.5	..	9.8	-1.6
<i>Main activity producers</i> ³	-2.0	-3.8	-9.8	-11.8	-10.9	-7.7	-6.5	..	9.8	-1.6
<i>Autoproducers</i>	-	-	-	-	-	-	-	..	-	-
Gas works	-0.0	-0.0	0.0	-	-	-	-	..	-	-
Coal transformation ⁴	-0.1 e	-0.1 e	-0.0	-0.0	-	-	-	..	-6.3	-
<i>BKB plants</i>	0.0	0.0	-0.0	-0.0	-	-	-	..	-	-
<i>Blast furnaces</i>	-0.1 e	-0.1 e	-	-	-	-	-	..	-	-
<i>Coke ovens</i>	0.0	-0.1	-	-	-	-	-	..	-	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-0.1	-0.1	-	-	-	-	-	..	-	-
Losses	-0.0	-0.0	-0.0	-	-	-	-	..		
Final consumption ⁶	0.7	0.7	1.7	1.3	0.4	0.3	0.3	..	5.1	-6.7
Industry ⁷	0.5	0.5	1.5	1.2	0.4	0.3	0.3	..	6.4	-6.4
<i>Iron and steel</i>	0.2	0.2	-	-	-	-	-	..	-	-
<i>Chemical</i>	0.0	0.0	0.1	-	-	-	-	..	5.6	-
<i>Non-metallic minerals</i>	0.0	0.0	1.2	1.0	0.2	0.1	0.0	..	36.6	-11.7
<i>Paper, pulp and print</i>	-	-	0.0	-	-	-	-	..	-	-
<i>Other industry</i> ⁸	0.3	0.3	0.3	0.2	0.2	0.2	0.2	..	-0.1	-0.5
Transport ⁹	0.0	0.0	0.0	-	-	-	-	..	-	-
Other	0.1	0.1	0.0	0.0	0.0	0.0	0.0	..	-1.8	-
<i>Comm. and pub. services</i>	0.0	0.0	0.0	-	-	-	-	..	-	-
<i>Residential</i>	0.1	0.1	0.0	0.0	0.0	0.0	0.0	..	-3.8	-
<i>Other sectors</i> ¹⁰	-	-	0.0	0.0	-	0.0	0.0	..	-	-
Non-energy use	0.1	0.1	0.2	-	-	-	-	..	1.8	-
Electricity gen. - TWh	5.3	10.2	25.2	34.3	30.8	22.1	18.9	20.8	9.7	-1.1

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD World Energy Balances

GREECE

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	22.11	53.43	65.69	58.32	52.15	44.55	34.56	7.63	-1.66
Total electricity and heat	19.83	50.53	63.87	57.81	51.63	44.02	34.18	8.11	-1.49
<i>Main activity producers</i>	19.83	50.53	63.87	57.81	51.63	44.02	34.18	8.11	-1.49
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	0.66	0.35	0.24	-	-	-	-	-5.14	-
Coke ovens/Liquefaction ³	0.21	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	0.02	-	-	-	-	-	-	-	-
Industry	0.49	1.89	1.50	0.48	0.49	0.47	0.32	11.85	-6.56
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	0.21	0.20	-	-	-	-	-	-0.25	-
<i>Non-metallic minerals</i>	-	1.31	1.05	0.27	0.11	0.08	0.05	-	-11.54
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.29	0.38	0.45	0.21	0.38	0.39	0.27	2.40	-1.35
Other sectors ⁴	0.00	0.08	0.08	0.03	0.05	0.05	0.04	31.33	-2.58
Non-energy use	0.83	0.58	-	-	-	-	-	-2.96	-
Steam coal	0.15	1.38	1.12	0.61	0.27	0.28	0.33	20.18	-5.32
Total electricity and heat	-	-	0.01	0.16	-	-	-	-	-
<i>Main activity producers</i>	-	-	0.01	0.16	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	0.02	-	-	-	-	-	-	-	-
Industry	0.13	1.38	1.12	0.46	0.29	0.28	0.31	21.66	-5.53
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	1.29	1.05	0.27	0.11	0.08	0.05	-	-11.50
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.13	0.09	0.07	0.19	0.18	0.20	0.26	-3.54	4.39
Other sectors ⁴	0.00	0.00	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	0.21	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	0.21	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

GREECE

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	21.74	52.05	64.56	57.70	51.88	44.27	34.23	7.55	-1.60
Total electricity and heat	19.83	50.53	63.86	57.66	51.63	44.02	34.18	8.11	-1.49
<i>Main activity producers</i>	19.83	50.53	63.86	57.66	51.63	44.02	34.18	8.11	-1.49
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	0.66	0.35	0.24	-	-	-	-	-5.14	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.36	0.52	0.38	0.02	0.20	0.19	0.01	2.96	-14.07
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	0.21	0.20	-	-	-	-	-	-0.25	-
<i>Non-metallic minerals</i>	-	0.02	0.00	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.16	0.30	0.38	0.02	0.20	0.19	0.01	5.46	-12.25
Other sectors ³	-	0.08	0.08	0.03	0.05	0.05	0.04	-	-2.54
Non-energy use	0.83	0.58	-	-	-	-	-	-2.96	-
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

GREECE

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	3.97	10.17	11.75	12.20	10.45	5.68	6.50	8.16	-2.22
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	21.82	51.90	63.89	69.40	56.52	32.64	37.38	7.49	-1.77
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	0.40	1.31	1.16	0.57	0.57	0.28	0.23	0.27	0.36
Bituminous coal ³	0.12	1.28	1.16	0.56	0.57	0.28	0.23	0.27	0.36
Coking coal	0.21	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	0.01	0.00	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.07	0.03	0.00	0.00	0.00	-	-	-	-
Total exports	0.06	-	0.06	0.04	-	0.01	-	-	0.01
Bituminous coal ³	-	-	0.05	0.01	-	0.01	-	-	0.01
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	0.00	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.06	-	-	0.03	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

GREECE

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	349	1380	1245	646	651	336	257	312	418
Coking coal	213	-	-	-	-	-	-	-	-
Australia	159	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	54	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Steam coal	136	1380	1245	646	617	310	257	312	418
Australia	48	-	110	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	1	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	75	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	35	-	-	47	-	-	-	36
Other OECD	-	4	-	71	51	-	-	-	-
China, People's Rep.	-	-	119	-	-	-	-	-	-
Colombia	-	-	-	-	76	-	-	-	-
Indonesia	-	-	205	63	-	-	-	-	-
South Africa	-	1017	447	132	45	-	44	-	-
Former Soviet Union ⁴	12	324	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	321	380	398	167	165	303	340
<i>Other FSU</i>	x	x	43	-	-	143	48	9	37
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	5
Lignite	-	-	-	-	34	26	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

HUNGARY¹

Figure 1: Coal supply indicators (1971 = 100)

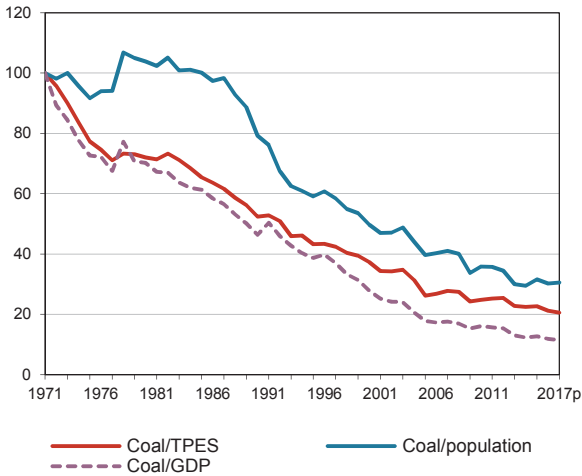


Figure 2: TPES by fuel (Mtce)

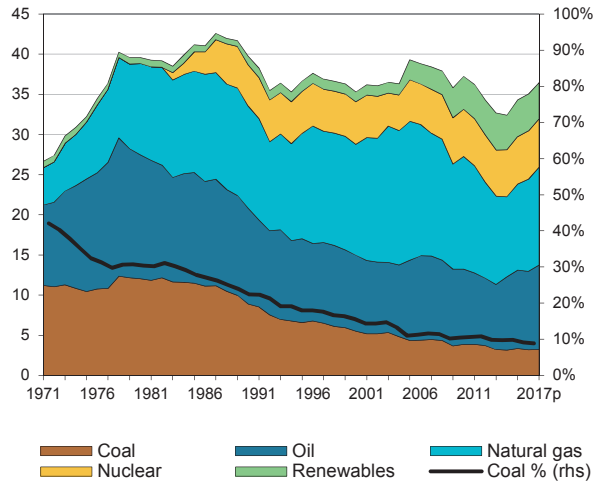


Figure 3: Primary coal supply (Mtce)

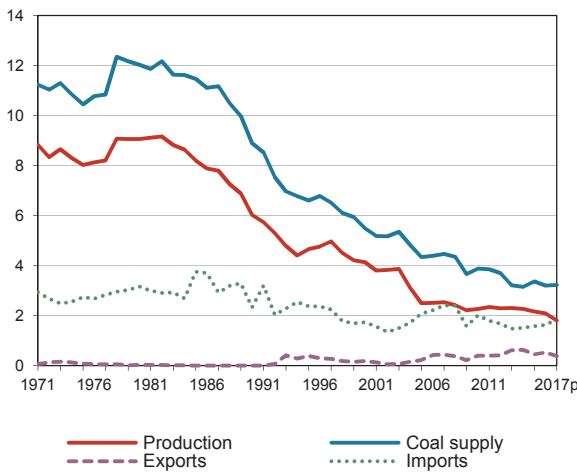


Figure 4: Coal consumption (Mtce)

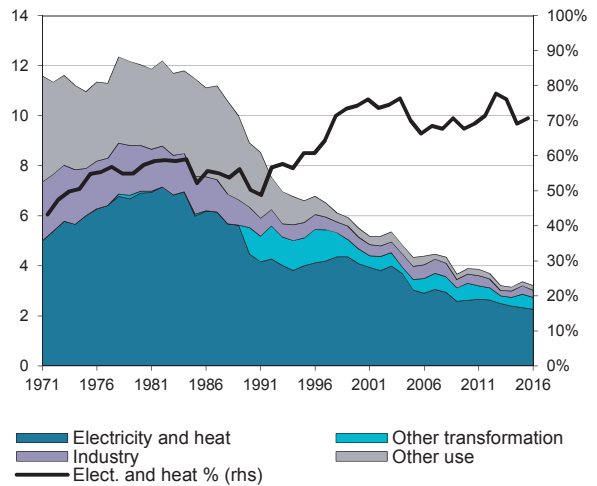


Figure 5: Electricity generation by fuel (TWh)

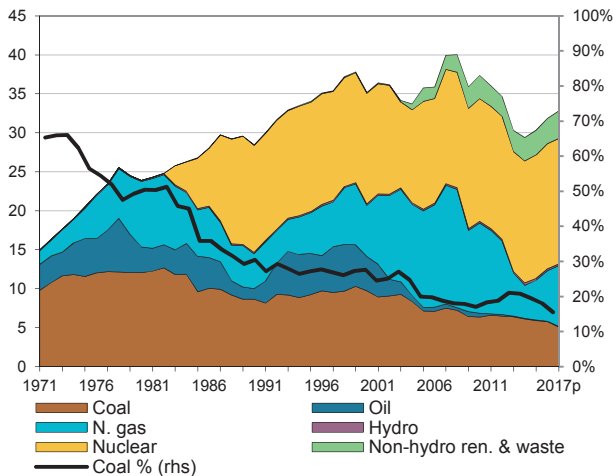
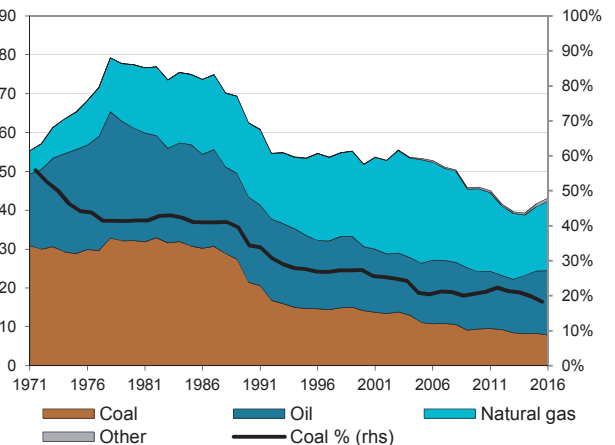


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

HUNGARY

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	8.6	9.1	6.0	4.1	2.3	2.2	2.1	1.8	-2.1	-4.0
Imports	2.5	3.2	2.3	1.7	2.0	1.6	1.6	1.9	-0.4	-1.4
Exports	-0.2	-0.0	-0.0	-0.2	-0.4	-0.4	-0.5	-0.4	-28.6	30.6
Stock changes	0.3	-0.2	0.5	-0.2	-0.0	0.1	0.0	-0.0		
Primary supply	11.3	12.0	8.9	5.5	3.9	3.4	3.2	3.2	-1.4	-3.8
Statistical differences	1.2	0.6	-0.8	0.0	-0.0	-0.0	0.0	..		
Total transformation	-6.5 e	-7.5 e	-4.7 e	-4.6 e	-3.1 e	-2.7 e	-2.6 e	..	-1.9	-2.2
Electricity and heat gen.	-5.8	-6.9	-4.5	-4.1	-2.6	-2.3	-2.3	..	-1.5	-2.6
<i>Main activity producers</i> ³	-5.4	-6.5	-4.2	-4.1	-2.6	-2.3	-2.2	..	-1.4	-2.4
<i>Autoproducers</i>	-0.4	-0.5	-0.2	-	-	-0.0	-0.0	..	-3.7	-7.2
Gas works	0.3	0.2	-	-	-	-	-	..	-	-
Coal transformation ⁴	-1.0 e	-0.8 e	-0.2 e	-0.5 e	-0.5 e	-0.4 e	-0.4 e	..	-9.1	2.4
<i>BKB plants</i>	0.4	0.4	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-0.9 e	-0.9 e	-0.5 e	-0.4 e	-0.4 e	-0.3 e	-0.2 e	..	-3.2	-2.9
<i>Coke ovens</i>	-0.4	-0.3	-0.1	-0.2	-0.1	-0.0	-0.1	..	-5.3	-0.7
<i>Patent fuel plants</i>	-0.1	0.0	0.5	0.0	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	..	-0.2	0.0
Losses	-0.0	-0.0	-0.0	-	-0.0	-0.0	-0.0	..		
Final consumption ⁶	5.8	5.1	3.4	0.8	0.6	0.5	0.5	..	-3.2	-7.3
Industry ⁷	2.2	1.8	0.8	0.5	0.4	0.3	0.3	..	-5.8	-4.0
<i>Iron and steel</i>	0.9 e	0.9 e	0.6 e	0.4 e	0.3 e	0.3 e	0.2 e	..	-2.8	-3.7
<i>Chemical</i>	0.2	0.1	0.0	-	0.0	-	-	..	-9.1	-
<i>Non-metallic minerals</i>	0.5	0.3	0.1	0.1	0.1	0.0	0.0	..	-9.8	-2.5
<i>Paper, pulp and print</i>	0.0	0.0	0.0	0.0	-	-	0.0	..	-	-
<i>Other industry</i> ⁸	0.7	0.5	0.1	0.0	0.0	0.0	0.0	..	-8.9	-9.6
Transport ⁹	0.5	0.2	0.0	0.0	-	-	-	..	-30.3	-
Other	3.0	3.0	2.6	0.4	0.2	0.1	0.2	..	-1.0	-9.8
<i>Comm. and pub. services</i>	0.7	0.3	0.1	0.0	0.0	0.0	0.0	..	-9.2	-12.4
<i>Residential</i>	2.2	2.7	2.4	0.3	0.2	0.1	0.2	..	0.5	-9.6
<i>Other sectors</i> ¹⁰	0.2	0.1	0.0	0.0	0.0	0.0	0.0	..	-8.9	-
Non-energy use	-	-	-	-	-	0.0	0.0	..	-	-
Electricity gen. - TWh	11.6	12.0	8.7	9.7	6.4	5.9	5.8	5.1	-1.7	-1.6

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD World Energy Balances

HUNGARY

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	27.96	20.31	15.17	10.99	10.72	10.71	10.58	-2.63	-2.48
Total electricity and heat	18.29	14.53	13.02	9.11	8.97	8.90	8.88	-1.90	-1.88
<i>Main activity producers</i>	17.61	14.34	13.02	9.11	8.97	8.90	8.87	-1.70	-1.83
<i>Autoproducers</i>	0.68	0.20	-	-	-	-	0.01	-9.75	-11.21
Patent fuel/BKB plants	1.42	1.83	0.10	-	-	-	-	2.14	-
Coke ovens/Liquefaction ³	1.38	0.96	1.28	1.41	1.29	1.33	1.22	-3.04	0.96
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	2.67	0.65	0.14	0.07	0.06	0.07	0.08	-11.15	-7.77
<i>Iron and steel</i>	0.28	0.08	-	-	-	-	-	-9.64	-
<i>Chemical</i>	0.27	0.09	-	-	-	-	-	-8.75	-
<i>Non-metallic minerals</i>	1.06	0.20	0.14	0.06	0.05	0.06	0.05	-13.03	-5.30
<i>Paper, pulp and print</i>	0.06	0.01	0.00	-	-	-	0.02	-17.57	5.12
<i>Other industry</i>	1.00	0.27	0.01	0.01	0.01	0.01	0.01	-10.39	-12.25
Other sectors ⁴	3.50	2.29	0.64	0.39	0.40	0.40	0.40	-3.50	-6.49
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	3.34	1.44	0.39	0.65	0.24	0.22	0.31	-6.81	-5.70
Total electricity and heat	1.62	-	0.04	0.37	0.10	0.08	0.11	-	-
<i>Main activity producers</i>	1.56	-	0.04	0.37	0.10	0.08	0.10	-	-
<i>Autoproducers</i>	0.06	-	-	-	-	-	0.01	-	-
Patent fuel/BKB plants	0.33	0.93	0.03	-	-	-	-	8.97	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.38	0.10	0.11	0.06	0.06	0.06	0.07	-10.29	-1.62
<i>Iron and steel</i>	0.19	0.05	-	-	-	-	-	-9.95	-
<i>Chemical</i>	0.02	0.01	-	-	-	-	-	-7.85	-
<i>Non-metallic minerals</i>	0.07	0.01	0.11	0.06	0.05	0.05	0.04	-13.19	4.21
<i>Paper, pulp and print</i>	-	-	-	-	-	-	0.02	-	-
<i>Other industry</i>	0.10	0.03	-	0.01	0.01	0.01	0.01	-9.91	-4.70
Other sectors ⁴	0.87	0.40	0.21	0.22	0.08	0.07	0.13	-6.23	-4.17
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	1.74	0.97	1.28	1.42	1.29	1.33	1.22	-4.74	0.89
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	1.38	0.96	1.28	1.41	1.29	1.33	1.22	-3.04	0.96
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.01	0.00	-	-	-	-	-	-10.91	-
<i>Iron and steel</i>	0.01	0.00	-	-	-	-	-	-9.91	-
<i>Chemical</i>	0.00	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	0.16	0.01	-	-	-	-	-	-20.46	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

HUNGARY

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	22.88	17.90	13.50	8.92	9.19	9.16	9.05	-2.02	-2.59
Total electricity and heat	16.68	14.53	12.97	8.74	8.87	8.82	8.77	-1.14	-1.93
<i>Main activity producers</i>	16.06	14.34	12.97	8.74	8.87	8.82	8.77	-0.94	-1.87
<i>Autoproducers</i>	0.62	0.20	-	-	-	-	-	-9.07	-
Patent fuel/BKB plants	1.09	0.90	0.07	-	-	-	-	-1.55	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	2.28	0.54	0.03	0.01	0.00	0.01	0.01	-11.31	-13.91
<i>Iron and steel</i>	0.08	0.03	-	-	-	-	-	-8.93	-
<i>Chemical</i>	0.25	0.08	-	-	-	-	-	-8.81	-
<i>Non-metallic minerals</i>	0.99	0.19	0.02	0.01	0.00	0.01	0.01	-13.02	-10.62
<i>Paper, pulp and print</i>	0.06	0.01	0.00	-	-	-	-	-17.57	-
<i>Other industry</i>	0.91	0.24	0.01	-	-	0.00	0.00	-10.44	-19.02
Other sectors ³	2.48	1.88	0.43	0.17	0.32	0.33	0.27	-2.31	-7.22
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

HUNGARY

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	0.87	0.17	-	-	-	-	-	-12.69	-
Steam coal	1.08	0.14	-	-	-	-	-	-15.56	-
Lignite	7.12	5.72	4.13	2.50	2.28	2.09	1.80	-1.80	-3.80
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	0.86	0.17	-	-	-	-	-	-12.69	-
Steam coal	2.50	0.33	-	-	-	-	-	-15.56	-
Lignite	22.74	17.33	14.03	9.57	9.11	9.22	7.95	-2.24	-2.40
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	2.96	2.33	1.73	2.08	2.02	1.52	1.58	1.63	1.86
Bituminous coal ³	-	-	-	0.47	0.26	0.03	0.06	0.15	0.16
Coking coal	0.86	0.64	1.26	0.96	1.57	1.33	1.33	1.32	1.45
Sub-bituminous coal	0.60	0.65	0.33	0.43	0.17	0.11	0.11	0.08	0.09
Lignite	-	0.14	0.13	-	-	-	0.03	0.03	0.03
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	1.51	0.90	0.01	0.22	0.02	0.05	0.06	0.05	0.12
Total exports	0.05	0.00	0.19	0.22	0.40	0.64	0.45	0.53	0.39
Bituminous coal ³	-	-	-	0.00	0.01	-	-	-	-
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	0.00	-	-	-	-	-	-	-
Lignite	0.02	-	0.00	0.11	0.00	0.11	0.09	0.06	0.00
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.03	-	0.19	0.10	0.39	0.53	0.36	0.48	0.39

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

HUNGARY

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	1630	1763	1891	2152	2059	1542	1597	1562	1719
Coking coal	817	610	1234	898	1460	1321	1310	1222	1337
Australia	-	-	-	115	-	-	78	24	227
Canada	-	-	-	-	-	261	140	179	108
Czech Republic	-	-	800	230	380	250	232	370	162
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	251	217	129	39	121	77	27
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	51	52	840	727	739	563	709
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	46	44	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	817 e	610 e	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	132	284	65	-	-	9	104
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Steam coal	813	890	430	1254	599	221	224	292	320
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	42	408	292	149	123	145	107
Germany	-	-	-	-	17	16	24	15	22
Poland	-	-	294	263	59	15	36	106	131
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	10
Other OECD	-	-	-	1	-	-	2	3	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	2
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	94	582	220	41	39	23	48
<i>Other FSU</i>	x	x	-	-	11	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	813	890	-	-	-	-	-	-	-
Lignite	-	263	227	-	-	-	63	48	62

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

ICELAND¹

Figure 1: Coal supply indicators (1971 = 100)

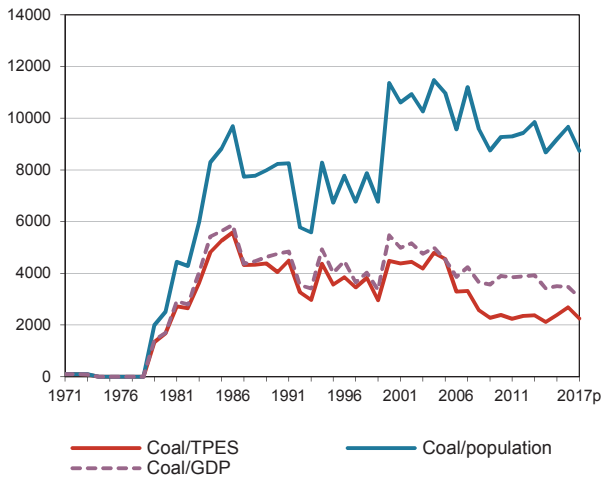


Figure 2: TPES by fuel (Mtce)

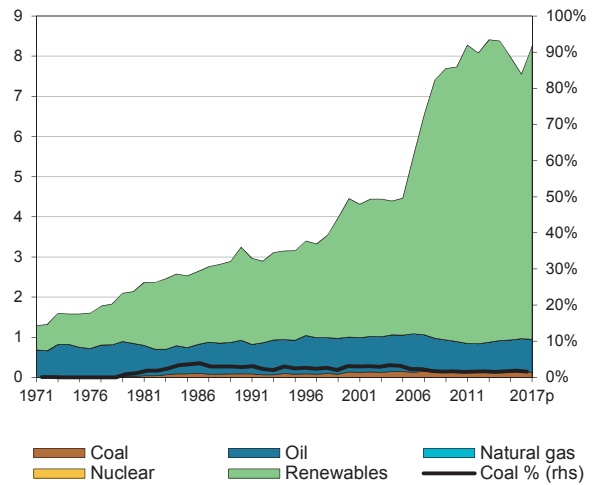


Figure 3: Primary coal supply (Mtce)

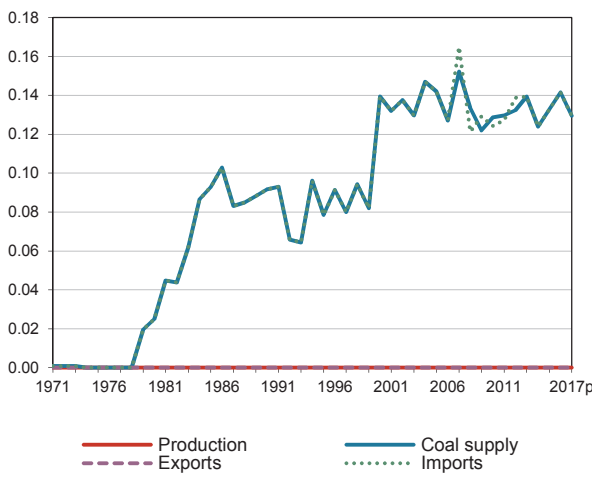


Figure 4: Coal consumption (Mtce)

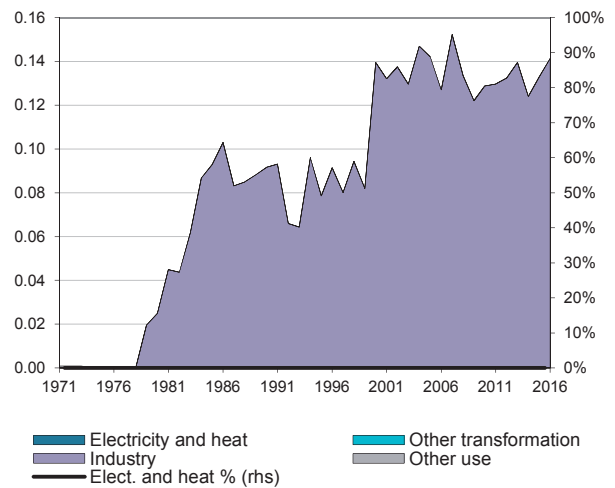


Figure 5: Electricity generation by fuel (TWh)

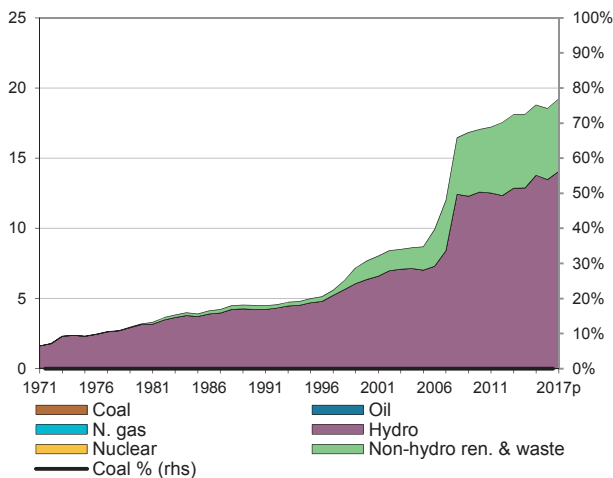
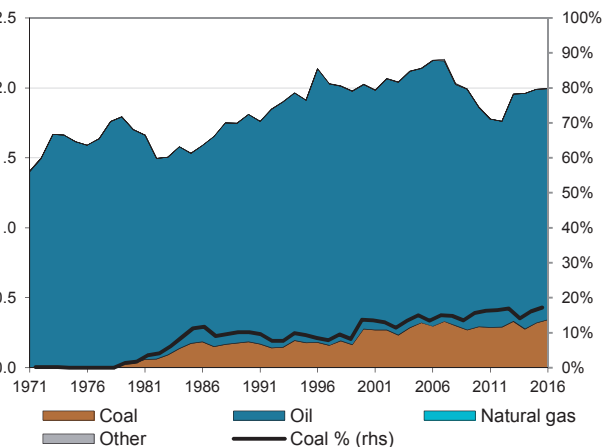


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

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1. Coal balance¹
(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	-	-	-	-	-	-	-	-	-	-
Imports	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	31.3	1.7
Exports	-	-	-	-	-	-	-	-	-	-
Stock changes	-	-	-	-	0.0	-	-	-	-	-
Primary supply	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	31.3	1.7
Statistical differences	-	-	-	-	-	-	-	..	-	-
Total transformation	-	-	-	-	-	-	-	..	-	-
Electricity and heat gen.	-	-	-	-	-	-	-	..	-	-
<i>Main activity producers</i> ³	-	-	-	-	-	-	-	..	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	..	-	-
Gas works	-	-	-	-	-	-	-	..	-	-
Coal transformation ⁴	-	-	-	-	-	-	-	..	-	-
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-	-	-	-	-	-	-	..	-	-
<i>Coke ovens</i>	-	-	-	-	-	-	-	..	-	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-	-	-	-	-	-	-	..	-	-
Losses	-	-	-	-	-	-	-	..	-	-
Final consumption ⁶	0.0	0.0	0.1	0.1	0.1	0.1	0.1	..	31.3	1.7
Industry ⁷	-	0.0	0.1	0.1	0.1	0.1	0.1	..	-	1.7
<i>Iron and steel</i>	-	0.0	0.1	0.1	0.1	0.1	0.1	..	-	2.3
<i>Chemical</i>	-	-	-	-	-	-	-	..	-	-
<i>Non-metallic minerals</i>	-	-	0.0	0.0	0.0	-	-	..	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	..	-	-
<i>Other industry</i> ⁸	-	-	-	-	-	-	-	..	-	-
Transport ⁹	-	-	-	-	-	-	-	..	-	-
Other	0.0	-	-	-	-	-	-	..	-	-
<i>Comm. and pub. services</i>	-	-	-	-	-	-	-	..	-	-
<i>Residential</i>	0.0	-	-	-	-	-	-	..	-	-
<i>Other sectors</i> ¹⁰	-	-	-	-	-	-	-	..	-	-
Non-energy use	-	-	-	-	-	-	-	..	-	-
Electricity gen. - TWh	-	-	-	-	-	-	-	-	-	-

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

ICELAND

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	-	0.07	0.10	0.11	0.10	0.12	0.12	-	2.52
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	0.07	0.10	0.11	0.10	0.12	0.12	-	2.52
<i>Iron and steel</i>	-	0.05	0.09	0.10	0.10	0.12	0.12	-	3.40
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	0.01	0.01	0.01	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	0.00	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	-	0.07	0.10	0.11	0.10	0.12	0.12	-	2.52
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	0.07	0.10	0.11	0.10	0.12	0.12	-	2.52
<i>Iron and steel</i>	-	0.05	0.09	0.10	0.10	0.12	0.12	-	3.40
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	0.01	0.01	0.01	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	0.00	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

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3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	-	0.09	0.14	0.14	0.12	0.12	0.13	0.14	0.13
Bituminous coal ³	-	0.06	0.10	0.11	0.10	0.10	0.11	0.12	0.12
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	-	0.03	0.04	0.03	0.02	0.03	0.02	0.02	0.01
Total exports	-	-	-	-	-	-	-	-	-
Bituminous coal ³	-	-	-	-	-	-	-	-	-
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

ICELAND

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	-	65	101	117	106	100	116	125	122
Coking coal	-	-	-	-	-	-	-	-	-
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Steam coal	-	65	101	117	106	100	116	125	122
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	6	39	14	2	35	-	-
Poland	-	-	7	8	-	-	-	-	-
United Kingdom	-	13	4	-	4	-	-	-	-
United States	-	52	48	9	20	36	29	16	-
Other OECD	-	-	26	61	68	62	52	109	122
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	10	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

IRELAND¹

Figure 1: Coal supply indicators (1971 = 100)

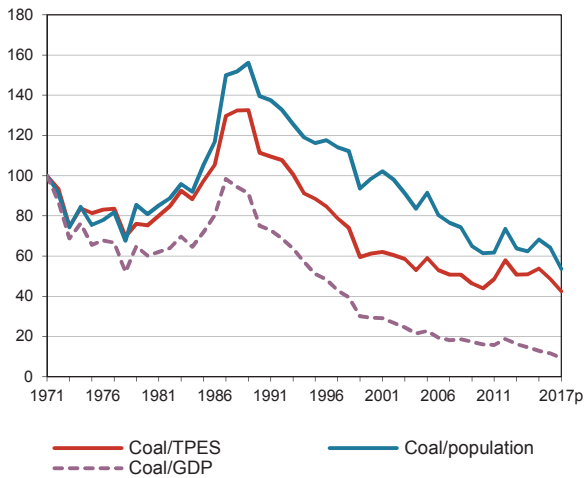


Figure 2: TPES by fuel (Mtce)

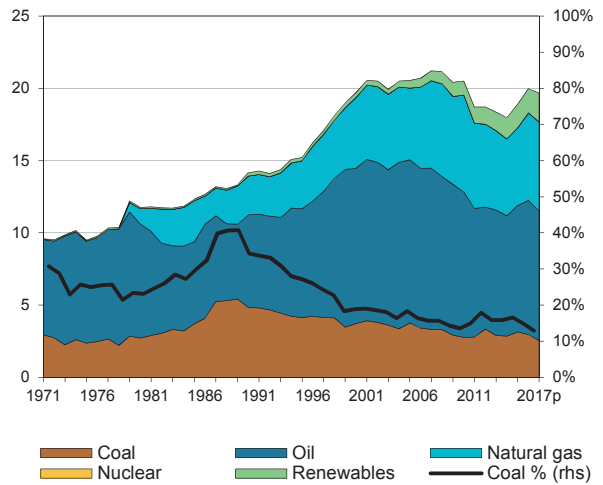


Figure 3: Primary coal supply (Mtce)

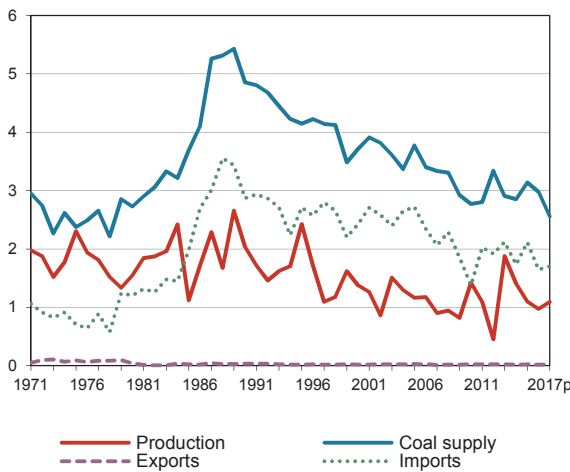


Figure 4: Coal consumption (Mtce)

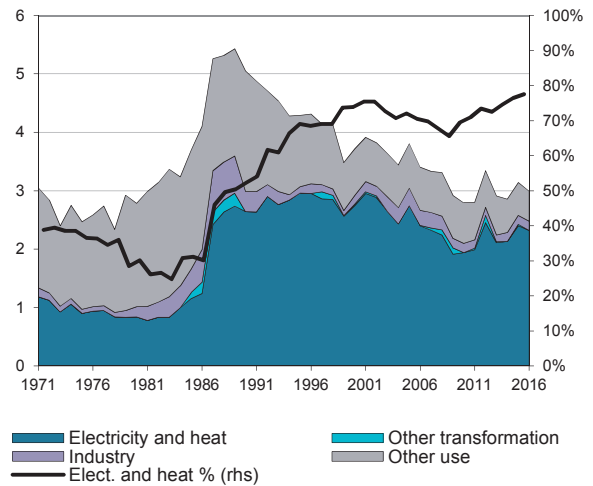


Figure 5: Electricity generation by fuel (TWh)

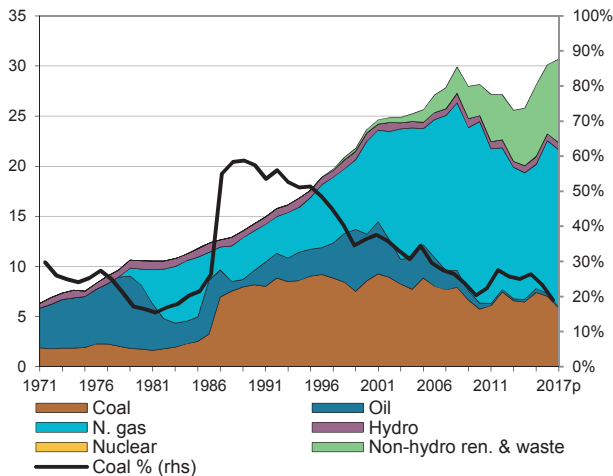
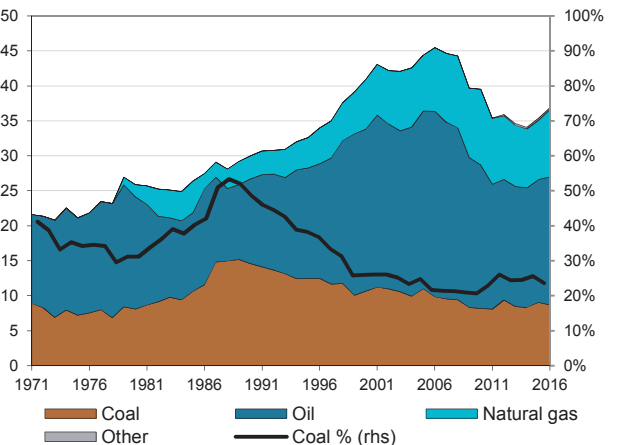


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

IRELAND

1. Coal balance¹
(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	1.5	1.5	2.0	1.4	1.4	1.1	1.0	1.1	1.7	-2.8
Imports	0.8	1.2	2.9	2.4	1.4	2.1	1.6	1.7	7.6	-2.1
Exports	-0.1	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-6.6	-
Stock changes	0.0	0.0	-0.0	-0.1	-0.0	-0.0	0.4	-0.2		
Primary supply	2.3	2.7	4.9	3.7	2.8	3.1	3.0	2.6	4.6	-1.9
Statistical differences	-	-0.0	0.2	-0.0	0.0	-0.0	0.0	..		
Total transformation	-0.8	-0.7	-2.7	-2.8	-1.9	-2.4	-2.3	..	7.5	-0.5
Electricity and heat gen.	-0.9	-0.8	-2.6	-2.7	-1.9	-2.4	-2.3	..	6.4	-0.5
<i>Main activity producers</i> ³	-0.9	-0.8	-2.6	-2.7	-1.9	-2.4	-2.3	..	6.3	-0.5
<i>Autoproducers</i>	-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	..	-	-
Gas works	0.2	0.1	-	-	-	-	-	..	-	-
Coal transformation ⁴	-	0.0	-0.0	-0.0	0.0	-0.0	-0.0	..	-	-
<i>BKB plants</i>	-	0.0	-0.0	-0.0	0.0	-0.0	-0.0	..	-	-
<i>Blast furnaces</i>	-	-	-	-	-	-	-	..	-	-
<i>Coke ovens</i>	-	-	-	-	-	-	-	..	-	-
<i>Patent fuel plants</i>	-	-	c	c	c	c	c	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	..	-	-
Losses	-0.0	-0.0	-	-	-	-	-	..		
Final consumption ⁶	1.5	1.9	2.4	0.9	0.9	0.7	0.7	..	2.9	-4.8
Industry ⁷	0.1	0.2	0.3	0.1	0.2	0.2	0.2	..	7.7	-3.0
<i>Iron and steel</i>	0.0	0.0	0.0	-	-	-	-	..	-	-
<i>Chemical</i>	-	-	0.0	-	-	-	-	..	-	-
<i>Non-metallic minerals</i>	-	-	0.2	0.1	0.1	0.1	0.1	..	-	-1.1
<i>Paper, pulp and print</i>	-	-	-	-	0.0	-	-	..	-	-
<i>Other industry</i> ⁸	0.1	0.2	0.1	0.1	0.0	0.0	0.0	..	1.1	-4.6
Transport ⁹	-	-	-	-	-	-	-	..	-	-
Other	1.4	1.8	2.1	0.8	0.7	0.6	0.5	..	2.4	-5.2
<i>Comm. and pub. services</i>	-	0.1	0.0	0.0	-	-	-	..	-	-
<i>Residential</i>	1.4	1.7	2.0	0.8	0.7	0.6	0.5	..	2.3	-5.2
<i>Other sectors</i> ¹⁰	-	-	-	-	-	-	-	..	-	-
Non-energy use	-	-	-	-	-	-	-	..	-	-
Electricity gen. - TWh	1.8	1.7	8.2	8.6	5.7	7.4	7.0	5.8	9.2	-0.6

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

IRELAND

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	0.54	3.20	2.94	2.00	2.00	2.32	2.25	15.92	-1.35
Total electricity and heat	0.02	1.97	2.35	1.47	1.59	1.89	1.85	45.40	-0.23
<i>Main activity producers</i>	0.02	1.96	2.34	1.47	1.59	1.89	1.85	45.37	-0.22
<i>Autoproducers</i>	-	0.01	0.01	-	-	-	-	-	-
Patent fuel/BKB plants	-	c	c	c	c	c	c	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	0.03	-	-	-	-	-	-	-	-
Industry	0.04	0.34	0.17	0.17	0.16	0.16	0.17	19.75	-2.71
<i>Iron and steel</i>	-	0.01	-	-	-	-	-	-	-
<i>Chemical</i>	-	0.03	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	0.19	0.11	0.14	0.13	0.13	0.14	-	-1.23
<i>Paper, pulp and print</i>	-	-	-	0.00	-	-	-	-	-
<i>Other industry</i>	0.04	0.11	0.06	0.03	0.03	0.03	0.03	9.19	-4.82
Other sectors ⁴	0.46	1.05	0.38	0.33	0.28	0.27	0.23	7.25	-5.73
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	0.54	3.18	2.94	2.00	2.00	2.32	2.25	15.88	-1.33
Total electricity and heat	0.02	1.97	2.35	1.47	1.59	1.89	1.85	45.40	-0.23
<i>Main activity producers</i>	0.02	1.96	2.34	1.47	1.59	1.89	1.85	45.37	-0.22
<i>Autoproducers</i>	-	0.01	0.01	-	-	-	-	-	-
Patent fuel/BKB plants	-	c	c	c	c	c	c	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	0.03	-	-	-	-	-	-	-	-
Industry	0.04	0.33	0.17	0.17	0.16	0.16	0.17	19.33	-2.55
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	0.03	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	0.19	0.11	0.14	0.13	0.13	0.14	-	-1.23
<i>Paper, pulp and print</i>	-	-	-	0.00	-	-	-	-	-
<i>Other industry</i>	0.04	0.11	0.06	0.03	0.03	0.03	0.03	9.19	-4.82
Other sectors ⁴	0.46	1.05	0.38	0.33	0.28	0.27	0.23	7.25	-5.73
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	-	0.01	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	0.01	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	0.01	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

IRELAND

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	5.91	6.08	3.92	3.79	3.65	3.50	3.53	0.24	-2.07
Total electricity and heat	2.86	3.18	2.64	2.68	2.73	2.74	2.68	0.87	-0.65
<i>Main activity producers</i>	2.81	3.11	2.57	2.63	2.70	2.71	2.64	0.86	-0.64
<i>Autoproducers</i>	0.06	0.06	0.07	0.05	0.04	0.03	0.04	1.00	-1.58
Patent fuel/BKB plants	0.75	0.99	0.68	0.50	0.45	0.31	0.39	2.33	-3.54
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	0.00	0.00	0.00	0.00	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	0.00	0.00	0.00	0.00	-	-
Other sectors ³	2.30	1.82	0.57	0.53	0.41	0.41	0.41	-1.91	-5.59
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

IRELAND

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	0.02	0.02	-	-	-	-	-	0.45	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	1.50	2.02	1.38	1.17	1.42	0.97	1.09	2.50	-2.77
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	0.02	0.03	-	-	-	-	-	1.46	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	5.24	6.52	4.81	3.96	4.99	3.19	3.59	1.82	-2.71
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	0.58	2.87	2.42	2.72	1.38	1.74	2.12	1.65	1.70
Bituminous coal ³	0.57	2.80	2.40	2.69	1.36	1.72	2.10	1.64	1.69
Coking coal	-	0.01	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.01	0.06	0.03	0.04	0.01	0.02	0.02	0.01	0.01
Total exports	0.08	0.03	0.01	0.01	0.01	0.01	0.02	0.01	0.01
Bituminous coal ³	0.05	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	0.01	-	-	-	-	-	-	-	-
Coal products ⁴	0.02	0.00	c	c	0.00	0.00	0.00	0.00	0.00

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

IRELAND

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	565	3081	2747	3024	1596	1974	2394	1911	1986
Coking coal	-	14	-	-	-	-	-	-	-
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	2	-	-	-	-	-	-	-
Poland	-	2	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	2	-	-	-	-	-	-	-
Other OECD	-	5	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	3	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Steam coal	565	3067	2747	3024	1596	1974	2394	1911	1986
Australia	6	-	292	299	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	21	-	5	-	-	-	-	-
Poland	331	430	176	288	278	162	111	97	23
United Kingdom	214	302	123	19	37	50	80	92	52
United States	-	1277	452	-	-	-	-	-	-
Other OECD	-	115	-	36	-	-	-	-	-
China, People's Rep.	-	7	-	9	-	-	-	-	-
Colombia	-	667	904	1013	1184	1559	2014	1355	1315
Indonesia	-	17	327	602	-	-	-	-	-
South Africa	11	71	418	634	38	-	-	-	-
Former Soviet Union ⁴	-	15	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	3
<i>Other FSU</i>	x	x	-	9	-	-	-	-	-
Venezuela	-	5	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	3	140	55	110	59	203	189	367	593
Lignite	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

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Figure 1: Coal supply indicators (1971 = 100)

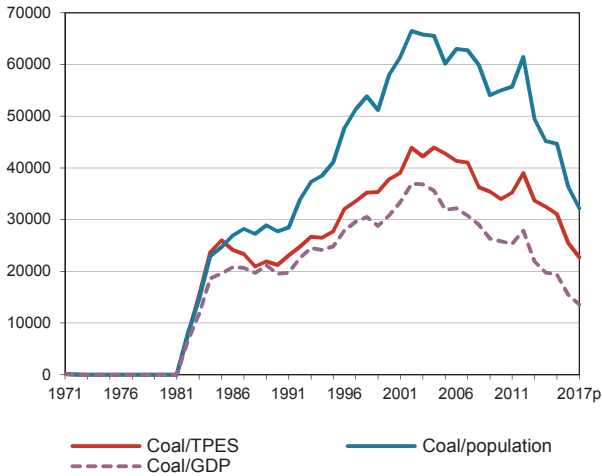


Figure 2: TPES by fuel (Mtce)

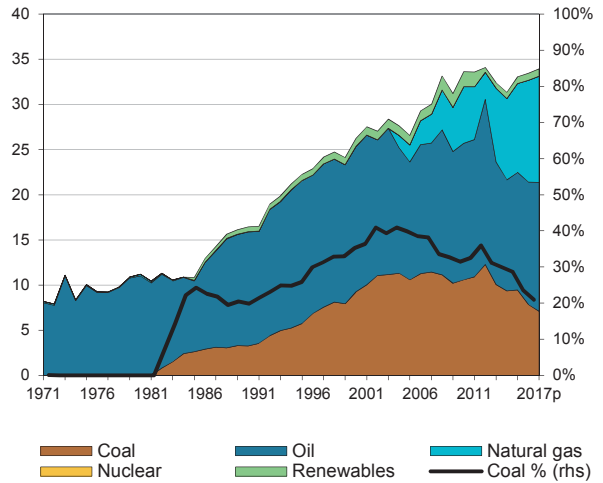


Figure 3: Primary coal supply (Mtce)

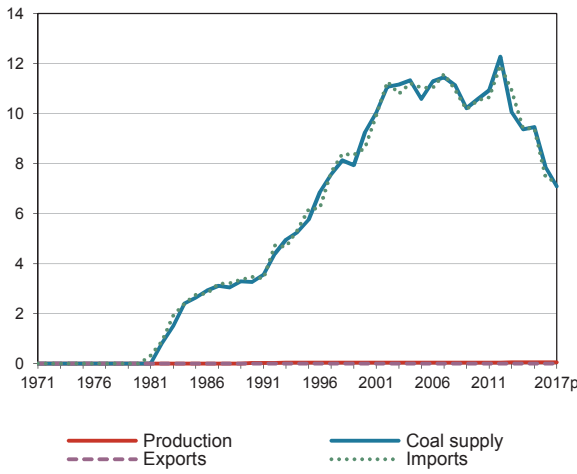


Figure 4: Coal consumption (Mtce)

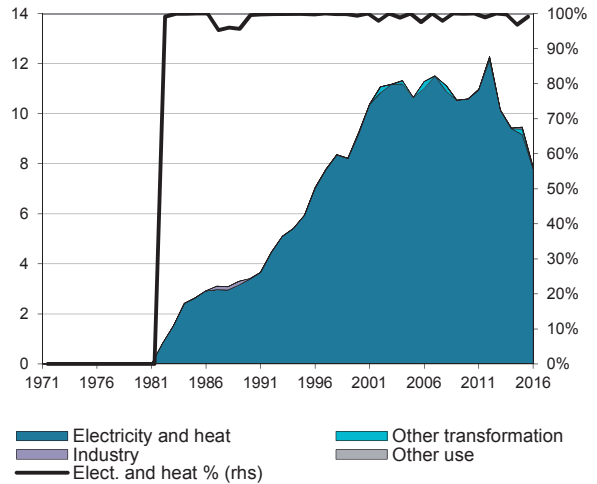


Figure 5: Electricity generation by fuel (TWh)

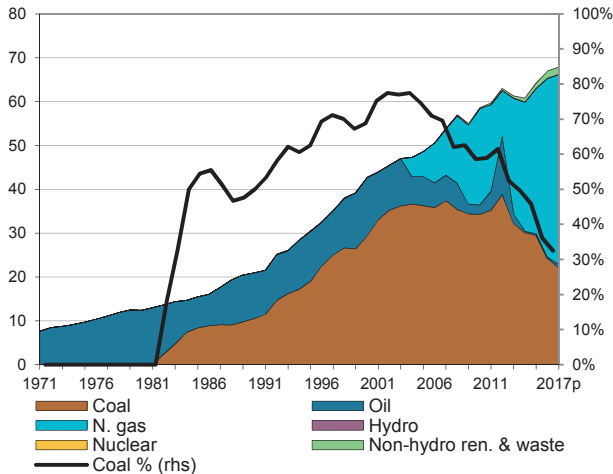
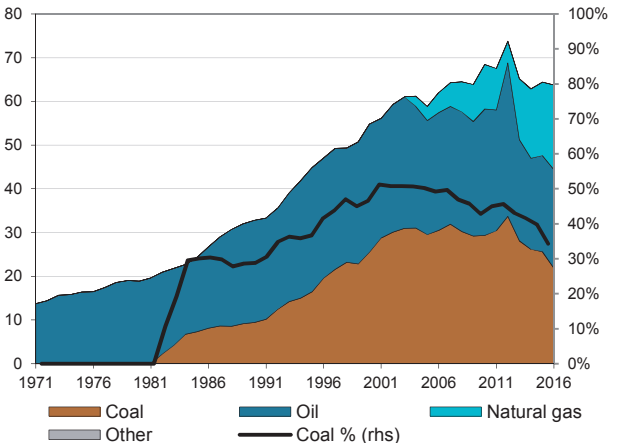


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

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1. Coal balance¹
(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	-	-	0.0	0.0	0.0	0.1	0.1	0.1	-	2.5
Imports	0.0	0.0	3.5	8.6	10.5	9.4	7.5	7.2	55.4	3.0
Exports	-	-	-	-	-	-	-	-	-	-
Stock changes	-	-0.0	-0.2	0.6	-	-0.0	0.3	-0.2		
Primary supply	0.0	0.0	3.3	9.2	10.6	9.5	7.9	7.1	54.9	3.4
Statistical differences	-	-	0.1	-0.0	-0.0	-0.2	0.0	..		
Total transformation	0.0	0.0	-3.4	-9.2	-10.6	-9.2	-7.8	..	-	3.3
Electricity and heat gen.	-	-	-3.4	-9.2	-10.6	-9.2	-7.8	..	-	3.3
<i>Main activity producers</i> ³	-	-	-3.4	-9.2	-10.5	-9.1	-7.7	..	-	3.2
<i>Autoproducers</i>	-	-	-	-0.0	-0.0	-0.1	-0.1	..	-	-
Gas works	-	-	-	-	-	-	-	..	-	-
Coal transformation ⁴	0.0	0.0	-	-	-	-	-	..	-	-
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	0.0	0.0	-	-	-	-	-	..	-	-
<i>Coke ovens</i>	-	-	-	-	-	-	-	..	-	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-	-	-	-	-	-	-	..	-	-
Losses	-	-	-	-	-	-	-	..		
Final consumption ⁶	0.0	0.0	0.0	0.0	-	0.1	0.1	..	-	6.3
Industry ⁷	0.0	0.0	0.0	0.0	-	0.1	0.1	..	-	6.2
<i>Iron and steel</i>	0.0	0.0	-	-	-	-	-	..	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	..	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	..	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	..	-	-
<i>Other industry</i> ⁸	-	-	0.0	0.0	-	0.1	0.1	..	-	6.2
Transport ⁹	-	-	-	-	-	-	-	..	-	-
Other	-	-	-	-	-	-	0.0	..	-	-
<i>Comm. and pub. services</i>	-	-	-	-	-	-	-	..	-	-
<i>Residential</i>	-	-	-	-	-	-	-	..	-	-
<i>Other sectors</i> ¹⁰	-	-	-	-	-	-	0.0	..	-	-
Non-energy use	-	-	-	-	-	-	-	..	-	-
Electricity gen. - TWh	-	-	10.5	29.4	34.3	29.4	24.2	22.1	-	3.3

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

ISRAEL

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	-	3.72	10.59	12.31	10.92	11.04	9.19	-	3.54
Total electricity and heat	-	3.70	10.22	12.30	10.94	10.67	9.14	-	3.54
<i>Main activity producers</i>	-	3.70	10.22	12.30	10.94	10.67	9.14	-	3.54
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	0.02	0.03	-	0.03	0.09	0.09	-	6.29
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	0.02	0.03	-	0.03	0.09	0.09	-	6.29
Other sectors ⁴	-	-	-	-	-	-	0.00	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	-	3.72	10.59	12.31	10.92	11.04	9.19	-	3.54
Total electricity and heat	-	3.70	10.22	12.30	10.94	10.67	9.14	-	3.54
<i>Main activity producers</i>	-	3.70	10.22	12.30	10.94	10.67	9.14	-	3.54
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	0.02	0.03	-	0.03	0.09	0.09	-	6.29
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	0.02	0.03	-	0.03	0.09	0.09	-	6.29
Other sectors ⁴	-	-	-	-	-	-	0.00	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

ISRAEL

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	0.30	0.39	0.43	0.40	0.42	0.42	-	1.29
Total electricity and heat	-	0.30	0.46	0.43	0.40	0.42	0.42	-	1.29
<i>Main activity producers</i>	-	0.30	0.27	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	0.18	0.43	0.40	0.42	0.42	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

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3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	0.03	0.04	0.04	0.04	0.06	0.06	-	2.48
Mt:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	0.30	0.39	0.43	0.43	0.42	0.45	-	1.29

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	0.00	3.48	8.62	11.03	10.54	9.40	9.40	7.46	7.23
Bituminous coal ³	-	3.48	8.62	11.03	10.54	9.40	9.40	7.46	7.23
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.00	-	-	-	-	-	-	-	-
Total exports	-	-	-	-	-	-	-	-	-
Bituminous coal ³	-	-	-	-	-	-	-	-	-
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

ISRAEL

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	-	3998	9917	12685	12310	11021	11042	8795	8516
Coking coal	-	-	-	-	-	-	-	-	-
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Steam coal	-	3998	9917	12685	12310	11021	11042	8795	8516
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	4234	5891	5846	4546	3922
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	3145	2496	2558	1003	1166
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	1931	2460	2202	2492	3003
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	3998	9917	12685	3000	174	436	754	425
Lignite	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

ITALY¹

Figure 1: Coal supply indicators (1971 = 100)

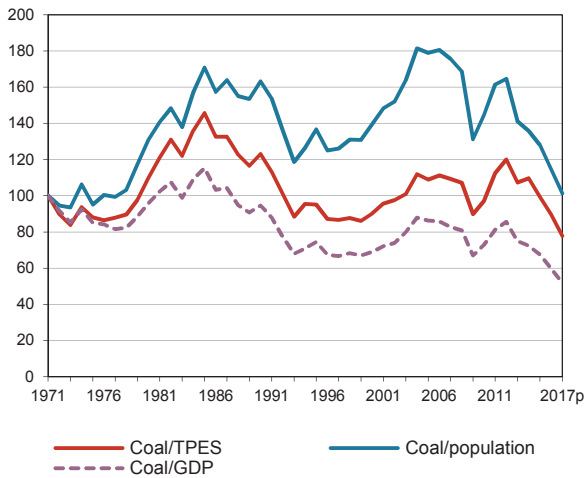


Figure 2: TPES by fuel (Mtce)

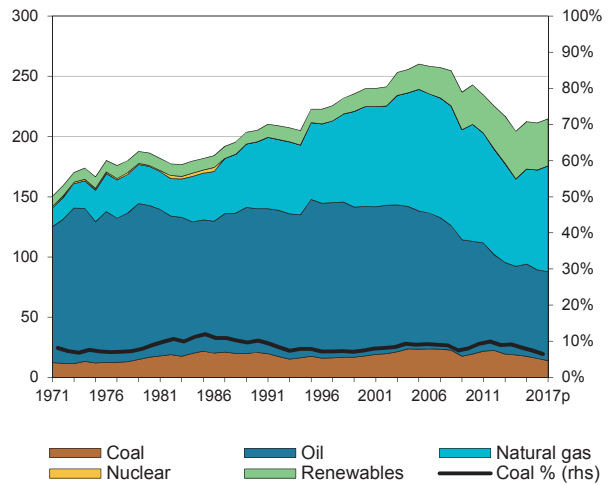


Figure 3: Primary coal supply (Mtce)

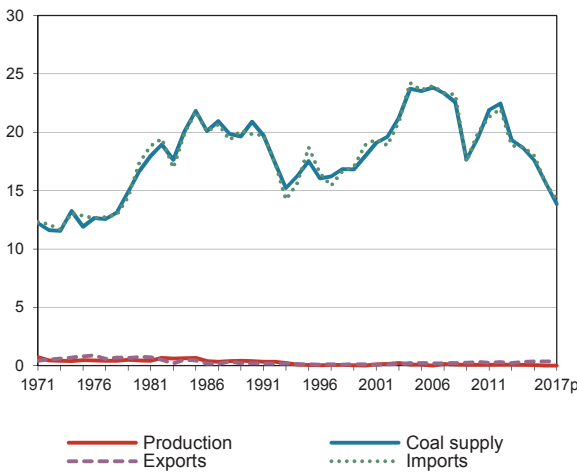


Figure 4: Coal consumption (Mtce)

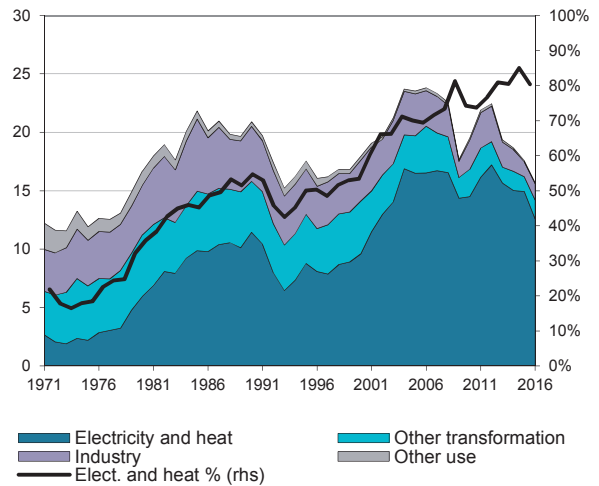


Figure 5: Electricity generation by fuel (TWh)

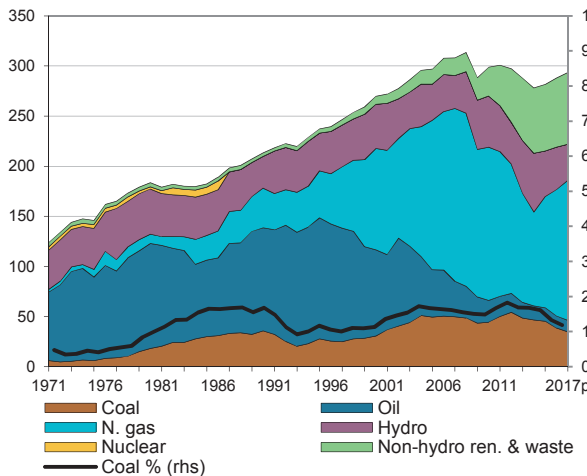
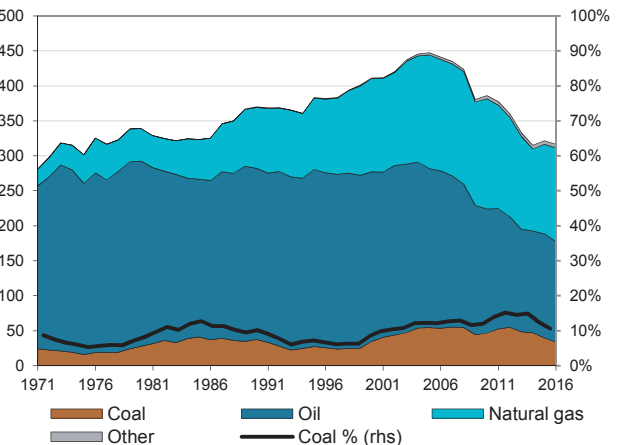


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

ITALY

1. Coal balance¹
(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	0.4	0.5	0.4	0.0	0.1	0.1	-	-	-0.5	-
Imports	11.7	17.4	19.8	18.9	20.0	18.0	15.7	14.2	3.2	-0.9
Exports	-0.6	-0.7	-0.2	-0.1	-0.3	-0.4	-0.4	-0.4	-6.5	2.4
Stock changes	0.1	-0.4	0.9	-0.8	-0.3	-0.1	0.4	0.0		
Primary supply	11.6	16.7	20.9	17.9	19.5	17.6	15.7	13.9	3.5	-1.1
Statistical differences	0.1	0.0	0.2	-0.5	0.0	0.1	0.1	..		
Total transformation	-4.2 e	-9.1 e	-14.7	-13.2 e	-16.8 e	-16.3 e	-14.3 e	..	7.6	-0.1
Electricity and heat gen.	-1.9	-6.0	-11.4	-9.6	-14.5	-14.9	-12.6	..	11.1	0.4
<i>Main activity producers</i> ³	-1.9	-4.9	-10.2	-9.6	-14.5	-14.1	-11.7	..	10.4	0.5
<i>Autoproducers</i>	-	-1.1	-1.3	..	-0.0	-0.8	-0.9	..	-	-1.1
Gas works	0.7	0.7	0.3	0.0	-	-	-	..	-4.9	-
Coal transformation ⁴	-3.0 e	-3.8 e	-3.5	-3.7 e	-2.3 e	-1.4 e	-1.7 e	..	1.0	-2.7
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-2.2 e	-2.2 e	-2.3	-2.1 e	-1.6 e	-1.2 e	-1.5 e	..	0.3	-1.6
<i>Coke ovens</i>	-0.8	-1.6	-1.2	-1.6	-0.6	-0.2	-0.2	..	2.5	-6.1
<i>Patent fuel plants</i>	-	0.0	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-1.7	-2.0	-1.2	-0.4	-0.1	-0.0	-0.0	..	-1.9	-18.5
Losses	-0.5	-0.2	-0.1	-0.0	-	-	-	..		
Final consumption ⁶	5.3	5.5	5.1	3.8	2.7	1.4	1.5	..	-0.2	-4.7
Industry ⁷	3.8	4.3	4.7	3.5	2.5	1.3	1.4	..	1.3	-4.6
<i>Iron and steel</i>	2.8	2.9	2.9	2.7 e	2.4 e	1.1 e	1.0 e	..	0.4	-4.2
<i>Chemical</i>	0.3	0.2	0.2	0.0	0.0	0.0	-	..	-1.0	-
<i>Non-metallic minerals</i>	0.2	0.5	1.3	0.5	0.1	0.2	0.3	..	11.3	-5.3
<i>Paper, pulp and print</i>	-	0.0	0.0	0.0	-	-	-	..	-	-
<i>Other industry</i> ⁸	0.6	0.5	0.2	0.3	0.0	0.0	0.1	..	-5.7	-3.7
Transport ⁹	0.2	0.0	-	-	-	-	-	..	-	-
Other	1.2	1.2	0.4	0.1	0.0	-	-	..	-6.4	-
<i>Comm. and pub. services</i>	-	-	-	-	-	-	-	..	-	-
<i>Residential</i>	1.2	1.2	0.4	0.1	0.0	-	-	..	-6.4	-
<i>Other sectors</i> ¹⁰	-	-	-	-	-	-	-	..	-	-
Non-energy use	-	-	-	0.2	0.2	0.1	0.1	..	-	-
Electricity gen. - TWh	5.2	18.3	35.8	30.5	44.4	45.4	38.4	34.8	12.0	0.3

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

ITALY

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	13.69	22.42	18.04	21.77	20.11	19.46	17.04	4.19	-1.05
Total electricity and heat	3.27	11.84	9.53	15.05	16.16	16.31	13.37	11.33	0.47
<i>Main activity producers</i>	3.22	11.82	9.53	15.03	16.14	16.30	13.35	11.44	0.47
<i>Autoproducers</i>	0.05	0.02	..	0.02	0.02	0.02	0.02	-8.42	0.00
Patent fuel/BKB plants	0.01	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	9.90	8.61	6.38	4.92	2.28	2.15	2.35	-1.15	-4.87
Blast furnace inputs	-	0.17	0.94 e	0.92 e	0.89 e	0.61 e	0.84 e	-	6.35
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.35	1.72	0.91	0.65	0.64	0.29	0.39	14.25	-5.52
<i>Iron and steel</i>	0.06	0.24	0.26 e	0.54 e	0.13 e	0.06 e	0.01 e	12.81	-10.58
<i>Chemical</i>	0.01	0.00	0.00	0.00	-	-	-	-9.91	-
<i>Non-metallic minerals</i>	0.21	1.41	0.55	0.10	0.51	0.23	0.38	17.39	-4.93
<i>Paper, pulp and print</i>	-	-	0.00	-	-	-	-	-	-
<i>Other industry</i>	0.07	0.06	0.10 e	0.01 e	-	-	-	-0.86	-
Other sectors ⁴	0.11	0.06	0.00	0.01	-	-	-	-4.84	-
Non-energy use	-	-	0.23	0.18	0.13	0.09	0.09	-	-
Steam coal	2.51	12.69	11.36	16.62	17.69	17.21	14.60	14.46	0.54
Total electricity and heat	2.07	10.78	9.53	15.05	16.16	16.31	13.37	14.77	0.83
<i>Main activity producers</i>	2.02	10.77	9.53	15.03	16.14	16.30	13.35	14.97	0.83
<i>Autoproducers</i>	0.05	0.02	..	0.02	0.02	0.02	0.02	-8.42	0.00
Patent fuel/BKB plants	0.01	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	0.17	0.94 e	0.92 e	0.89 e	0.61 e	0.84 e	-	6.35
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.31	1.68	0.88	0.65	0.64	0.28	0.39	15.08	-5.47
<i>Iron and steel</i>	0.03	0.22	0.26 e	0.54 e	0.13 e	0.06 e	0.01 e	19.30	-10.25
<i>Chemical</i>	0.01	0.00	0.00	0.00	-	-	-	-9.91	-
<i>Non-metallic minerals</i>	0.20	1.40	0.54	0.10	0.51	0.22	0.38	17.56	-4.92
<i>Paper, pulp and print</i>	-	-	0.00	-	-	-	-	-	-
<i>Other industry</i>	0.07	0.06	0.08 e	0.01 e	-	-	-	-1.12	-
Other sectors ⁴	0.07	0.06	0.00	0.01	-	-	-	-1.87	-
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	9.91	8.63	6.66	5.15	2.42	2.25	2.44	-1.14	-4.74
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	9.90	8.61	6.38	4.92	2.28	2.15	2.35	-1.15	-4.87
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	0.23	0.18	0.13	0.09	0.09	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

ITALY

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	1.27	1.09	0.03	0.01	0.00	0.00	0.00	-1.27	-21.52
Total electricity and heat	1.20	1.06	0.00	-	-	-	-	-1.07	-
<i>Main activity producers</i>	1.20	1.06	0.00	-	-	-	-	-1.07	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.04	0.03	0.03	0.01	0.00	0.00	0.00	-0.49	-10.22
<i>Iron and steel</i>	0.03	0.02	-	-	-	-	-	-2.55	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	0.01	0.01	0.01	0.01	0.00	0.00	0.00	5.02	-5.62
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.00	0.00	0.02	-	-	-	-	-	-
Other sectors ³	0.03	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

ITALY

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	0.01	0.05	-	0.09	0.09	-	-	20.81	-
Lignite	0.43	0.34	0.00	-	-	-	-	-1.89	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	0.01	0.06	-	0.10	0.10	-	-	20.81	-
Lignite	1.20	0.96	0.01	-	-	-	-	-1.89	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	12.92	19.83	18.90	23.62	20.00	18.75	17.97	15.66	14.23
Bituminous coal ³	2.19	10.53	10.78	16.66	14.37	14.77	14.60	12.07	11.10
Coking coal	10.58	9.14	7.61	6.11	5.36	2.50	2.42	2.55	2.39
Sub-bituminous coal	-	-	-	-	0.25	0.31	0.29	0.08	0.08
Lignite	0.02	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.13	0.11	0.51	0.84	0.02	1.18	0.66	0.95	0.66
Total exports	0.70	0.20	0.12	0.23	0.30	0.34	0.37	0.37	0.38
Bituminous coal ³	-	-	0.00	-	0.00	0.00	0.07	-	0.04
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.70	0.20	0.12	0.23	0.30	0.34	0.30	0.37	0.34

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

ITALY

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	12526	20578	19027	24158	22112	19931	19634	16707	15406
Coking coal	10007	8648	7198	5784	5066	2362	2292	2415	2257
Australia	1347	1045	2463	2109	1896	591	757	711	297
Canada	-	212	1280	637	865	366	266	300	303
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	2537	804	-	-	-	-	-	-	-
Poland	1525	158	-	283	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	3027	6236	3281	2431	2305	1371	1269	1404	1631
Other OECD	-	12	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	15	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	174	205	-	-	-	-	-
Former Soviet Union ⁴	1036	131	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	14	-	27	-	-	15
<i>Other FSU</i>	x	x	-	-	-	-	-	-	11
Venezuela	-	-	-	105	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	535	35	-	-	-	7	-	-	-
Steam coal	2451	11797	11817	18366	17040	17566	17339	14290	13147
Australia	-	-	1141	682	598	-	-	6	60
Canada	-	-	-	506	-	357	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	109	1	1	-	-	-	-	-
Poland	1437	507	912	182	-	-	63	-	-
United Kingdom	52	-	-	-	-	-	-	-	-
United States	-	4800	4	204	460	4059	1701	287	1332
Other OECD	-	148	-	1	995	790	482	208	39
China, People's Rep.	-	310	369	-	-	-	-	-	-
Colombia	-	290	1759	2997	1762	2333	2930	4406	3336
Indonesia	-	-	1919	6800	7027	3569	3387	1079	947
South Africa	960	4884	3548	4395	3919	1772	4144	3196	1123
Former Soviet Union ⁴	-	609	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	993	1082	2092	3974	4064	4402	5541
<i>Other FSU</i>	x	x	56	1025	89	579	480	632	769
Venezuela	-	140	1115	445	98	123	88	74	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	2	-	-	46	-	10	-	-	-
Lignite	68	133	12	8	6	3	3	2	2

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

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Figure 1: Coal supply indicators (1971 = 100)

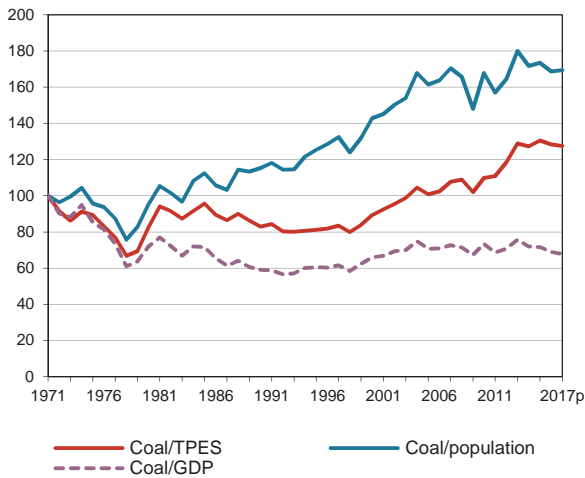


Figure 2: TPES by fuel (Mtce)

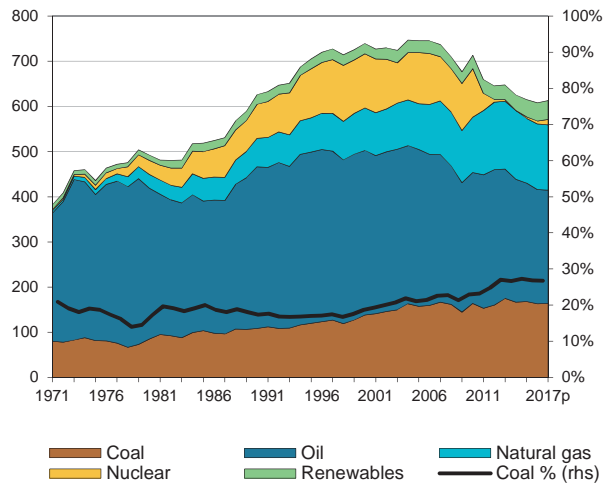


Figure 3: Primary coal supply (Mtce)

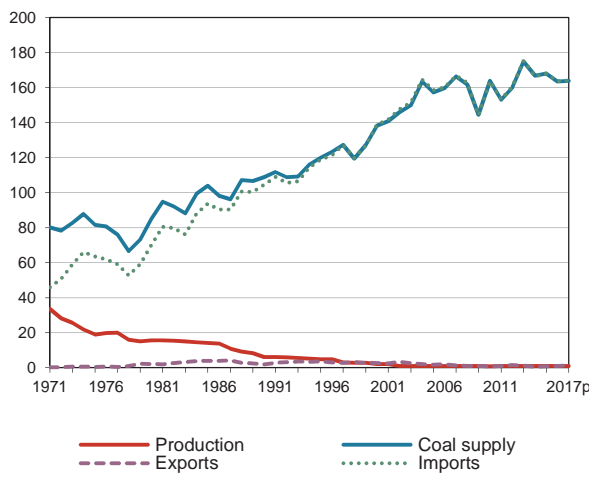


Figure 4: Coal consumption (Mtce)

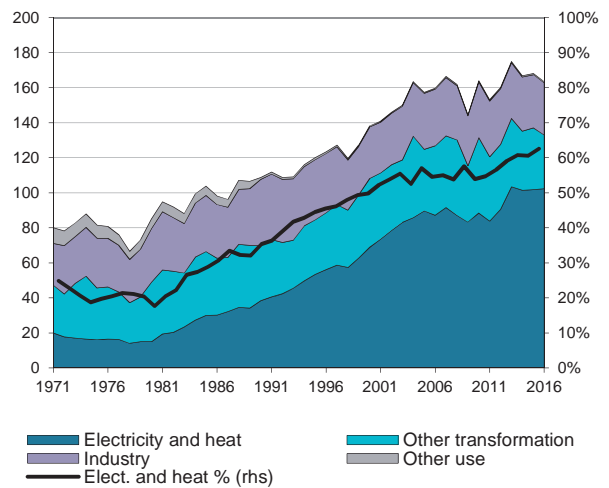


Figure 5: Electricity generation by fuel (TWh)

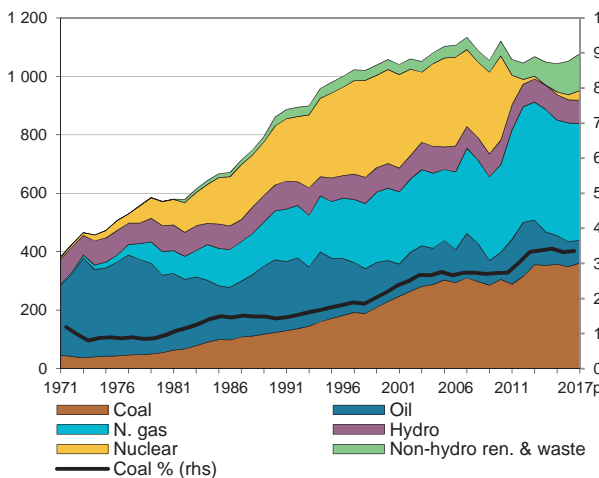
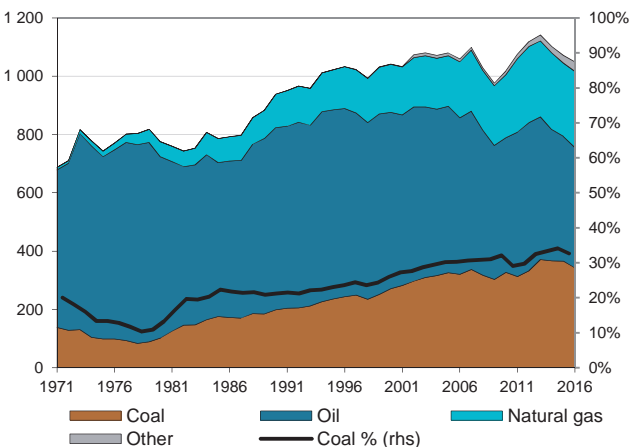


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

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1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	25.6	15.6	6.2	2.2	0.9	0.9	0.9	1.0	-8.0	-7.0
Imports	59.0	70.0	104.4	138.8	163.5	167.9	163.6	164.0	3.4	1.7
Exports	-0.6	-2.1	-1.9	-2.7	-0.7	-0.8	-1.0	-1.2	7.3	-2.4
Stock changes	-1.3	1.6	0.1	-0.2	0.1	0.0	-0.1	0.1		
Primary supply	82.7	85.1	108.7	138.2	163.9	168.1	163.4	163.8	1.6	1.6
Statistical differences	-2.5	-1.9	6.2	-4.8	-8.6	-2.5	1.9	..		
Total transformation	-41.2 e	-43.4 e	-70.7 e	-98.9 e	-117.7 e	-129.9 e	-130.3 e	..	3.2	2.4
Electricity and heat gen.	-17.1	-15.0	-38.4	-68.8	-88.4	-101.8	-102.2	..	4.9	3.8
<i>Main activity producers</i> ³	-17.1	-11.5	-29.4	-57.6	-76.2	-85.2	-88.9	..	3.2	4.4
<i>Autoproducers</i>	-	-3.6	-9.1	-11.2	-12.1	-16.5	-13.3	..	-	1.5
Gas works	3.4	4.7	-0.6	-0.3	-	-	-	..	-	-
Coal transformation ⁴	-27.5 e	-33.1 e	-31.6 e	-29.8 e	-29.3 e	-28.1 e	-28.1 e	..	0.8	-0.5
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-24.5 e	-20.1 e	-25.6 e	-28.3 e	-26.7 e	-25.9 e	-25.9 e	..	0.3	0.0
<i>Coke ovens</i>	-3.0	-13.1	-6.0	-1.5	-2.6	-2.2	-2.2	..	4.2	-3.7
<i>Patent fuel plants</i>	-0.0	0.1	-0.0	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-4.4	-3.4	-5.3	-4.5	-5.1	-4.6	-4.4	..	1.1	-0.7
Losses	-0.1	-0.3	-	-	-	-	-	..		
Final consumption ⁶	34.4	36.1	38.9	30.0	32.5	31.0	30.5	..	0.7	-0.9
Industry ⁷	26.6	30.6	37.8	29.4	31.9	30.3	29.8	..	2.1	-0.9
<i>Iron and steel</i>	23.2 e	23.0 e	19.0 e	15.1 e	18.2 e	16.8 e	16.5 e	..	-1.2	-0.5
<i>Chemical</i>	-	0.4	6.1	4.3	6.0	5.6	5.6	..	-	-0.4
<i>Non-metallic minerals</i>	-	4.3	9.0	7.0	4.9	4.8	4.8	..	-	-2.4
<i>Paper, pulp and print</i>	-	0.1	1.6	2.1	2.3	2.6	2.5	..	-	1.6
<i>Other industry</i> ⁸	3.4	2.6	2.0	0.8	0.5	0.5	0.5	..	-3.1	-5.5
Transport ⁹	0.3	-	0.0	0.0	0.0	0.0	0.0	..	-29.0	-
Other	7.5	5.5	0.1	0.0	0.1	0.1	0.1	..	-22.5	0.5
<i>Comm. and pub. services</i>	1.3	1.0	0.0	0.0	0.1	0.1	0.1	..	-28.5	13.4
<i>Residential</i>	6.1	4.5	0.1	-	-	-	-	..	-21.8	-
<i>Other sectors</i> ¹⁰	0.1	-	-	-	-	-	-	..	-	-
Non-energy use	-	-	1.1	0.6	0.6	0.6	0.6	..	-	-2.1
Electricity gen. - TWh	37.3	54.9	123.2	230.1	305.0	356.2	349.4	361.4	7.3	4.1

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.

3. Main activity electricity and heat generation includes district heating.

4. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

5. Other transformation includes Liquefaction and Non-specified transformations.

6. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

7. Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.

8. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

9. Transport includes Rail and Inland waterways.

10. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

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2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	69.84	114.97	153.19	186.55	187.33	190.53	187.26	4.24	1.89
Total electricity and heat	8.57	32.64	66.16	92.49	106.72	107.87	111.26	11.79	4.83
<i>Main activity producers</i>	8.57	27.27	57.81	82.39	92.25	92.64	102.47	10.12	5.22
<i>Autoproducers</i>	-	5.37	8.35	10.10	14.48	15.23	8.80	-	1.91
Patent fuel/BKB plants	0.34	0.11	-	-	-	-	-	-9.34	-
Coke ovens/Liquefaction ³	55.20	66.14	55.62	54.72	49.59	47.51	48.54	1.52	-1.18
Blast furnace inputs	-	5.24 e	10.93 e	11.64 e	14.20 e	14.00 e	14.04 e	-	3.87
Gas manufacture	4.52	-	-	-	-	-	-	-	-
Industry	2.67	17.01	16.86	16.92	17.39	17.13	16.65	16.69	-0.08
<i>Iron and steel</i>	0.29	1.93 e	3.26 e	4.25 e	4.37 e	4.16 e	3.96 e	17.09	2.81
<i>Chemical</i>	0.23	3.09	3.74	4.75	4.53	4.65	4.59	24.30	1.53
<i>Non-metallic minerals</i>	0.71	9.36	7.11	5.10	5.44	5.17	5.09	23.97	-2.31
<i>Paper, pulp and print</i>	0.05	1.93	2.44	2.71	2.93	3.03	2.91	36.51	1.60
<i>Other industry</i>	1.40	0.71 e	0.30 e	0.12 e	0.12 e	0.12 e	0.11 e	-5.46	-6.90
Other sectors ⁴	0.59	0.01	0.01	0.01	0.02	0.01	0.01	-32.78	3.74
Non-energy use	-	0.23	0.00	0.00	0.00	-	0.00	-	-18.93
Steam coal	11.08	49.43	97.97	132.12	139.20	143.69	138.96	13.27	4.06
Total electricity and heat	8.57	32.64	66.16	92.49	106.72	107.87	111.26	11.79	4.83
<i>Main activity producers</i>	8.57	27.27	57.81	82.39	92.25	92.64	102.47	10.12	5.22
<i>Autoproducers</i>	-	5.37	8.35	10.10	14.48	15.23	8.80	-	1.91
Patent fuel/BKB plants	0.34	0.11	-	-	-	-	-	-9.34	-
Coke ovens/Liquefaction ³	0.08	6.21	11.51	12.62	14.98	14.65	14.73	44.18	3.38
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	0.07	-	-	-	-	-	-	-	-
Industry	2.52	17.01	16.85	16.92	17.38	17.12	16.65	17.24	-0.08
<i>Iron and steel</i>	0.23	1.93	3.26	4.24	4.37	4.16	3.95	19.50	2.81
<i>Chemical</i>	0.19	3.09	3.74	4.75	4.53	4.65	4.59	26.21	1.53
<i>Non-metallic minerals</i>	0.71	9.36	7.11	5.10	5.44	5.17	5.09	23.97	-2.31
<i>Paper, pulp and print</i>	0.05	1.93	2.44	2.71	2.93	3.03	2.91	36.51	1.60
<i>Other industry</i>	1.35	0.71	0.30	0.12	0.12	0.12	0.11	-5.19	-6.90
Other sectors ⁴	0.58	0.01	0.01	0.01	0.02	0.01	0.01	-32.66	3.74
Non-energy use	-	0.23	0.00	0.00	0.00	-	0.00	-	-18.93
Coking coal	58.72	65.53	55.22	54.43	48.13	46.84	48.29	0.92	-1.17
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	55.12	59.93	44.11	42.10	34.61	32.86	33.82	0.70	-2.18
Blast furnace inputs	-	5.24 e	10.93 e	11.64 e	14.20 e	14.00 e	14.04 e	-	3.87
Gas manufacture	4.45	-	-	-	-	-	-	-	-
Industry	0.12	0.00	0.00	0.00	0.00	0.00	0.00	-32.71	-
<i>Iron and steel</i>	0.06	0.00 e	0.00 e	0.00 e	0.00 e	0.00 e	0.00 e	-29.20	-
<i>Chemical</i>	0.01	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.04	-	-	-	-	-	-	-	-
Other sectors ⁴	0.01	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

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3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	8.72	-	-	-	-	-	-	-	-
Steam coal	7.23	6.16	2.17	0.95	0.87	0.94	0.97	-1.32	-6.97
Lignite	0.02	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	8.66	-	-	-	-	-	-	-	-
Steam coal	9.99	7.99	2.96	1.25	1.15	1.29	1.32	-1.85	-6.78
Lignite	0.04	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	52.67	104.39	138.83	158.53	163.54	166.28	167.93	163.55	163.98
Bituminous coal ³	1.43	34.87	83.05	104.21	110.10	116.83	120.32	115.25	117.34
Coking coal	51.24	69.01	53.18	51.56	52.43	46.11	44.87	46.26	45.36
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	-	0.51	2.60	2.76	1.01	3.35	2.74	2.04	1.28
Total exports	1.05	1.93	2.67	1.68	0.67	0.50	0.79	1.03	1.23
Bituminous coal ³	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coking coal	0.05	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	1.00	1.93	2.66	1.68	0.67	0.50	0.78	1.02	1.23

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

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5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	52858	106918	150338	176985	185413	186009	189267	185970	187510
Coking coal	50876	65534	55219	53535	54432	48130	46838	48294	47347
Australia	24149	29664 e	35772 e	37742 e	40871 e	33446 e	34418 e	35248 e	32718
Canada	10895	17896 e	12179 e	6128 e	8130 e	7548 e	6498 e	6178 e	6132
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	398	-	-	-	-	-	-	-	-
Poland	429	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	9956	9258 e	411 e	1837 e	2480 e	3502 e	2701 e	3215 e	3929
Other OECD	11	258 e	334 e	405 e	352 e	126 e	87 e	77 e	125
China, People's Rep.	420	1527 e	3707 e	4370 e	434 e	-	40 e	2 e	148
Colombia	-	41 e	-	-	-	161 e	18 e	576 e	1377
Indonesia	-	42 e	-	-	-	369 e	367 e	232 e	378
South Africa	2360	1281 e	315 e	-	-	-	-	-	-
Former Soviet Union ⁴	2244	5561 e	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	2382 e	2999 e	2102 e	2599 e	2567 e	2735 e	2323
<i>Other FSU</i>	x	x	-	-	-	-	141 e	30 e	150
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	95 e	-	-	-	-	-	-
Non-specified/other	14	5 e	24 e	54 e	61 e	379 e	1 e	1 e	-
Steam coal	1982	41384	95119	123450	130981	137879	142429	137676	140163
Australia	668	25393 e	53814 e	63545 e	77045 e	84740 e	90109 e	85928 e	85331
Canada	105	1451 e	1442 e	891 e	2233 e	2239 e	1678 e	1571 e	1580
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	2336 e	3974 e	139 e	483 e	2921 e	1388 e	798 e	1654
Other OECD	-	48 e	611 e	260 e	108 e	97 e	-	-	-
China, People's Rep.	513	3676 e	14214 e	19565 e	5861 e	1795 e	1544 e	2633 e	1935
Colombia	-	78 e	103 e	-	63 e	-	-	-	734
Indonesia	-	883 e	14531 e	28936 e	34527 e	33222 e	32457 e	31079 e	31910
South Africa	157	3719 e	1740 e	142 e	308 e	134 e	188 e	70 e	73
Former Soviet Union ⁴	149	3150 e	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	3305 e	7613 e	8760 e	12194 e	14608 e	15066 e	16169
<i>Other FSU</i>	x	x	-	21	-	-	-	-	-
Venezuela	-	-	-	15	-	-	-	-	-
Viet Nam	-	150	902	2043	1591	534	456	527	770
Non-specified/other	390	500 e	352	280	1	3	1	4 e	7
Lignite	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

KOREA¹

Figure 1: Coal supply indicators (1971 = 100)

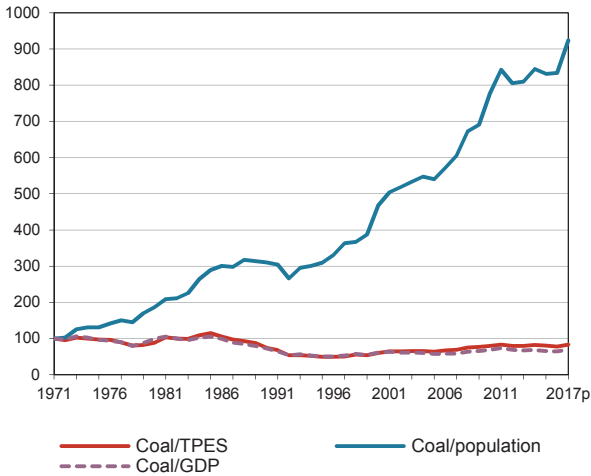


Figure 2: TPES by fuel (Mtce)

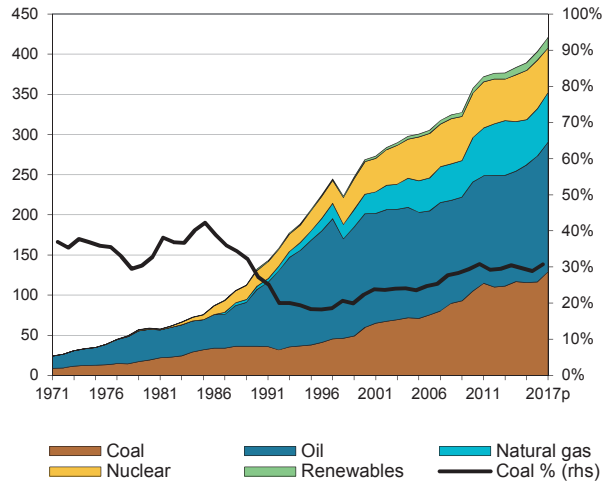


Figure 3: Primary coal supply (Mtce)

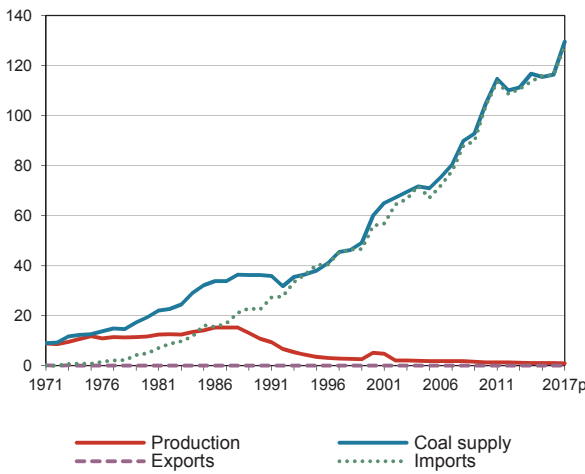


Figure 4: Coal consumption (Mtce)

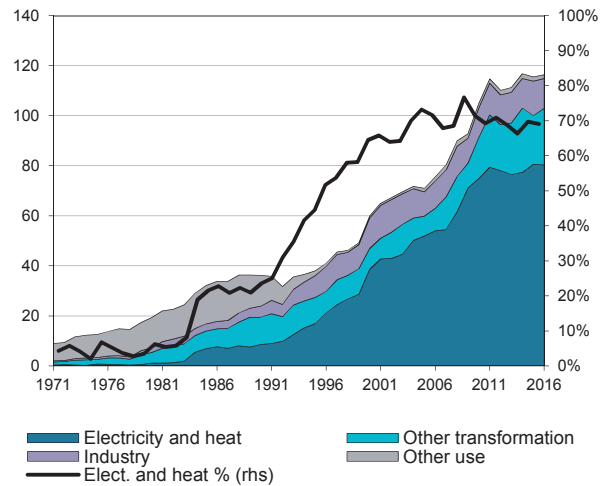


Figure 5: Electricity generation by fuel (TWh)

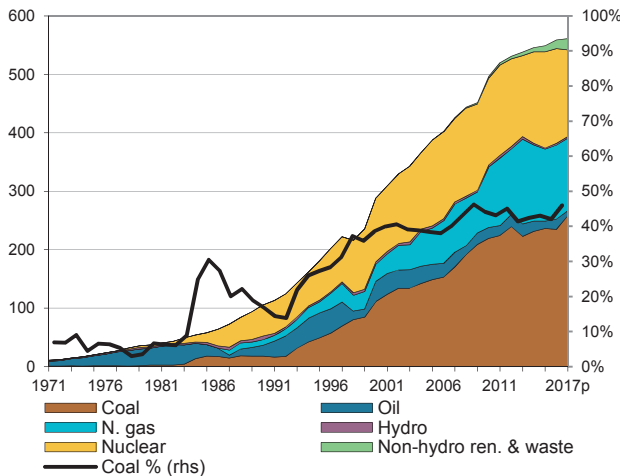
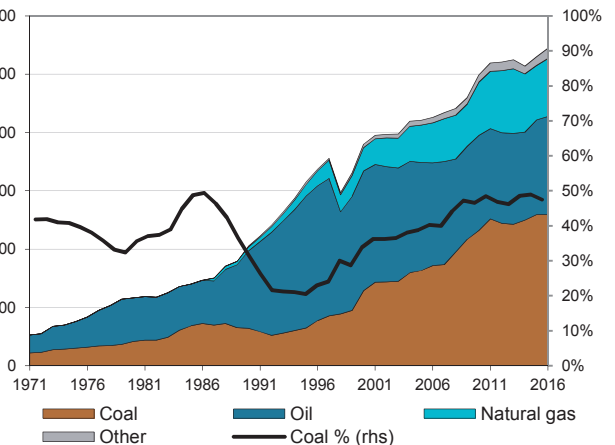


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

KOREA

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	9.5 e	11.7	10.8	5.2	1.4	1.1	1.1	0.9	0.8	-8.4
Imports	0.6 e	5.0 e	22.5 e	55.9 e	104.2	115.9	116.2	127.9	23.2	6.5
Exports	-0.2 e	-	-	-	-	-	-	-	-	-
Stock changes	1.7 e	2.7 e	3.0 e	-1.2 e	-0.6	-1.5	-1.0	0.6		
Primary supply	11.6	19.3	36.3	59.9	104.9	115.5	116.4	129.4	6.9	4.6
Statistical differences	-0.1	-0.5	1.4	4.1	-0.6	0.9	-0.3	..		
Total transformation	-2.2 e	-3.5 e	-18.8 e	-48.0 e	-87.3 e	-96.5 e	-98.2 e	..	13.5	6.6
Electricity and heat gen.	-0.5 e	-1.2 e	-8.5	-38.7	-74.9	-80.5	-80.3	..	18.5	9.0
<i>Main activity producers</i> ³	-0.4	-1.2	-5.6	-34.9	-67.3	-70.4	-69.3	..	16.4	10.2
<i>Autoproducers</i>	-0.1 e	-0.0 e	-2.9	-3.7	-7.6	-10.2	-11.0	..	25.9	5.2
Gas works	-	-	-	-	-	-	-	..	-	-
Coal transformation ⁴	-1.7 e	-2.3 e	-10.3 e	-9.4 e	-12.4 e	-16.0 e	-17.9 e	..	11.1	2.1
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-0.2 e	-1.4 e	-4.9	-7.8	-11.0 e	-12.8 e	-12.6 e	..	21.7	3.7
<i>Coke ovens</i>	-0.0 e	-0.2 e	-0.6	-0.6	-1.4	-3.2	-5.3	..	28.5	9.1
<i>Patent fuel plants</i>	-1.5 e	-0.7 e	-4.8 e	-0.9 e	-	-	-	..	7.0	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-0.1 e	-1.4 e	-2.1	-3.0	-3.4	-4.5	-4.4	..	17.8	2.9
Losses	-	-	-	-	-	-	-	..		
Final consumption ⁶	9.3	13.9	16.7	13.0	13.6	15.4	13.5	..	3.5	-0.8
Industry ⁷	0.6	1.9	4.4	12.2	11.8	13.7	11.9	..	12.9	3.9
<i>Iron and steel</i>	0.6 e	1.3 e	0.7	3.7	6.2 e	8.7 e	6.2 e	..	1.4	8.7
<i>Chemical</i>	-	-	0.1	0.2	0.1	0.2	0.1	..	-	2.5
<i>Non-metallic minerals</i>	-	0.7	2.9	4.4	3.8	3.9	3.8	..	-	1.0
<i>Paper, pulp and print</i>	-	-	0.0	-	0.0	0.1	0.0	..	-	-
<i>Other industry</i> ⁸	-	-	0.7	3.9	1.7	0.9	1.7	..	-	3.7
Transport ⁹	0.0	0.0	-	-	-	-	-	..	-	-
Other	8.7	12.0	12.4	0.8	1.2	0.9	0.8	..	2.1	-10.0
<i>Comm. and pub. services</i>	0.1	0.1 e	0.0 e	-	-	-	-	..	-7.3	-
<i>Residential</i>	8.6 e	11.9 e	12.3 e	0.8 e	1.2	0.9	0.8	..	2.2	-10.0
<i>Other sectors</i> ¹⁰	-	-	-	-	-	-	-	..	-	-
Non-energy use	-	-	-	-	0.6	0.8	0.8	..	-	-
Electricity gen. - TWh	1.3	2.5	17.7	111.4	219.3	236.6	234.7	258.0	16.4	10.5

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.

3. Main activity electricity and heat generation includes district heating.

4. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

5. Other transformation includes Liquefaction and Non-specified transformations.

6. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

7. Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.

8. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

9. Transport includes Rail and Inland waterways.

10. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

KOREA

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	21.89	44.78	71.80	120.05	134.93	133.89	134.91	6.15	4.33
Total electricity and heat	0.52	7.71	39.01	83.17	85.60	89.75	89.62	25.23	9.90
<i>Main activity producers</i>	0.52	7.71	39.01	78.81	79.73	81.56	80.30	25.23	9.43
<i>Autoproducers</i>	-	-	-	4.36	5.87	8.19	9.31	-	-
Patent fuel/BKB plants	18.29 e	20.70	2.41	1.86	1.63	1.47	1.26	1.04	-10.22
Coke ovens/Liquefaction ³	2.01	11.74	16.38	19.52	27.24	26.78	27.33	15.84	3.30
Blast furnace inputs	-	-	3.03	7.55 e	8.37 e	8.33 e	7.57 e	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.84	4.59	11.02	7.38	7.87	8.30	9.02	15.15	2.63
<i>Iron and steel</i>	0.68	0.17	0.73	1.52 e	2.27 e	2.69 e	2.35 e	-10.91	10.60
<i>Chemical</i>	-	0.08	0.27	0.17	0.25	0.19	0.14	-	2.41
<i>Non-metallic minerals</i>	0.16	3.53	5.31	4.50	4.86	4.65	4.55	29.42	0.98
<i>Paper, pulp and print</i>	-	0.00	-	0.04	0.04	0.07	0.04	-	10.58
<i>Other industry</i>	-	0.80	4.71	1.15 e	0.45 e	0.70 e	1.93 e	-	3.43
Other sectors ⁴	0.22	0.05	-	-	-	-	-	-12.19	-
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	19.88	33.04	52.38	92.84	100.15	100.60	99.15	4.32	4.32
Total electricity and heat	0.52	7.71	39.01	83.17	85.60	89.75	89.62	25.23	9.90
<i>Main activity producers</i>	0.52	7.71	39.01	78.81	79.73	81.56	80.30	25.23	9.43
<i>Autoproducers</i>	-	-	-	4.36	5.87	8.19	9.31	-	-
Patent fuel/BKB plants	18.29 e	20.70	2.41	1.86	1.63	1.47	1.26	1.04	-10.22
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.84	4.59	11.02	7.23	7.41	7.04	8.32	15.15	2.32
<i>Iron and steel</i>	0.68	0.17	0.73	1.37	1.82	1.43	1.66	-10.91	9.12
<i>Chemical</i>	-	0.08	0.27	0.17	0.25	0.19	0.14	-	2.41
<i>Non-metallic minerals</i>	0.16	3.53	5.31	4.50	4.86	4.65	4.55	29.42	0.98
<i>Paper, pulp and print</i>	-	0.00	-	0.04	0.04	0.07	0.04	-	10.58
<i>Other industry</i>	-	0.80	4.71	1.15	0.45	0.70	1.93	-	3.43
Other sectors ⁴	0.22	0.05	-	-	-	-	-	-12.19	-
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	2.01	11.74	19.42	27.21	34.78	33.29	35.76	15.84	4.38
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	2.01	11.74	16.38	19.52	27.24	26.78	27.33	15.84	3.30
Blast furnace inputs	-	-	3.03	7.55 e	8.37 e	8.33 e	7.57 e	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	0.15	0.45	1.26	0.69	-	-
<i>Iron and steel</i>	-	-	-	0.15 e	0.45 e	1.26 e	0.69 e	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

KOREA

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	11.35	10.82	5.20	1.80	1.37	1.10	0.94	-0.39	-8.43
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	18.05	17.22	8.30	2.83	2.08	1.73	1.49	-0.39	-8.47
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	2.20 e	22.46 e	55.91 e	67.04	104.21	113.60	115.90	116.24	127.87
Bituminous coal ³	0.15 e	10.73 e	33.82 e	45.24	72.79	77.72	77.87	77.17	87.78
Coking coal	1.95 e	11.13 e	18.42	19.45	27.15	31.94	32.67	33.94	34.35
Sub-bituminous coal	-	0.60	3.67	2.04	3.64	3.54	4.97	4.79	5.41
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.10	-	-	0.32	0.63	0.40	0.38	0.34	0.33
Total exports	0.00	-	-	-	-	-	-	-	-
Bituminous coal ³	-	-	-	-	-	-	-	-	-
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.00	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

KOREA

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	2169	23729 e	64895 e	76758	118591	131032	133904	134463	148235
Coking coal	2009	11287 e	19575 e	20627	28160	33175	33933	35255	35676
Australia	1150	5053 e	10641 e	11664	16445	17052	21706	19889	19614
Canada	409	2026 e	4097 e	4315	4944	1309	4813	5168	5137
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	450	2908 e	1419 e	901	3238	3291	2639	2742	3080
Other OECD	-	-	-	-	-	-	-	-	64
China, People's Rep.	-	-	2781 e	3258	1936	2390	1061	725	618
Colombia	-	-	-	-	-	-	-	-	12
Indonesia	-	-	209 e	-	44	124	90	80	34
South Africa	-	100 e	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	1200	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	394 e	489	1553	5482	3532	6342	6492
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	34 e	-	-	3527	92	309	625
Steam coal	160	12442 e	45320 e	56131	90431	97857	99971	99208	112559
Australia	-	3506 e	12019 e	19207	26512	37945	39446	32424	28728
Canada	-	1250 e	1647 e	4	4980	11437	4520	1376	5132
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	1235 e	166 e	365	66	603	1328	1024	2011
Other OECD	-	-	62 e	56	-	-	-	69	133
China, People's Rep.	-	1000 e	21281 e	17580	5356	1040	641	2967	2458
Colombia	-	-	-	-	-	-	15	2468	3774
Indonesia	-	397 e	5277 e	15382	40126	32420	33977	36371	41184
South Africa	-	5054 e	2503 e	-	2346	323	167	2343	8043
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	2197 e	3018	7004	12679	19536	19107	20126
<i>Other FSU</i>	x	x	-	-	-	76	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	135 e	358	1863	1250	341	60	209
Non-specified/other	160	-	33	161	2178	84	-	999	740
Lignite	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

LATVIA¹

Figure 1: Coal supply indicators (1971 = 100)

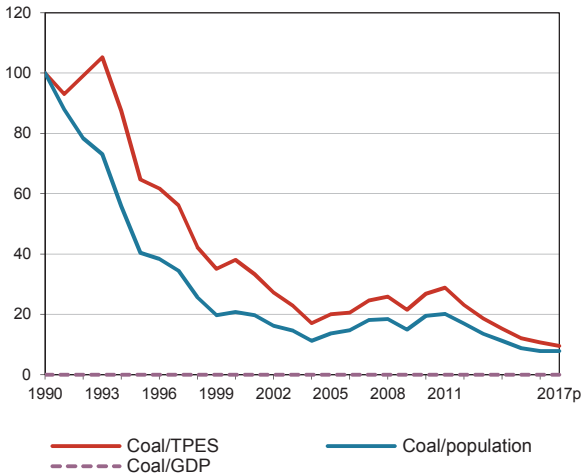


Figure 2: TPES by fuel (Mtce)

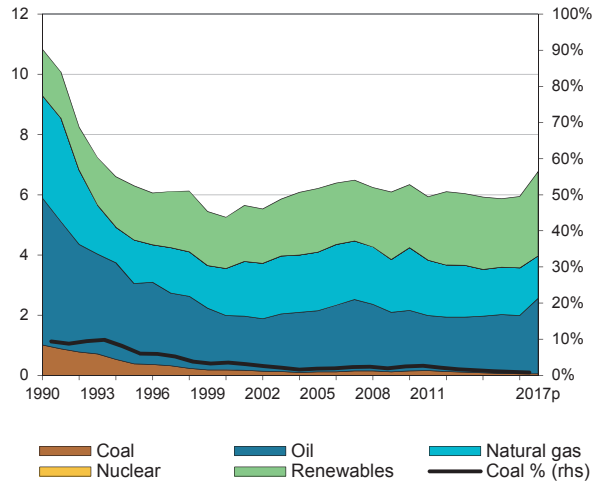


Figure 3: Primary coal supply (Mtce)

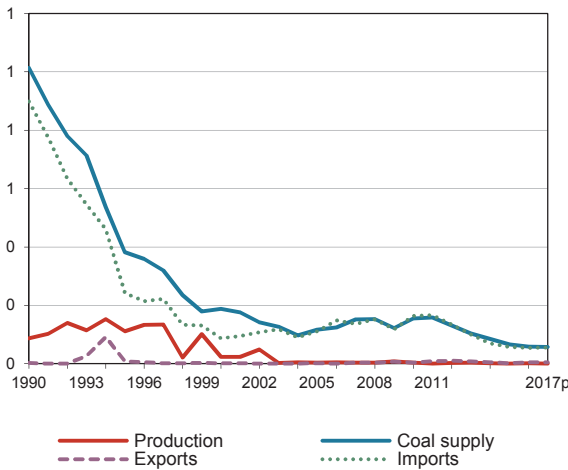


Figure 4: Coal consumption (Mtce)

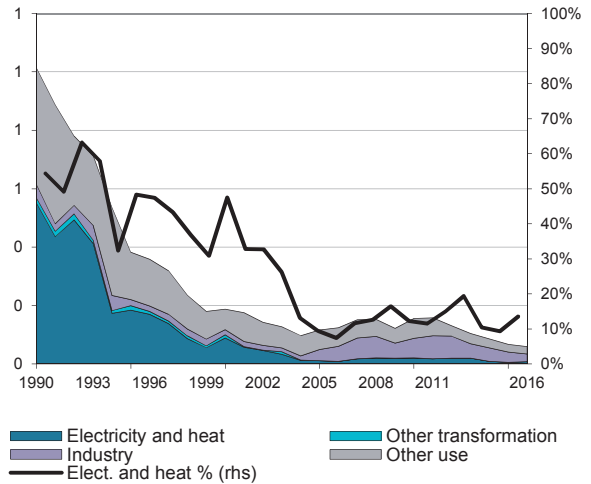


Figure 5: Electricity generation by fuel (TWh)

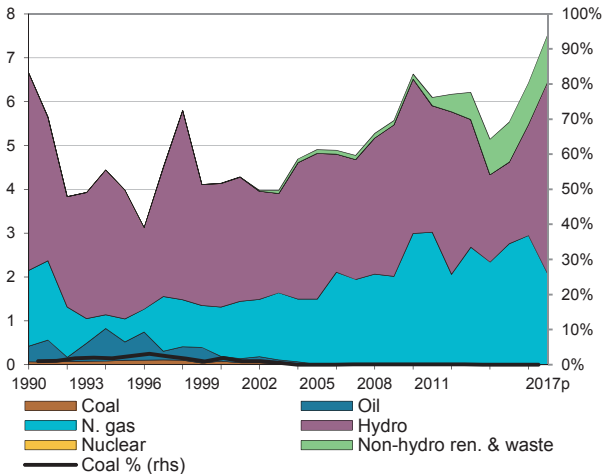
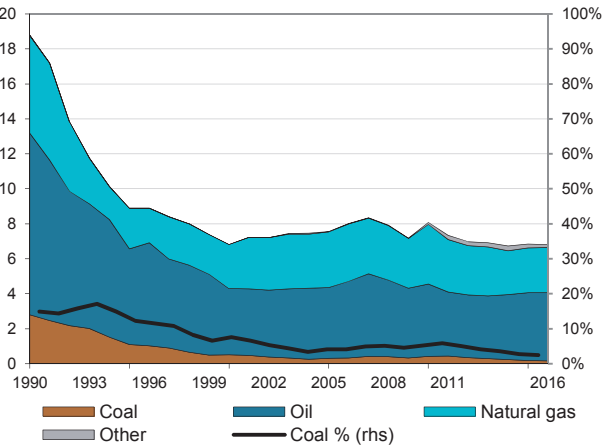


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

LATVIA

1. Coal balance¹
(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	x	x	0.1	0.0	0.0	-	0.0	0.0	-	-14.7
Imports	x	x	0.9	0.1	0.2	0.1	0.1	0.1	-	-10.2
Exports	x	x	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-	-
Stock changes	x	x	0.0	0.1	-0.0	0.0	0.0	0.0		
Primary supply	x	x	1.0	0.2	0.2	0.1	0.1	0.1	-	-10.4
Statistical differences	x	x	0.0	-	-	0.0	0.0	..		
Total transformation	x	x	-0.6	-0.1	-0.0	-0.0	-0.0	..	-	-15.1
Electricity and heat gen.	x	x	-0.6	-0.1	-0.0	-0.0	-0.0	..	-	-15.0
<i>Main activity producers</i> ³	x	x	-0.1	-0.1	-0.0	-0.0	-0.0	..	-	-11.4
<i>Autoproducers</i>	x	x	-0.4	-0.0	-0.0	-0.0	-0.0	..	-	-17.7
Gas works	x	x	-	-	-	-	-	..	-	-
Coal transformation ⁴	x	x	-0.0	-0.0	-	-	-	..	-	-
<i>BKB plants</i>	x	x	-0.0	-0.0	-	-	-	..	-	-
<i>Blast furnaces</i>	x	x	-	-	-	-	-	..	-	-
<i>Coke ovens</i>	x	x	-	-	-	-	-	..	-	-
<i>Patent fuel plants</i>	x	x	-	-	-	-	-	..	-	-
Other transformation ⁵	x	x	-	-	-	-	-	..	-	-
Energy ind. own use	x	x	-0.0	-0.0	-	-	-	..	-	-
Losses	x	x	-0.0	-0.0	-0.0	-	-	..		
Final consumption ⁶	x	x	0.4	0.1	0.1	0.1	0.1	..	-	-8.0
Industry ⁷	x	x	0.0	0.0	0.1	0.0	0.0	..	-	-
<i>Iron and steel</i>	x	x	0.0	0.0	0.0	-	-	..	-	-
<i>Chemical</i>	x	x	-	-	-	-	-	..	-	-
<i>Non-metallic minerals</i>	x	x	0.0	0.0	0.1	0.0	0.0	..	-	-
<i>Paper, pulp and print</i>	x	x	-	-	-	-	-	..	-	-
<i>Other industry</i> ⁸	x	x	0.0	0.0	0.0	0.0	0.0	..	-	-
Transport ⁹	x	x	-	-	-	-	-	..	-	-
Other	x	x	0.4	0.1	0.1	0.0	0.0	..	-	-10.1
<i>Comm. and pub. services</i>	x	x	0.1	0.1	0.0	0.0	0.0	..	-	-10.5
<i>Residential</i>	x	x	0.2	0.0	0.0	0.0	0.0	..	-	-9.6
<i>Other sectors</i> ¹⁰	x	x	0.0	0.0	0.0	-	-	..	-	-
Non-energy use	x	x	-	-	-	-	-	..	-	-
Electricity gen. - TWh	x	x	0.1	0.1	0.0	-	-	-	-	-

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

LATVIA

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	x	0.92	0.10	0.17	0.10	0.08	0.07	-	-9.38
Total electricity and heat	x	0.51	0.02	0.02	0.01	0.01	0.01	-	-14.36
<i>Main activity producers</i>	x	0.08	0.01	0.02	0.01	0.00	0.01	-	-9.53
<i>Autoproducers</i>	x	0.43	0.01	0.01	0.00	0.00	0.00	-	-17.35
Patent fuel/BKB plants	x	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	x	-	-	-	-	-	-	-	-
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	-	-	-	-	-	-	-	-
Industry	x	0.04	0.01	0.07	0.06	0.04	0.03	-	-0.88
<i>Iron and steel</i>	x	-	-	0.00	-	-	-	-	-
<i>Chemical</i>	x	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	x	0.01	0.00	0.07	0.05	0.04	0.03	-	4.94
<i>Paper, pulp and print</i>	x	-	-	-	-	-	-	-	-
<i>Other industry</i>	x	0.03	0.01	0.00	0.00	0.00	0.00	-	-8.59
Other sectors ⁴	x	0.37	0.07	0.08	0.04	0.03	0.03	-	-9.11
Non-energy use	x	-	-	-	-	-	-	-	-
Steam coal	x	0.92	0.10	0.17	0.10	0.08	0.07	-	-9.37
Total electricity and heat	x	0.51	0.02	0.02	0.01	0.01	0.01	-	-14.36
<i>Main activity producers</i>	x	0.08	0.01	0.02	0.01	0.00	0.01	-	-9.53
<i>Autoproducers</i>	x	0.43	0.01	0.01	0.00	0.00	0.00	-	-17.35
Patent fuel/BKB plants	x	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	x	-	-	-	-	-	-	-	-
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	-	-	-	-	-	-	-	-
Industry	x	0.04	0.01	0.07	0.06	0.04	0.03	-	-0.57
<i>Iron and steel</i>	x	-	-	0.00	-	-	-	-	-
<i>Chemical</i>	x	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	x	0.01	0.00	0.07	0.05	0.04	0.03	-	6.85
<i>Paper, pulp and print</i>	x	-	-	-	-	-	-	-	-
<i>Other industry</i>	x	0.03	0.01	0.00	0.00	0.00	0.00	-	-8.59
Other sectors ⁴	x	0.37	0.07	0.08	0.04	0.03	0.03	-	-9.11
Non-energy use	x	-	-	-	-	-	-	-	-
Coking coal	x	-	-	-	-	-	-	-	-
Total electricity and heat	x	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	x	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	x	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	x	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	x	-	-	-	-	-	-	-	-
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	-	-	-	-	-	-	-	-
Industry	x	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	x	-	-	-	-	-	-	-	-
<i>Chemical</i>	x	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	x	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	x	-	-	-	-	-	-	-	-
<i>Other industry</i>	x	-	-	-	-	-	-	-	-
Other sectors ⁴	x	-	-	-	-	-	-	-	-
Non-energy use	x	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

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2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	x	0.00	-	-	-	-	-	-	-
Total electricity and heat	x	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	x	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	x	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	x	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	x	-	-	-	-	-	-	-	-
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	-	-	-	-	-	-	-	-
Industry	x	0.00	-	-	-	-	-	-	-
<i>Iron and steel</i>	x	-	-	-	-	-	-	-	-
<i>Chemical</i>	x	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	x	0.00	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	x	-	-	-	-	-	-	-	-
<i>Other industry</i>	x	-	-	-	-	-	-	-	-
Other sectors ³	x	-	-	-	-	-	-	-	-
Non-energy use	x	-	-	-	-	-	-	-	-
Peat	x	0.33	0.24	0.01	0.00	0.00	0.00	-	-16.51
Total electricity and heat	x	0.17	0.21	0.00	-	-	-	-	-
<i>Main activity producers</i>	x	0.13	0.20	0.00	-	-	-	-	-
<i>Autoproducers</i>	x	0.04	0.01	-	-	-	-	-	-
Patent fuel/BKB plants	x	0.11	0.00	-	-	-	-	-	-
Coke ovens/Liquefaction ²	x	-	-	-	-	-	-	-	-
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	-	-	-	-	-	-	-	-
Industry	x	-	-	0.00	0.00	0.00	0.00	-	-
<i>Iron and steel</i>	x	-	-	-	-	-	-	-	-
<i>Chemical</i>	x	-	-	-	0.00	-	-	-	-
<i>Non-metallic minerals</i>	x	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	x	-	-	-	-	-	-	-	-
<i>Other industry</i>	x	-	-	0.00	0.00	0.00	0.00	-	-
Other sectors ³	x	0.03	0.00	0.00	0.00	-	-	-	-
Non-energy use	x	-	-	-	-	-	-	-	-
Oil shale and oil sands	x	-	-	-	-	-	-	-	-
Total electricity and heat	x	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	x	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	x	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	x	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	x	-	-	-	-	-	-	-	-
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	-	-	-	-	-	-	-	-
Industry	x	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	x	-	-	-	-	-	-	-	-
<i>Chemical</i>	x	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	x	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	x	-	-	-	-	-	-	-	-
<i>Other industry</i>	x	-	-	-	-	-	-	-	-
Other sectors ³	x	-	-	-	-	-	-	-	-
Non-energy use	x	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

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3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	x	-	-	-	-	-	-	-	-
Steam coal	x	-	-	-	-	-	-	-	-
Lignite	x	-	-	-	-	-	-	-	-
Peat	x	0.09	0.02	0.00	0.00	0.00	0.00	-	-14.74
Oil shale and oil sands	x	-	-	-	-	-	-	-	-
Mt:									
Coking coal	x	-	-	-	-	-	-	-	-
Steam coal	x	-	-	-	-	-	-	-	-
Lignite	x	-	-	-	-	-	-	-	-
Peat	x	0.25	0.07	0.01	0.01	0.00	0.00	-	-14.74
Oil shale and oil sands	x	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	x	0.90	0.09	0.11	0.16	0.07	0.06	0.05	0.06
Bituminous coal ³	x	0.88	0.08	0.10	0.16	0.07	0.06	0.05	0.06
Coking coal	x	-	-	-	-	-	-	-	-
Sub-bituminous coal	x	-	-	-	-	-	-	-	-
Lignite	x	0.00	-	-	-	-	-	-	-
Peat	x	-	-	-	-	-	-	-	-
Coal products ⁴	x	0.01	0.01	0.01	0.00	-	-	-	-
Total exports	x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Bituminous coal ³	x	0.00	-	-	0.00	0.00	0.00	0.00	0.00
Coking coal	x	-	-	-	-	-	-	-	-
Sub-bituminous coal	x	-	-	-	-	-	-	-	-
Lignite	x	-	-	-	-	-	-	-	-
Peat	x	-	0.00	0.00	0.00	-	-	-	0.00
Coal products ⁴	x	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

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5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	x	916	80	116	180	85	71	67	68
Coking coal	x	-	-	-	-	-	-	-	-
Australia	x	-	-	-	-	-	-	-	-
Canada	x	-	-	-	-	-	-	-	-
Czech Republic	x	-	-	-	-	-	-	-	-
Germany	x	-	-	-	-	-	-	-	-
Poland	x	-	-	-	-	-	-	-	-
United Kingdom	x	-	-	-	-	-	-	-	-
United States	x	-	-	-	-	-	-	-	-
Other OECD	x	-	-	-	-	-	-	-	-
China, People's Rep.	x	-	-	-	-	-	-	-	-
Colombia	x	-	-	-	-	-	-	-	-
Indonesia	x	-	-	-	-	-	-	-	-
South Africa	x	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	x	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	x	-	-	-	-	-	-	-	-
Viet Nam	x	-	-	-	-	-	-	-	-
Non-specified/other	x	-	-	-	-	-	-	-	-
Steam coal	x	911	80	116	180	85	71	67	68
Australia	x	-	-	-	-	-	-	-	-
Canada	x	-	-	-	-	-	-	-	-
Czech Republic	x	-	-	-	-	-	-	-	-
Germany	x	-	-	-	-	-	-	-	-
Poland	x	-	-	-	-	-	-	-	-
United Kingdom	x	-	-	-	5	-	-	-	-
United States	x	-	-	-	33	-	-	-	-
Other OECD	x	-	2	-	-	-	-	4	-
China, People's Rep.	x	-	-	-	-	-	-	-	-
Colombia	x	-	-	-	-	-	-	-	-
Indonesia	x	-	-	-	-	-	-	-	-
South Africa	x	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	x	911	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	78	115	141	79	71	63	68
<i>Other FSU</i>	x	x	-	1	1	6	-	-	-
Venezuela	x	-	-	-	-	-	-	-	-
Viet Nam	x	-	-	-	-	-	-	-	-
Non-specified/other	x	-	-	-	-	-	-	-	-
Lignite	x	5	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

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Figure 1: Coal supply indicators (1971 = 100)

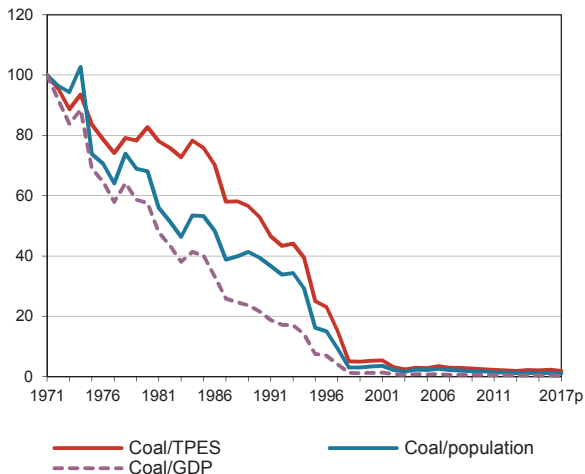


Figure 2: TPES by fuel (Mtce)

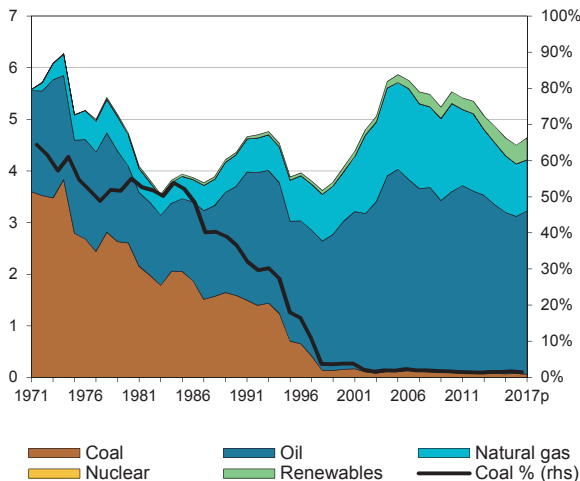


Figure 3: Primary coal supply (Mtce)

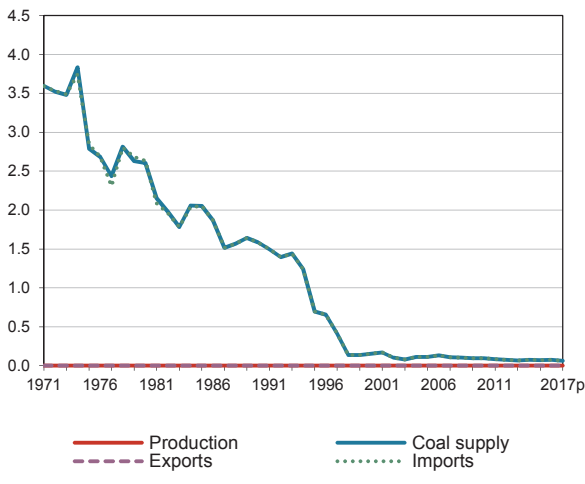


Figure 4: Coal consumption (Mtce)

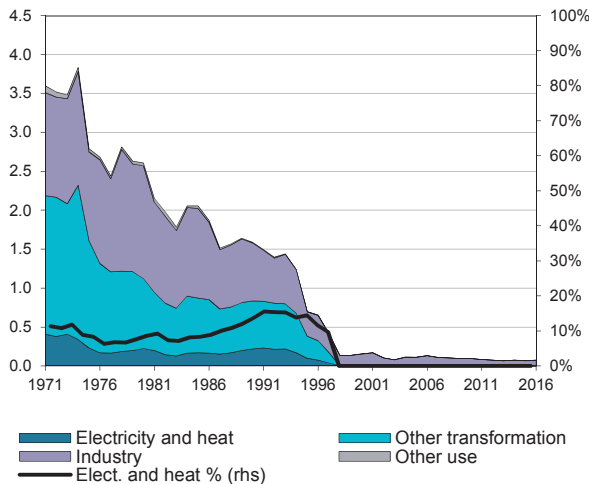


Figure 5: Electricity generation by fuel (TWh)

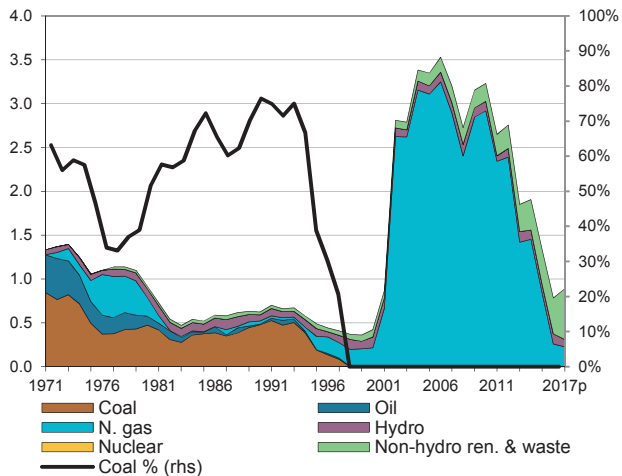
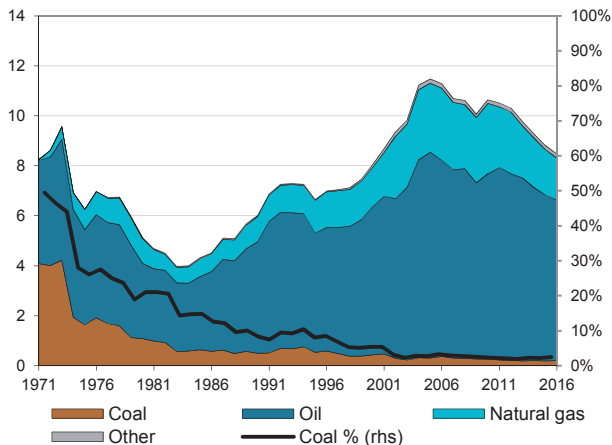


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

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1. Coal balance¹
(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	-	-	-	-	-	-	-	-	-	-
Imports	3.5	2.6	1.6	0.2	0.1	0.1	0.1	0.1	-4.5	-11.1
Exports	-	-	-	-	-	-	-	-	-	-
Stock changes	-0.0	-0.0	-	-	-	-	-	-	-	-
Primary supply	3.5	2.6	1.6	0.2	0.1	0.1	0.1	0.1	-4.5	-11.1
Statistical differences	0.0	-	-	-	-	-	-	..	-	-
Total transformation	-1.9 e	-1.1 e	-0.8	-	-	-	-	..	-5.1	-
Electricity and heat gen.	-0.4	-0.2	-0.2	-	-	-	-	..	-3.7	-
<i>Main activity producers</i> ³	-0.4	-	-	-	-	-	-	..	-	-
<i>Autoproducers</i>	-	-0.2	-0.2	-	-	-	-	..	-	-
Gas works	-	-	-	-	-	-	-	..	-	-
Coal transformation ⁴	-1.5 e	-0.8 e	-0.6	-	-	-	-	..	-5.5	-
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-1.5 e	-0.8 e	-0.6	-	-	-	-	..	-5.5	-
<i>Coke ovens</i>	-	-	-	-	-	-	-	..	-	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-	-	-	-	-	-	-	..	-	-
Losses	-0.1	-0.1	-0.0	-	-	-	-	..	-	-
Final consumption ⁶	1.4	1.5	0.7	0.2	0.1	0.1	0.1	..	-3.6	-8.5
Industry ⁷	1.3	1.5	0.7	0.2	0.1	0.1	0.1	..	-3.5	-8.4
<i>Iron and steel</i>	1.3	1.3 e	0.6	0.0	0.0	0.0	0.0	..	-4.5	-14.3
<i>Chemical</i>	-	-	-	-	-	-	-	..	-	-
<i>Non-metallic minerals</i>	-	0.1	0.1	0.1	0.1	0.1	0.1	..	-	-3.1
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	..	-	-
<i>Other industry</i> ⁸	0.0	-	0.0	0.0	0.0	0.0	0.0	..	-	-
Transport ⁹	-	-	-	-	-	-	-	..	-	-
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	..	-	-
<i>Comm. and pub. services</i>	-	-	-	-	-	-	-	..	-	-
<i>Residential</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	..	-	-
<i>Other sectors</i> ¹⁰	-	-	-	-	-	-	-	..	-	-
Non-energy use	-	-	-	-	-	-	-	..	-	-
Electricity gen. - TWh	0.8	0.5	0.5	-	-	-	-	-	-3.1	-

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

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2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	0.52	0.20	0.17	0.10	0.09	0.07	0.08	-7.74	-3.36
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.51	0.20	0.17	0.10	0.09	0.07	0.08	-7.70	-3.34
<i>Iron and steel</i>	0.51	0.04	0.04	0.03	0.01	0.01	0.01	-19.50	-4.66
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	0.16	0.13	0.08	0.07	0.06	0.07	-	-3.08
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	0.00	-	-	-	-
Other sectors ⁴	0.01	0.00	-	-	-	-	-	-12.55	-
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	0.50	0.20	0.17	0.10	0.09	0.07	0.08	-7.48	-3.36
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.50	0.20	0.17	0.10	0.09	0.07	0.08	-7.45	-3.34
<i>Iron and steel</i>	0.50	0.04	0.04	0.03	0.01	0.01	0.01	-19.27	-4.66
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	0.16	0.13	0.08	0.07	0.06	0.07	-	-3.08
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	0.00	-	-	-	-
Other sectors ⁴	0.01	0.00	-	-	-	-	-	-12.55	-
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

LUXEMBOURG

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	2.80	1.59	0.16	0.11	0.10	0.08	0.07	0.08	0.06
Bituminous coal ³	0.48	0.16	0.14	0.10	0.09	0.07	0.06	0.07	0.06
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	0.01	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	2.31	1.42	0.01	0.01	0.01	0.00	0.01	0.01	0.01
Total exports	-	-	-	-	-	-	-	-	-
Bituminous coal ³	-	-	-	-	-	-	-	-	-
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

LUXEMBOURG

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	512	197	172	122	102	85	73	81	68
Coking coal	-	-	-	-	-	-	-	-	-
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Steam coal	495	197	172	122	102	85	73	81	68
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	299	-	-	-	-	-	-	-	1
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	12	-	-	-	-	-	-	-	-
United States	1	-	-	-	-	-	-	-	-
Other OECD	6	-	-	-	-	-	-	-	1
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	125	138	125	76	76	74	62	70	62
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	6	6	6	4
<i>Other FSU</i>	x	x	-	-	-	5	5	5	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	52	59	47	46	26	-	-	-	-
Lignite	17	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

MEXICO¹

Figure 1: Coal supply indicators (1971 = 100)

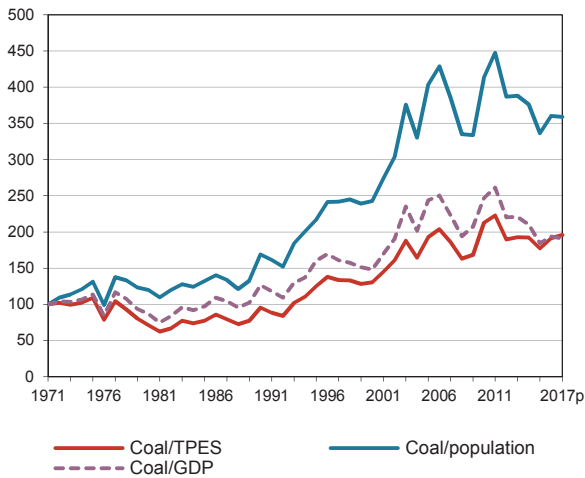


Figure 2: TPES by fuel (Mtce)

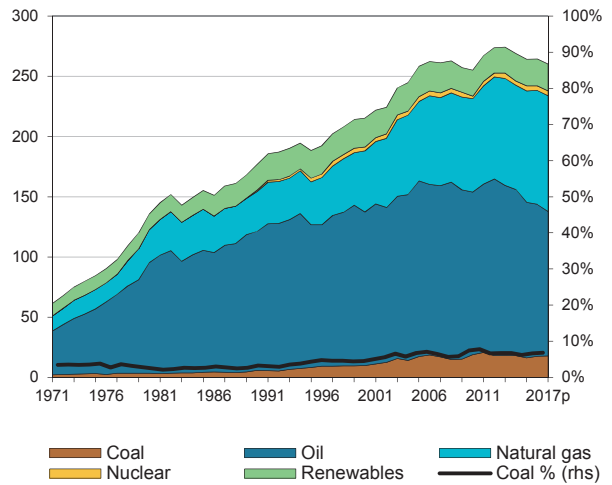


Figure 3: Primary coal supply (Mtce)

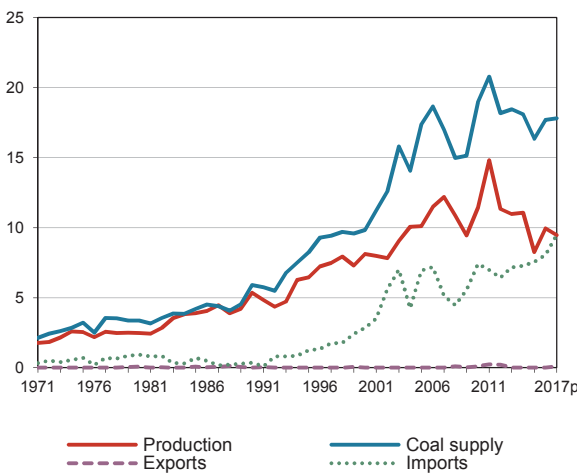


Figure 4: Coal consumption (Mtce)

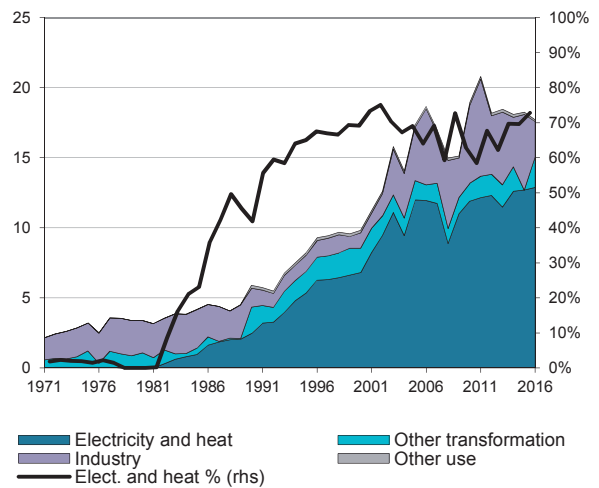


Figure 5: Electricity generation by fuel (TWh)

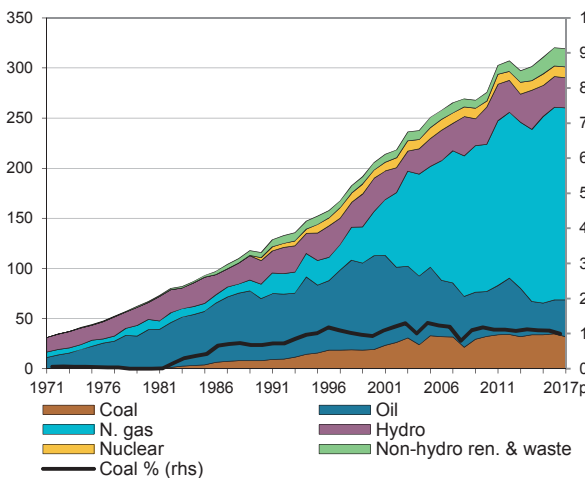
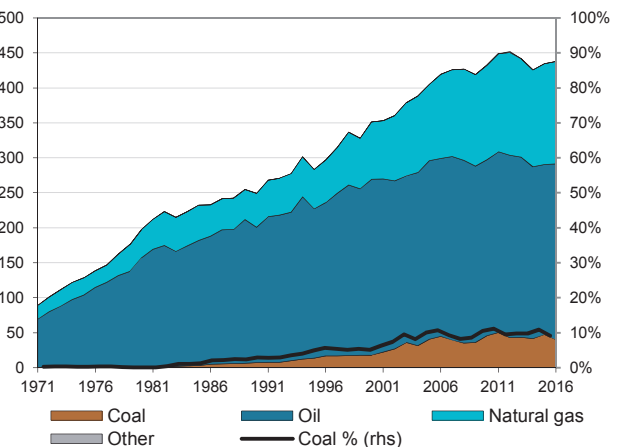


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

MEXICO

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	2.1	2.5	5.3	8.1	11.4	8.2	9.9	9.5	5.5	2.4
Imports	0.4	0.9	0.3	2.8	7.4 e	7.6 e	8.1 e	9.5	-0.7	12.9
Exports	-	-0.1	-0.0	-0.0	-0.1	-0.0	-0.0	-0.1	-	-
Stock changes	0.1	0.1	0.2 e	-1.1 e	0.2 e	0.5 e	-0.3 e	-1.0		
Primary supply	2.6	3.4	5.9	9.8	18.9	16.3	17.7	17.8	4.9	4.3
Statistical differences	-0.1	-0.2	0.0	-0.0	0.7	3.6	-0.6	..		
Total transformation	-0.5	-0.9	-3.7 e	-8.1 e	-13.2 e	-13.8 e	-13.9 e	..	12.5	5.2
Electricity and heat gen.	-0.1	-	-2.5	-6.8	-11.9 e	-12.7 e	-12.9 e	..	25.5	6.6
<i>Main activity producers</i> ³	-0.1	-	-2.5	-6.2	-11.6 e	-12.5 e	-12.7 e	..	25.5	6.5
<i>Autoproducers</i>	-	-	-	-0.6	-0.3	-0.2	-0.2	..	-	-
Gas works	-	-	-	-	-	-	-	..	-	-
Coal transformation ⁴	-0.4	-0.9	-1.3 e	-1.3 e	-1.3 e	-1.2 e	-1.1 e	..	6.3	-0.7
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-	-	-1.0 e	-1.1 e	-1.1 e	-1.0 e	-1.0 e	..	-	0.1
<i>Coke ovens</i>	-0.4	-0.9	-0.2 e	-0.2 e	-0.3 e	-0.1 e	-0.0 e	..	-3.6	-10.6
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-0.1	-0.0	-0.6	-0.4 e	-0.6 e	-0.6 e	-0.5 e	..	13.9	-0.5
Losses	-0.0	-0.0	-	-	-	-	-	..		
Final consumption ⁶	2.0	2.3	1.6	1.3	5.8	5.5	2.6	..	-1.4	2.1
Industry ⁷	2.0	2.3	1.3	1.1	5.6	5.4	2.5	..	-2.2	2.5
<i>Iron and steel</i>	2.0	2.3	1.3 e	1.1 e	1.1 e	1.1 e	1.0 e	..	-2.2	-1.0
<i>Chemical</i>	-	-	-	-	-	-	-	..	-	-
<i>Non-metallic minerals</i>	-	-	-	-	0.1	0.2	0.2	..	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	..	-	-
<i>Other industry</i> ⁸	-	-	-	-	4.3	4.1	1.3	..	-	-
Transport ⁹	-	-	-	-	-	-	-	..	-	-
Other	-	-	-	-	-	-	-	..	-	-
<i>Comm. and pub. services</i>	-	-	-	-	-	-	-	..	-	-
<i>Residential</i>	-	-	-	-	-	-	-	..	-	-
<i>Other sectors</i> ¹⁰	-	-	-	-	-	-	-	..	-	-
Non-energy use	-	-	0.2	0.2	0.2	0.2	0.1	..	-	-2.1
Electricity gen. - TWh	0.2	-	7.8	19.0	32.3	33.8	34.6	31.7	23.8	5.9

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.

3. Main activity electricity and heat generation includes district heating.

4. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

5. Other transformation includes Liquefaction and Non-specified transformations.

6. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

7. Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.

8. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

9. Transport includes Rail and Inland waterways.

10. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

MEXICO

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	4.05	7.38	12.57	23.35	22.49	19.15	20.39	5.12	3.99
Total electricity and heat	-	3.97	9.57	14.77 e	15.62 e	15.71 e	16.23 e	-	5.57
<i>Main activity producers</i>	-	3.97	9.57	14.69 e	15.53 e	15.69 e	16.23 e	-	5.57
<i>Autoproducers</i>	-	-	-	0.08	0.09	0.03	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	3.97	3.41 e	3.00 e	3.16 e	3.19	2.57	1.95	-1.27	-2.11
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	5.26	3.45	5.47	2.21	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	0.22	0.31	0.33	0.35	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	5.04	3.14	5.14	1.85	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	-	3.97	9.57	17.19	17.98	13.63	15.09	-	5.27
Total electricity and heat	-	3.97	9.57	14.77 e	15.62 e	15.71 e	16.23 e	-	5.57
<i>Main activity producers</i>	-	3.97	9.57	14.69 e	15.53 e	15.69 e	16.23 e	-	5.57
<i>Autoproducers</i>	-	-	-	0.08	0.09	0.03	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	0.78	2.48	2.38	1.26	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	0.22	0.31	0.33	0.35	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	0.56	2.17	2.05	0.91	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	4.05	3.41	3.00	5.44	3.93	5.05	4.85	-1.44	1.37
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	3.97	3.41 e	3.00 e	3.16 e	3.19	2.57	1.95	-1.27	-2.11
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	3.76	0.38	2.51	0.49	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	3.76	0.38	2.51	0.49	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

MEXICO

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	-	-	0.00	0.72	0.59	0.47	0.45	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	0.00	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	0.72	0.59	0.58	0.45	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	0.72	0.59	0.58	0.45	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

MEXICO

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	2.47	2.88	2.15	3.50	3.98	4.40	4.57	1.28	1.64
Steam coal	-	2.46	5.96	6.33	7.19	5.36	4.73	-	3.03
Lignite	-	-	-	0.29	0.27	0.18	0.16	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	3.09	2.96	2.21	3.52	4.02	4.40	4.57	-0.34	1.53
Steam coal	-	3.97	9.13	9.20	10.59	7.69	6.79	-	2.58
Lignite	-	-	-	0.75	0.70	0.48	0.42	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	0.64	0.34	2.84	6.94 e	7.42 e	7.28 e	7.55 e	8.05 e	9.49
Bituminous coal ³	-	-	-	4.87 e	5.59 e	4.85 e	4.74 e	5.47 e	5.83
Coking coal	0.56	0.22	1.81	1.70 e	1.46 e	1.95 e	1.85 e	0.45 e	0.13
Sub-bituminous coal	-	-	0.42	0.00	-	-	0.29	1.05	2.38
Lignite	-	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.08	0.12	0.62	0.36	0.37	0.48	0.67	1.08	1.15
Total exports	-	0.01	0.01	0.01	0.11	0.00	0.00	0.00	0.10
Bituminous coal ³	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
Coking coal	-	0.00	0.00	-	0.10	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	-	0.00	0.00	0.00	0.00	-	-	-	0.10

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

MEXICO

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	570	228	2436	7288 e	7862 e	7521 e	7707 e	8280 e	10403
Coking coal	570	228	1796	1773 e	1531 e	2027 e	1874 e	456 e	132
Australia	-	-	1074	393 e	405 e	227 e	1247 e	-	-
Canada	-	122	538	507 e	361 e	158 e	130 e	-	132
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	470	6	61	537 e	670 e	1642 e	497 e	456 e	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	1	3 e	3 e	-	-	-	-
Colombia	-	-	-	111 e	92 e	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	66	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	56	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	100	100	-	222 e	-	-	-	-	-
Steam coal	-	-	636	5512 e	6327 e	5491 e	5829 e	7821	10268
Australia	-	-	-	4933 e	2421 e	2210 e	2459 e	3397	-
Canada	-	-	-	72 e	275 e	-	-	-	60
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	636	483 e	1343 e	2803 e	3019 e	2280	3668
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	3	3	3	7	9	8
Colombia	-	-	-	21	1010 e	449 e	335 e	1934	6514
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	1275 e	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	186	1
<i>Other FSU</i>	x	x	-	-	-	22	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	4	9	15	17
Lignite	-	-	4	3	4	3	4	3	3

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

NETHERLANDS¹

Figure 1: Coal supply indicators (1971 = 100)

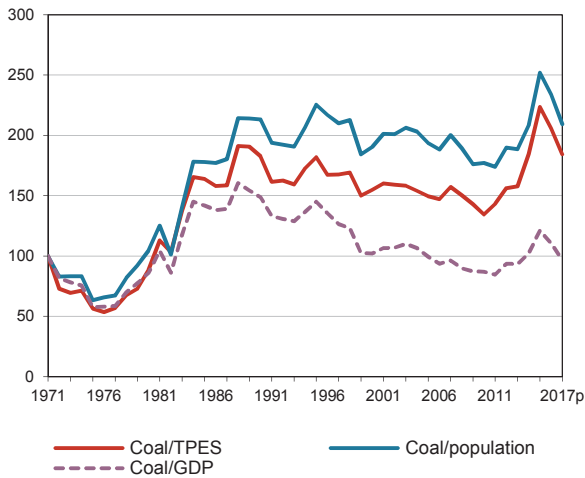


Figure 2: TPES by fuel (Mtce)

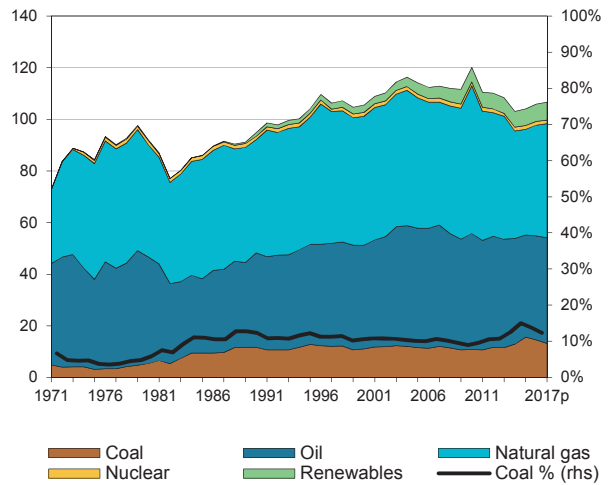


Figure 3: Primary coal supply (Mtce)

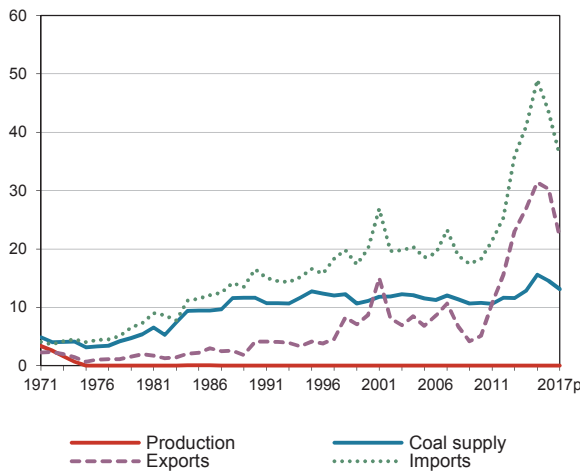


Figure 4: Coal consumption (Mtce)

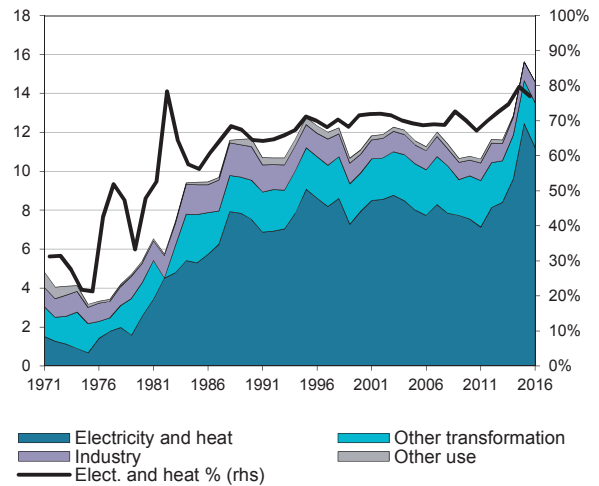


Figure 5: Electricity generation by fuel (TWh)

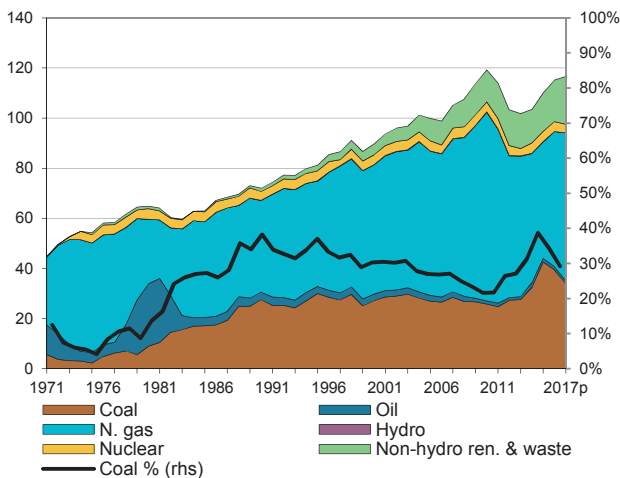
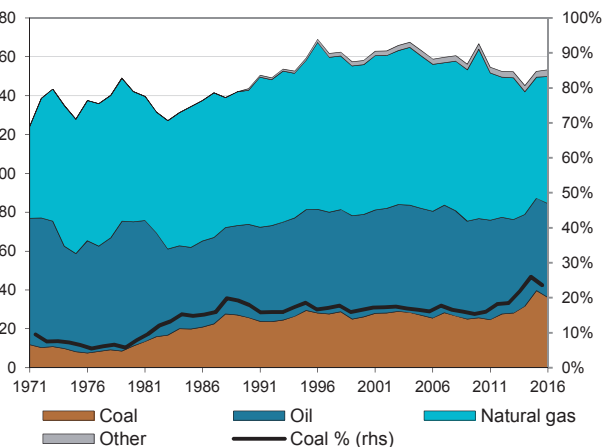


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

NETHERLANDS

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	1.6	-	-	-	-	-	-	-	-	-
Imports	4.2	7.3	16.5	20.0	18.3	49.0	43.5	36.0	8.4	3.8
Exports	-2.0	-2.0	-4.1	-8.7	-5.1	-31.4	-30.3	-22.0	4.4	8.0
Stock changes	0.3	0.1	-0.7	-0.2	-2.3	-1.9	1.3	-0.8		
Primary supply	4.1	5.4	11.7	11.1	10.8	15.6	14.6	13.1	6.4	0.9
Statistical differences	0.1	0.1	-0.3	-0.0	-0.0	0.2	0.0	..		
Total transformation	-1.8 e	-4.1	-8.8 e	-9.7 e	-9.5	-14.6 e	-13.2 e	..	10.0	1.6
Electricity and heat gen.	-1.1	-2.6	-7.5	-7.9	-7.5	-12.4	-11.2	..	11.8	1.5
<i>Main activity producers</i> ³	-1.1	-2.4	-7.4	-7.9	-7.5	-12.4	-11.2	..	11.7	1.6
<i>Autoproducers</i>	-	-0.2	-0.1	-0.0	-0.0	-0.0	-0.0	..	-	-6.6
Gas works	-	-	-	-	-	-	-	..	-	-
Coal transformation ⁴	-0.6 e	-1.6	-1.3 e	-1.7 e	-2.0	-2.1 e	-2.0 e	..	4.4	1.7
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-0.8 e	-1.2	-1.3 e	-1.6 e	-1.8	-1.9 e	-1.8 e	..	2.7	1.3
<i>Coke ovens</i>	0.2	-0.4	-0.0	-0.1	-0.2	-0.2	-0.2	..	-	11.5
<i>Patent fuel plants</i>	0.0	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-0.9	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	..	-5.4	-0.9
Losses	-0.1	-	-	-	-	-	-	..		
Final consumption ⁶	1.5	1.1	2.1	1.2	1.0	1.0	1.1	..	1.9	-2.6
Industry ⁷	1.1	1.0	1.7	1.0	0.8	1.0	1.1	..	2.7	-1.9
<i>Iron and steel</i>	0.7	0.6	1.2 e	0.8 e	0.7	0.9 e	0.9 e	..	3.1	-0.9
<i>Chemical</i>	0.2	0.2	0.3	0.0	-	-	-	..	2.1	-
<i>Non-metallic minerals</i>	0.0	0.2	0.1	0.1	0.1	0.0	0.1	..	10.5	-3.0
<i>Paper, pulp and print</i>	-	-	0.0	-	-	-	-	..	-	-
<i>Other industry</i> ⁸	0.1	0.1	0.1	0.0	0.1	0.1	0.1	..	-1.8	-1.3
Transport ⁹	-	-	-	-	-	-	-	..	-	-
Other	0.5	0.1	0.0	0.0	0.0	0.0	0.0	..	-14.5	-
<i>Comm. and pub. services</i>	-	-	0.0	0.0	0.0	0.0	0.0	..	-	-
<i>Residential</i>	0.3	0.1	0.0	0.0	0.0	0.0	0.0	..	-14.8	-
<i>Other sectors</i> ¹⁰	0.1	0.1	-	-	-	-	-	..	-	-
Non-energy use	-	-	0.4	0.2	0.2	0.0	0.0	..	-	-15.4
Electricity gen. - TWh	3.2	8.9	27.5	27.1	25.8	42.5	39.4	34.0	13.5	1.4

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD World Energy Balances

NETHERLANDS

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	4.87	12.88	12.74	11.89	14.64	18.04	16.51	8.44	0.96
Total electricity and heat	1.70	7.92	8.59	7.88	10.26	13.48	12.09	13.67	1.64
<i>Main activity producers</i>	1.59	7.89	8.59	7.88	10.26	13.48	12.09	14.28	1.65
<i>Autoproducers</i>	0.11	0.04	-	-	-	-	-	-9.31	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	3.28	3.77	3.01	2.93	2.91	2.97	2.90	1.15	-1.01
Blast furnace inputs	0.01 e	0.54 e	0.95 e	1.02	1.32 e	1.41 e	1.34 e	47.72	3.57
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.12	0.62	0.19	0.06	0.14	0.16	0.19	14.37	-4.47
<i>Iron and steel</i>	-	0.13 e	0.10 e	-	0.08 e	0.09 e	0.12 e	-	-0.44
<i>Chemical</i>	0.05	0.32	0.01	-	-	-	-	16.45	-
<i>Non-metallic minerals</i>	0.07	0.09	0.04	0.02	0.02	0.03	0.03	2.36	-4.36
<i>Paper, pulp and print</i>	-	0.00	-	-	-	-	-	-	-
<i>Other industry</i>	0.01	0.09 e	0.04 e	0.04	0.04 e	0.05 e	0.05 e	21.89	-2.38
Other sectors ⁴	0.10	0.03	0.00	-	-	-	-	-9.07	-
Non-energy use	-	0.00	0.01	0.00	0.01	0.01	0.00	-	-
Steam coal	1.85	8.39	8.66	7.91	10.30	13.53	12.12	13.42	1.42
Total electricity and heat	1.70	7.92	8.59	7.88	10.26	13.48	12.09	13.67	1.64
<i>Main activity producers</i>	1.59	7.89	8.59	7.88	10.26	13.48	12.09	14.28	1.65
<i>Autoproducers</i>	0.11	0.04	-	-	-	-	-	-9.31	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	0.01 e	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.06	0.44	0.07	0.04	0.04	0.03	0.04	18.23	-9.08
<i>Iron and steel</i>	-	0.01	0.01	-	-	-	-	-	-
<i>Chemical</i>	0.05	0.32	0.01	-	-	-	-	16.45	-
<i>Non-metallic minerals</i>	-	0.03	0.02	0.00	-	-	-	-	-
<i>Paper, pulp and print</i>	-	0.00	-	-	-	-	-	-	-
<i>Other industry</i>	0.01	0.09	0.04	0.04	0.04	0.03	0.04	21.89	-3.19
Other sectors ⁴	0.09	0.03	0.00	-	-	-	-	-8.83	-
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	2.95	4.44	4.05	3.95	4.31	4.47	4.36	3.45	-0.07
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	3.28	3.77	3.01	2.93	2.91	2.97	2.90	1.15	-1.01
Blast furnace inputs	-	0.54 e	0.95 e	1.02	1.32 e	1.41 e	1.34 e	-	3.57
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	0.13	0.09	-	0.08	0.09	0.12	-	-0.29
<i>Iron and steel</i>	-	0.13 e	0.09 e	-	0.08 e	0.09 e	0.12 e	-	-0.29
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	0.00	0.01	0.00	0.01	0.01	0.00	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

NETHERLANDS

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	0.07	0.06	0.03	0.03	0.03	0.04	0.04	-1.60	-1.68
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.07	0.06	0.03	0.03	0.03	0.04	0.04	-1.23	-1.68
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	0.07	0.06	0.03	0.02	0.02	0.03	0.03	-1.23	-2.77
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	0.00	0.01	0.01	0.01	0.01	-	-
Other sectors ³	0.00	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

NETHERLANDS

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	5.05	16.50	20.02	18.56	18.25	40.96	48.96	43.54	35.96
Bituminous coal ³	1.88	11.47	14.71	13.28	13.45	36.07	44.82	38.29	30.71
Coking coal	2.64	4.55	4.76	4.88	4.47	4.35	3.79	4.48	4.13
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	0.05	0.04	0.02	0.02	0.02	0.03	0.02	0.02	0.05
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.48	0.43	0.53	0.38	0.32	0.52	0.33	0.74	1.07
Total exports	1.13	4.14	8.70	6.82	5.14	26.95	31.40	30.27	22.02
Bituminous coal ³	0.41	3.29	7.21	6.21	4.98	26.33	30.82	29.42	20.80
Coking coal	0.01	-	0.92	0.23	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	0.00	0.00	0.00	0.00	0.00	-	0.00	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.71	0.84	0.57	0.38	0.16	0.62	0.58	0.85	1.22

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

NETHERLANDS

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	5108	17318	22572	20494	20466	47302	57113	49495	40260
Coking coal	2853	4647	4864	4987	4569	4445	3876	4589	4225
Australia	961	453	1902	1346	555	1524	1689	2230	1831
Canada	-	430	366	902	503	-	325	211	339
Czech Republic	89	-	-	-	-	-	-	-	-
Germany	782	466	-	-	1	-	-	-	-
Poland	376	99	319	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	644	3141	1621	1364	2859	1710	1004	1141	1033
Other OECD	1	4	1	303	-	316	118	63	-
China, People's Rep.	-	1	-	-	-	-	-	-	-
Colombia	-	6	10	-	-	-	-	-	-
Indonesia	-	46	441	-	-	-	31	67	82
South Africa	-	1	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	359	554	624	386	686	715
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	204	713	97	91	-	-	24
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	180	323	191	174
Steam coal	2185	12608	17675	15473	15871	42816	53211	44870	35957
Australia	529	5054	1110	440	-	880	1167	2132	1089
Canada	55	-	-	-	-	25	-	-	242
Czech Republic	62	-	-	-	-	-	-	-	-
Germany	703	71	19	43	17	84	3955	4926	2723
Poland	264	1028	1246	97	73	-	247	95	-
United Kingdom	166	-	9	68	20	-	-	1	1
United States	14	2978	1242	291	819	9750	10464	7214	6588
Other OECD	10	234	365	239	797	662	595	229	168
China, People's Rep.	-	150	271	83	23	13	31	8	17
Colombia	-	1492	4989	5720	8656	13522	18224	15737	8552
Indonesia	-	131	2644	995	14	-	-	61	-
South Africa	309	1419	5287	6102	2015	10290	5560	2555	2795
Former Soviet Union ⁴	57	32	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	174	1254	3401	7462	12695	11111	12796
<i>Other FSU</i>	x	x	-	33	-	77	2	-	-
Venezuela	-	19	90	-	36	40	-	-	14
Viet Nam	-	-	157	-	-	10	42	-	11
Non-specified/other	16	-	72	108	-	1	229	801	961
Lignite	70	63	33	34	26	41	26	36	78

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

NETHERLANDS

6. Coking coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	13	-	938	236	-	-	-	-	-
Total OECD	13	-	938	236	-	-	-	-	-
Australia	-	-	-	-	-	-	-	-	-
Austria	-	-	-	-	-	-	-	-	-
Belgium	13	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Chile	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	-	-	-	-	-	-	-	-
France	-	-	10	-	-	-	-	-	-
Germany	-	-	928	236	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	-	-
Italy	-	-	-	-	-	-	-	-	-
Japan	-	-	-	-	-	-	-	-	-
Korea	-	-	-	-	-	-	-	-	-
Latvia	x	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	-	-	-	-	-	-	-	-	-
New Zealand	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
Portugal	-	-	-	-	-	-	-	-	-
Slovak Republic	-	-	-	-	-	-	-	-	-
Slovenia	x	-	-	-	-	-	-	-	-
Spain	-	-	-	-	-	-	-	-	-
Sweden	-	-	-	-	-	-	-	-	-
Switzerland	-	-	-	-	-	-	-	-	-
Turkey	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Total non-OECD	-	-	-	-	-	-	-	-	-
Brazil	-	-	-	-	-	-	-	-	-
China ³	-	-	-	-	-	-	-	-	-
Chinese Taipei	-	-	-	-	-	-	-	-	-
Egypt	-	-	-	-	-	-	-	-	-
India	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-
Oth. Africa & Mid. East	-	-	-	-	-	-	-	-	-
Oth. non-OECD Americas	-	-	-	-	-	-	-	-	-
Other Asia & Oceania	-	-	-	-	-	-	-	-	-
Other non-OECD Europe and Eurasia	-	-	-	-	-	-	-	-	-
Non-specified/Other	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

NETHERLANDS

7. Steam coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	475	3599	8649	7214	5873	31256	36589	34579	24420
Total OECD	475	3551	8618	7187	5725	31208	36470	34481	24295
Australia	-	-	-	-	-	29	36	17	16
Austria	-	-	1	5	-	-	644	105	402
Belgium	231	643	154	44	219	2260	3637	2301	2774
Canada	-	-	-	18	23	8	-	-	7
Chile	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	3	-	67	176	34	58	43	52
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	1	-	311	-	-	-	-	21
France	9	377	321	1303	1058	921	810	559	750
Germany	228	2169	7475	4644	3753	27278	30225	30322	19467
Greece	-	-	-	71	-	10	-	-	-
Hungary	-	-	-	60	-	-	-	-	-
Iceland	-	-	-	33	56	58	102	138	134
Ireland	-	48	-	-	-	39	164	90	85
Israel	-	-	-	-	-	-	-	-	-
Italy	-	-	3	-	-	-	-	-	-
Japan	-	-	-	-	-	-	-	-	-
Korea	-	-	-	-	-	-	-	-	-
Latvia	x	-	-	-	-	38	95	134	-
Luxembourg	-	-	53	1	15	35	40	45	44
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	-	-	-	-	-	-	-	-	-
New Zealand	-	-	-	-	-	-	-	-	-
Norway	-	10	316	174	239	217	396	383	349
Poland	-	-	-	7	16	5	2	2	-
Portugal	-	5	-	-	-	-	-	-	-
Slovak Republic	-	-	-	-	-	-	-	8	2
Slovenia	x	-	-	-	-	-	-	-	-
Spain	-	30	20	18	4	57	89	54	48
Sweden	-	-	-	13	1	15	10	9	24
Switzerland	5	10	-	-	7	5	6	35	2
Turkey	-	-	-	-	-	-	-	-	-
United Kingdom	2	255	275	418	158	195	156	236	118
United States	-	-	-	-	-	4	-	-	-
Total non-OECD	-	48	-	24	147	27	28	96	107
Brazil	-	-	-	-	-	-	-	-	-
China ³	-	5	-	-	-	-	-	-	-
Chinese Taipei	-	-	-	-	-	-	-	-	-
Egypt	-	-	-	3	7	23	24	17	9
India	-	-	-	-	-	-	1	1	1
Romania	-	-	-	-	-	-	-	-	-
Oth. Africa & Mid. East	-	43	-	-	15	-	-	-	36
Oth. non-OECD Americas	-	-	-	-	15	-	-	-	-
Other Asia & Oceania	-	-	-	-	1	1	1	1	1
Other non-OECD Europe and Eurasia	-	-	-	21	109	3	2	77	60
Non-specified/Other	-	-	31	3	1	2	82	-	5

1. Please refer to the explanatory notes and definitions in Part I. Steam coal includes all sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

NEW ZEALAND¹

Figure 1: Coal supply indicators (1971 = 100)

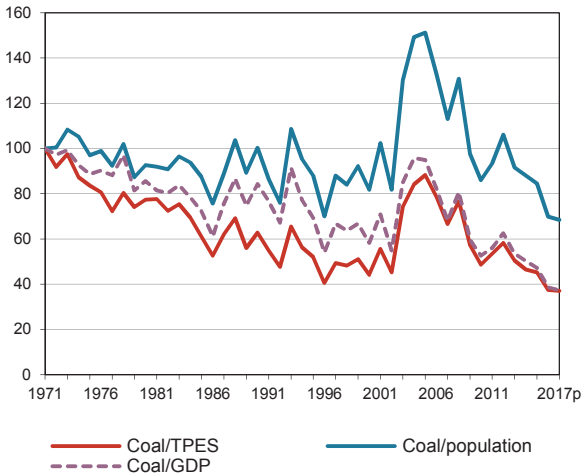


Figure 2: TPES by fuel (Mtce)

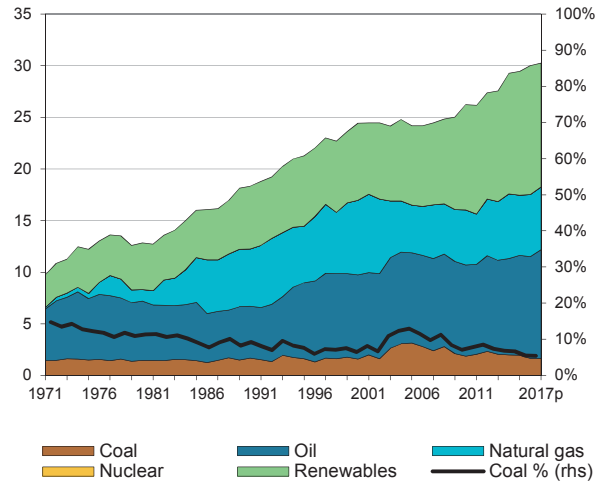


Figure 3: Primary coal supply (Mtce)

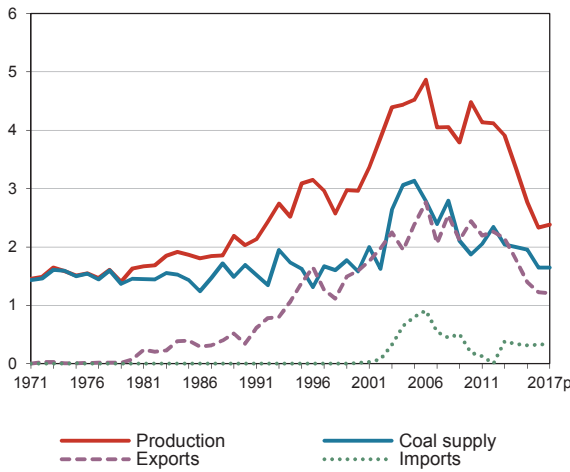


Figure 4: Coal consumption (Mtce)

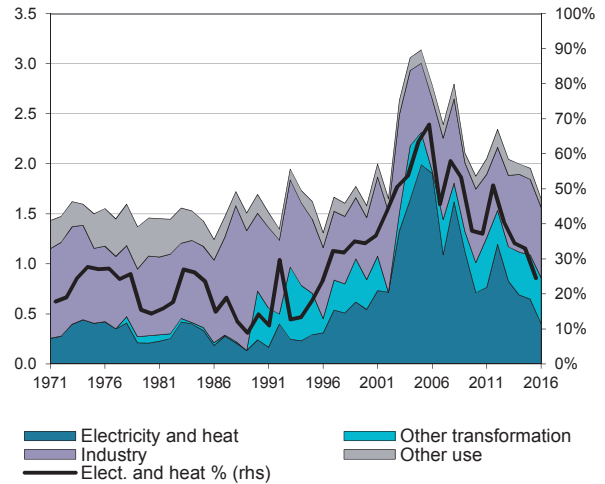


Figure 5: Electricity generation by fuel (TWh)

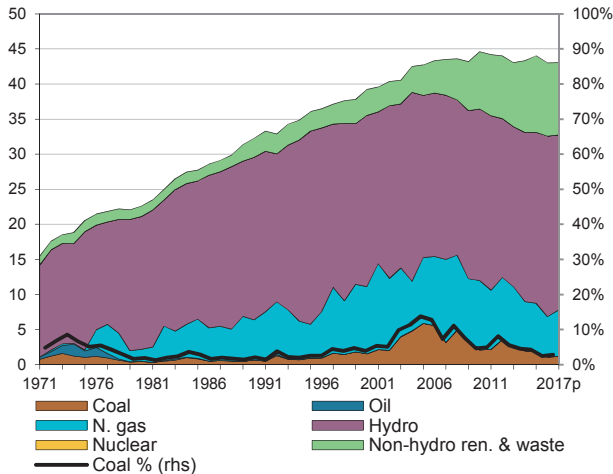
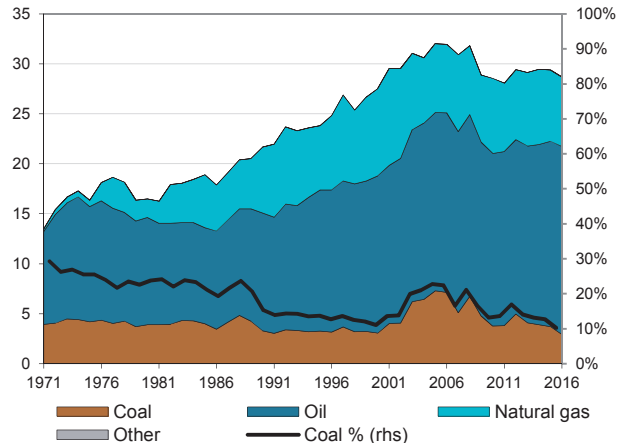


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

NEW ZEALAND

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	1.6 e	1.6	2.0	3.0	4.5	2.8	2.3	2.4	1.2	0.5
Imports	-	-	0.0	0.0	0.2	0.3	0.3	0.3	-	24.9
Exports	-0.0	-0.1	-0.3	-1.6	-2.4	-1.4	-1.2	-1.2	15.1	5.0
Stock changes	-0.0 e	-0.1	-	0.2	-0.4	0.3	0.2	0.1		
Primary supply	1.6	1.5	1.7	1.6	1.9	2.0	1.6	1.6	0.3	-0.1
Statistical differences	-	-0.0	-0.1	-0.1	-0.0	-0.1	-0.1	..		
Total transformation	-0.4	-0.2	-0.4 e	-0.7	-0.9	-0.9	-0.7	..	0.9	1.5
Electricity and heat gen.	-0.4	-0.2	-0.2	-0.5	-0.7	-0.6	-0.4	..	-2.9	2.0
<i>Main activity producers</i> ³	-0.4	-0.2	-0.2	-0.3	-0.4	-0.4	-0.2	..	-5.0	-0.3
<i>Autoproducers</i>	-	-	-0.1	-0.2	-0.3	-0.3	-0.2	..	-	4.8
Gas works	0.0	-0.0	-	-	-	-	-	..	-	-
Coal transformation ⁴	-0.0	-0.0	-0.2 e	-0.1	-0.2	-0.2	-0.3	..	23.6	0.8
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-	-	-0.2 e	-0.2	-0.2	-0.3	-0.3	..	-	0.8
<i>Coke ovens</i>	0.0	-0.0	0.0	0.0	0.0	0.0	0.0	..	-	-
<i>Patent fuel plants</i>	-0.0	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-	-0.0	-0.1	-0.1	-0.1	-0.1	-0.1	..	-	3.9
Losses	-0.0	-0.0	-0.2 e	-0.0	-0.0	-0.0	-0.0	..		
Final consumption ⁶	1.2	1.2	1.0	0.7	0.9	0.9	0.8	..	-1.4	-0.8
Industry ⁷	1.0	0.8	0.8	0.6	0.7	0.8	0.7	..	-1.3	-0.4
<i>Iron and steel</i>	0.1	0.1	0.0	0.0	0.1	0.1	0.1	..	-7.6	4.8
<i>Chemical</i>	-	-	-	-	-	-	-	..	-	-
<i>Non-metallic minerals</i>	-	0.1	-	-	0.1	0.1	0.1	..	-	-
<i>Paper, pulp and print</i>	-	0.1	-	-	-	-	-	..	-	-
<i>Other industry</i> ⁸	0.9	0.5	0.8	0.6	0.6	0.6	0.6	..	-1.1	-1.1
Transport ⁹	-	0.0	0.0	0.0	0.0	-	-	..	-	-
Other	0.3	0.4	0.2	0.1	0.1	0.1	0.1	..	-1.7	-3.0
<i>Comm. and pub. services</i>	0.0	0.2	0.1	0.1	0.0	0.0	0.0	..	12.6	-1.4
<i>Residential</i>	0.2 e	0.2	0.1	0.0	0.0	0.0	0.0	..	-2.8	-9.1
<i>Other sectors</i> ¹⁰	0.0	-	0.0	0.0	0.1	0.1	0.0	..	-	-
Non-energy use	-	-	-	-	-	-	-	..	-	-
Electricity gen. - TWh	1.6	0.4	0.7	1.5	2.1	1.9	1.1	1.2	-5.0	1.8

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD World Energy Balances

NEW ZEALAND

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	2.17	2.24	2.10	2.65	2.87	2.83	2.40	0.29	0.27
Total electricity and heat	0.59	0.27	0.46	0.66	0.63	0.57	0.24	-6.23	-0.56
<i>Main activity producers</i>	0.59	0.23	0.43	0.64	0.61	0.56	0.22	-7.50	-0.24
<i>Autoproducers</i>	-	0.04	0.03	0.02	0.02	0.02	0.02	-	-3.12
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	0.05	0.64	0.67	0.84	0.89	0.91	0.89	23.70	1.26
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	0.08	-	-	-	-	-	-	-	-
Industry	0.91	1.02	0.76	0.92	1.04	1.03	0.97	0.92	-0.20
<i>Iron and steel</i>	0.18	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	0.13	-	-	0.12	0.12	0.12	0.08	-	-
<i>Paper, pulp and print</i>	0.06	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.54	1.02	0.76	0.80	0.91	0.91	0.89	5.38	-0.54
Other sectors ⁴	0.49	0.23	0.17	0.19	0.15	0.17	0.14	-6.19	-1.98
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	2.04	1.84	1.88	2.29	2.55	2.48	2.02	-0.83	0.36
Total electricity and heat	0.59	0.26	0.45	0.64	0.61	0.56	0.22	-6.61	-0.64
<i>Main activity producers</i>	0.59	0.23	0.43	0.64	0.61	0.56	0.22	-7.50	-0.24
<i>Autoproducers</i>	-	0.03	0.02	0.00	0.00	-	0.00	-	-9.65
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	0.05	0.64	0.67	0.84	0.89	0.91	0.89	23.70	1.26
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	0.08	-	-	-	-	-	-	-	-
Industry	0.83	0.89	0.59	0.65	0.75	0.75	0.71	0.58	-0.82
<i>Iron and steel</i>	0.18	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	0.12	-	-	0.12	0.12	0.12	0.08	-	-
<i>Paper, pulp and print</i>	0.03	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.49	0.89	0.59	0.53	0.63	0.63	0.63	5.01	-1.30
Other sectors ⁴	0.45	0.17	0.09	0.12	0.13	0.13	0.09	-7.81	-2.54
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	-	0.24	0.00	0.07	-	0.03	0.07	-	-4.47
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	0.08	0.01	0.00	0.01	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	0.00	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	0.07	0.01	0.00	0.01	-	-
Other sectors ⁴	-	-	-	0.01	0.00	0.00	0.00	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

NEW ZEALAND

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	0.13	0.16	0.21	0.29	0.32	0.33	0.31	1.63	2.56
Total electricity and heat	-	0.01	0.01	0.02	0.02	0.02	0.02	-	0.80
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	0.01	0.01	0.02	0.02	0.02	0.02	-	0.80
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.09	0.14	0.17	0.20	0.28	0.27	0.25	3.63	2.37
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	0.00	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	0.03	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.05	0.14	0.17	0.20	0.28	0.27	0.25	8.27	2.37
Other sectors ³	0.04	0.06	0.08	0.06	0.02	0.04	0.05	2.87	-0.79
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

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3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	0.01	0.59	1.35	2.50	2.37	1.21	1.21	39.10	2.82
Steam coal	1.53	1.37	1.51	1.89	1.97	0.97	1.01	-0.94	-1.32
Lignite	0.07	0.08	0.11	0.13	0.15	0.15	0.16	1.07	2.62
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	0.01	0.58	1.31	2.45	2.34	1.17	1.17	39.12	2.75
Steam coal	2.01	1.84	1.94	2.58	2.70	1.39	1.45	-0.72	-1.09
Lignite	0.15	0.16	0.21	0.25	0.30	0.31	0.32	0.43	2.64
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	0.00	0.00	0.02	0.80	0.19	0.34	0.31	0.33	0.33
Bituminous coal ³	0.00	-	0.02	0.06	0.05	0.03	0.03	0.07	0.07
Coking coal	-	0.00	-	-	0.00	-	-	-	-
Sub-bituminous coal	-	-	-	0.74	0.14	0.31	0.28	0.26	0.27
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.00	-	-	-	-	-	-	-	-
Total exports	0.02	0.34	1.59	2.38	2.44	1.78	1.40	1.23	1.21
Bituminous coal ³	-	-	-	-	0.11	-	-	-	-
Coking coal	0.01	0.34	1.59	2.38	2.33	1.76	1.37	1.23	1.18
Sub-bituminous coal	-	-	-	-	-	0.02	0.03	-	0.03
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.01	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

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5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	1	1	16	1084	251	471	436	453	462
Coking coal	-	1	-	-	1	-	-	-	-
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	1	-	-	1	-	-	-	-
Steam coal	1	-	16	1084	250	471	436	453	462
Australia	-	-	16	62	51	30	31	74	74
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	1	-	-	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	1022	199	441	405	379	388
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

NEW ZEALAND

6. Coking coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	11	336	1551	2331	2301	1719	1326	1187	1142
Total OECD	11	285	1253	1172 e	529 e	413	258	126	309
Australia	-	-	122	49 e	-	-	-	-	-
Austria	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-
Canada	-	30	-	-	-	-	-	-	-
Chile	-	-	313	267 e	57 e	-	111	-	71
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	-	-	-	-	-	-	-	-
France	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	-	-
Italy	-	-	-	-	-	-	-	-	-
Japan	11	243	687	818 e	472 e	413	147	126	174
Korea	-	-	-	-	-	-	-	-	64
Latvia	x	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	-	12	85	-	-	-	-	-	-
New Zealand	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
Portugal	-	-	-	-	-	-	-	-	-
Slovak Republic	-	-	-	-	-	-	-	-	-
Slovenia	x	-	-	-	-	-	-	-	-
Spain	-	-	-	-	-	-	-	-	-
Sweden	-	-	-	-	-	-	-	-	-
Switzerland	-	-	46	-	-	-	-	-	-
Turkey	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	38 e	-	-	-	-	-
Total non-OECD	-	51	276	858 e	1291 e	1203	1068	976	833
Brazil	-	-	-	124 e	-	-	-	-	-
China ³	-	-	91	137 e	218 e	206	221	533	247
Chinese Taipei	-	-	-	-	-	-	-	-	-
Egypt	-	-	-	-	-	-	-	-	-
India	-	51	185	597 e	1073 e	997	847	443	586
Romania	-	-	-	-	-	-	-	-	-
Oth. Africa & Mid. East	-	-	-	-	-	-	-	-	-
Oth. non-OECD Americas	-	-	-	-	-	-	-	-	-
Other Asia & Oceania	-	-	-	-	-	-	-	-	-
Other non-OECD Europe and Eurasia	-	-	-	-	-	-	-	-	-
Non-specified/Other	-	-	22	-	305 e	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

NEW ZEALAND

7. Steam coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	-	-	-	-	119	22	43	-	44
Total OECD	-	-	-	-	-	-	-	-	-
Australia	-	-	-	-	-	-	-	-	-
Austria	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Chile	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	-	-	-	-	-	-	-	-
France	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	-	-
Italy	-	-	-	-	-	-	-	-	-
Japan	-	-	-	-	-	-	-	-	-
Korea	-	-	-	-	-	-	-	-	-
Latvia	x	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	-	-	-	-	-	-	-	-	-
New Zealand	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
Portugal	-	-	-	-	-	-	-	-	-
Slovak Republic	-	-	-	-	-	-	-	-	-
Slovenia	x	-	-	-	-	-	-	-	-
Spain	-	-	-	-	-	-	-	-	-
Sweden	-	-	-	-	-	-	-	-	-
Switzerland	-	-	-	-	-	-	-	-	-
Turkey	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Total non-OECD	-	-	-	-	-	-	-	-	-
Brazil	-	-	-	-	-	-	-	-	-
China ³	-	-	-	-	-	-	-	-	-
Chinese Taipei	-	-	-	-	-	-	-	-	-
Egypt	-	-	-	-	-	-	-	-	-
India	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-
Oth. Africa & Mid. East	-	-	-	-	-	-	-	-	-
Oth. non-OECD Americas	-	-	-	-	-	-	-	-	-
Other Asia & Oceania	-	-	-	-	-	-	-	-	-
Other non-OECD Europe and Eurasia	-	-	-	-	-	-	-	-	-
Non-specified/Other	-	-	-	-	119	22	43	-	44

1. Please refer to the explanatory notes and definitions in Part I. Steam coal includes all sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

NORWAY¹

Figure 1: Coal supply indicators (1971 = 100)

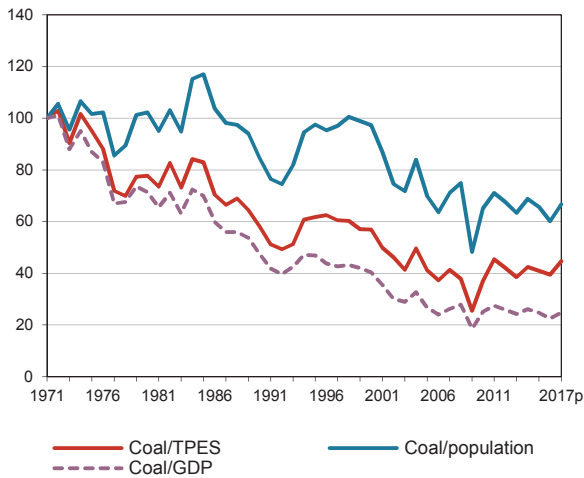


Figure 2: TPES by fuel (Mtce)

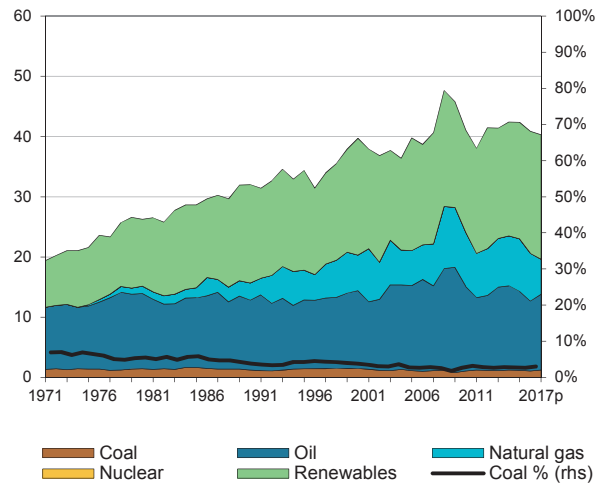


Figure 3: Primary coal supply (Mtce)

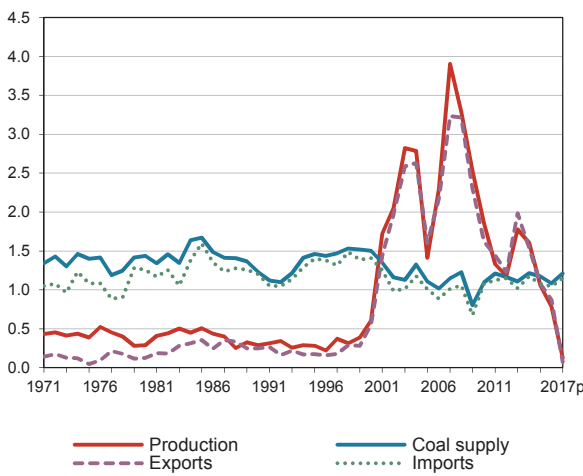


Figure 4: Coal consumption (Mtce)

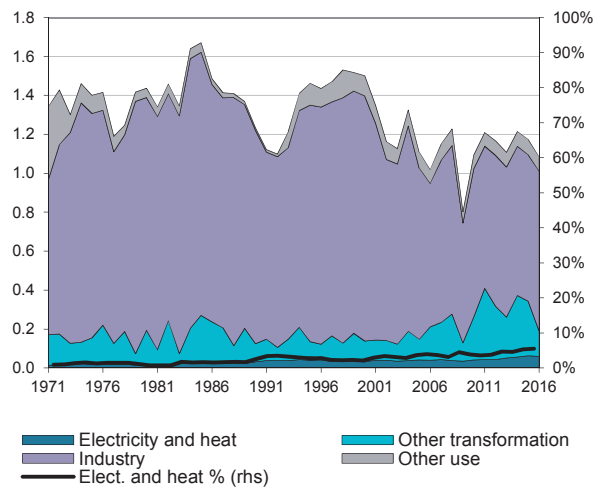


Figure 5: Electricity generation by fuel (TWh)

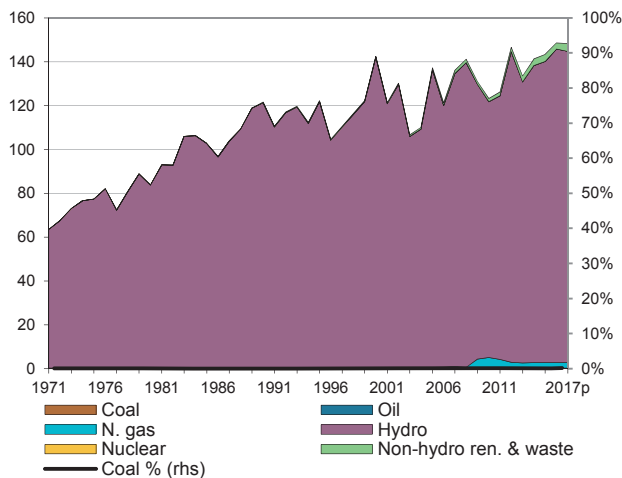
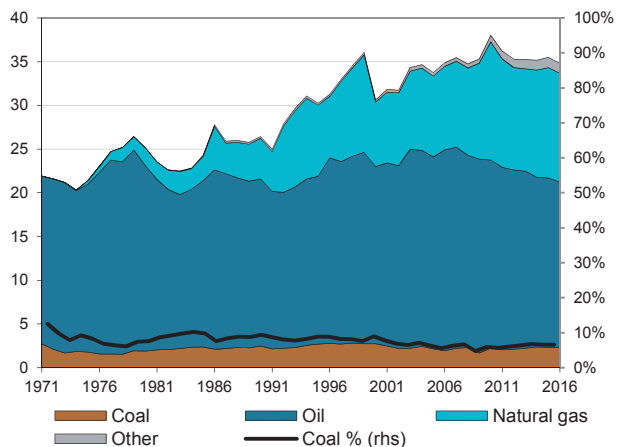


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

NORWAY

1. Coal balance¹
(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	0.4	0.3	0.3	0.6	1.9	1.1	0.8	0.1	-2.1	3.9
Imports	1.0	1.3	1.2	1.4	1.1	1.1	1.0	1.1	1.3	-0.5
Exports	-0.1	-0.1	-0.2	-0.6	-1.6	-1.1	-0.9	-0.1	3.9	5.0
Stock changes	0.1	0.0	-0.0	0.0	-0.2	0.1	0.1	0.0		
Primary supply	1.3	1.4	1.2	1.5	1.1	1.2	1.1	1.2	-0.3	-0.5
Statistical differences	0.0	-0.0	-0.0	0.0	-0.1	-0.1	0.0	..		
Total transformation	-0.1 e	-0.1 e	-0.1	-0.1	-0.2 e	-0.3 e	-0.2	..	-0.5	2.6
Electricity and heat gen.	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.1	..	-	2.4
<i>Main activity producers</i> ³	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.1	..	-	2.4
<i>Autoproducers</i>	-	-	-	-	-	-	-	..	-	-
Gas works	0.0	0.0	-	-	-	-	-	..	-	-
Coal transformation ⁴	-0.1 e	-0.1 e	-0.1	-0.1	-0.1 e	-0.2 e	-0.2	..	-2.3	2.7
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-0.1 e	-0.1 e	-0.1	-0.1	-0.1 e	-0.2 e	-0.2	..	-1.4	2.7
<i>Coke ovens</i>	-0.0	0.0	-	-	-	-	-	..	-	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-0.0	-0.0	-	-	-	-	-	..	-	-
Losses	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	..		
Final consumption ⁶	1.2	1.2	1.1	1.4	0.8	0.8	0.9	..	-0.3	-0.8
Industry ⁷	1.1	1.2	1.1	1.3	0.8	0.8	0.8	..	0.1	-1.1
<i>Iron and steel</i>	0.8 e	0.9 e	0.8	0.8	0.3 e	0.3 e	0.4	..	-0.6	-2.8
<i>Chemical</i>	0.1	0.2	0.2	0.3	0.3	0.3	0.3	..	3.4	2.8
<i>Non-metallic minerals</i>	0.1	0.1	0.1	0.2	0.1	0.1	0.1	..	1.5	-1.1
<i>Paper, pulp and print</i>	-	-	0.0	-	-	-	-	..	-	-
<i>Other industry</i> ⁸	0.0	0.0	0.0	0.0	-	-	-	..	-	-
Transport ⁹	-	-	-	-	-	-	-	..	-	-
Other	0.1	0.0	0.0	0.0	-	-	-	..	-10.7	-
<i>Comm. and pub. services</i>	0.0	-	-	-	-	-	-	..	-	-
<i>Residential</i>	0.1	0.0	0.0	0.0	-	-	-	..	-12.9	-
<i>Other sectors</i> ¹⁰	-	-	0.0	-	-	-	-	..	-	-
Non-energy use	-	-	-	0.1	0.1	0.1	0.1	..	-	-
Electricity gen. - TWh	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.2	8.0	2.2

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD World Energy Balances

NORWAY

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	0.83	0.75	1.00	0.71	0.80	0.79	0.71	-0.86	-0.19
Total electricity and heat	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.84	0.82
<i>Main activity producers</i>	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.84	0.82
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	0.41	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	0.00 e	0.11	0.07 e	0.06	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.35	0.74	0.86	0.58	0.61	0.57	0.59	6.54	-0.88
<i>Iron and steel</i>	0.25	0.48	0.47	0.25 e	0.23	0.21 e	0.21	5.75	-3.19
<i>Chemical</i>	0.10	0.11	0.22	0.21	0.28	0.26	0.29	1.12	3.73
<i>Non-metallic minerals</i>	-	0.14	0.17	0.12	0.10	0.09	0.09	-	-1.55
<i>Paper, pulp and print</i>	-	0.01	-	-	-	-	-	-	-
<i>Other industry</i>	0.00	0.00	0.00	-	-	-	-	-	-
Other sectors ⁴	0.01	0.01	0.00	-	-	-	-	1.53	-
Non-energy use	-	-	0.11	0.07	0.08	0.08	0.08	-	-
Steam coal	0.42	0.75	1.00	0.71	0.80	0.79	0.71	5.00	-0.19
Total electricity and heat	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.84	0.82
<i>Main activity producers</i>	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.84	0.82
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	0.00 e	0.11	0.07 e	0.06	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.35	0.74	0.86	0.58	0.61	0.57	0.59	6.54	-0.88
<i>Iron and steel</i>	0.25	0.48	0.47	0.25 e	0.23	0.21 e	0.21	5.75	-3.19
<i>Chemical</i>	0.10	0.11	0.22	0.21	0.28	0.26	0.29	1.12	3.73
<i>Non-metallic minerals</i>	-	0.14	0.17	0.12	0.10	0.09	0.09	-	-1.55
<i>Paper, pulp and print</i>	-	0.01	-	-	-	-	-	-	-
<i>Other industry</i>	0.00	0.00	0.00	-	-	-	-	-	-
Other sectors ⁴	0.01	0.01	0.00	-	-	-	-	1.53	-
Non-energy use	-	-	0.11	0.07	0.08	0.08	0.08	-	-
Coking coal	0.41	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	0.41	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

NORWAY

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	0.23	-	-	-	-	-	-	-	-
Steam coal	0.18	0.29	0.61	1.41	1.86	0.78	0.13	4.31	3.89
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	0.23	-	-	-	-	-	-	-	-
Steam coal	0.18	0.30	0.63	1.47	1.94	0.82	0.13	4.68	3.89
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	0.91	1.20	1.41	1.01	1.08	1.17	1.08	1.05	1.15
Bituminous coal ³	0.26	0.68	0.88	0.64	0.66	0.73	0.66	0.63	0.75
Coking coal	0.19	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.46	0.52	0.53	0.37	0.42	0.44	0.42	0.41	0.40
Total exports	0.18	0.25	0.55	1.60	1.62	1.54	1.08	0.87	0.07
Bituminous coal ³	0.08	0.24	0.55	1.60	1.62	1.54	1.08	0.87	0.07
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.10	0.00	0.00	0.00	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

NORWAY

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	450	713	919	667	684	761	693	660	781
Coking coal	187	-	-	-	-	-	-	-	-
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	125	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	62	-	-	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Steam coal	263	713	919	667	684	761	693	660	781
Australia	2	-	-	-	22	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	32	-	-	-	-	-	-	-
Germany	55	48	64	71	60	49	60	-	8
Poland	29	87	151	159	83	100	66	33	47
United Kingdom	77	181	169	103	91	42	23	42	75
United States	46	151	21	17	51	66	63	62	60
Other OECD	38	99	294	148	123	30	8	-	-
China, People's Rep.	-	4	36	30	6	-	-	-	-
Colombia	-	9	102	97	111	355	354	424	433
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	16	-	-	-	11	-	-	-	-
Former Soviet Union ⁴	-	97	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	82	39	122	118	114	94	157
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	5	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	3	4	1	5	5	1
Lignite	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

NORWAY

7. Steam coal exports by destination¹

(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	77	254	574	1666	1691	1608	1124	912	75
Total OECD	76	253	570	1666	1691	1608	1124	912	75
Australia	-	-	-	-	-	-	-	-	-
Austria	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	248	-
Canada	-	-	-	-	-	-	-	-	-
Chile	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	2	156	245	182	89	129	81	11
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	-	50	-	-	-	-	-	-
France	-	50	-	111	-	81	80	-	-
Germany	75	87	330	994	816	445	105	429	64
Greece	-	-	-	71	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Iceland	-	-	7	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	-	-
Italy	-	4	-	-	-	-	-	-	-
Japan	-	-	-	-	-	-	-	-	-
Korea	-	-	-	-	-	-	-	-	-
Latvia	x	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	-	46	-	-	282	549	645	154	-
New Zealand	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-
Poland	-	-	2	1	110	229	-	-	-
Portugal	-	-	-	214	217	-	-	-	-
Slovak Republic	-	-	-	-	-	-	-	-	-
Slovenia	x	-	-	-	-	-	-	-	-
Spain	-	-	-	-	-	5	-	-	-
Sweden	-	3	-	-	-	60	90	-	-
Switzerland	-	-	-	-	15	-	-	-	-
Turkey	-	-	-	-	-	-	-	-	-
United Kingdom	1	61	25	30	69	150	75	-	-
United States	-	-	-	-	-	-	-	-	-
Total non-OECD	-	-	4	-	-	-	-	-	-
Brazil	-	-	-	-	-	-	-	-	-
China ³	-	-	-	-	-	-	-	-	-
Chinese Taipei	-	-	-	-	-	-	-	-	-
Egypt	-	-	-	-	-	-	-	-	-
India	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-
Oth. Africa & Mid. East	-	-	2	-	-	-	-	-	-
Oth. non-OECD Americas	-	-	-	-	-	-	-	-	-
Other Asia & Oceania	-	-	-	-	-	-	-	-	-
Other non-OECD Europe and Eurasia	-	-	2	-	-	-	-	-	-
Non-specified/Other	1	1	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I. Steam coal includes all sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

POLAND¹

Figure 1: Coal supply indicators (1971 = 100)

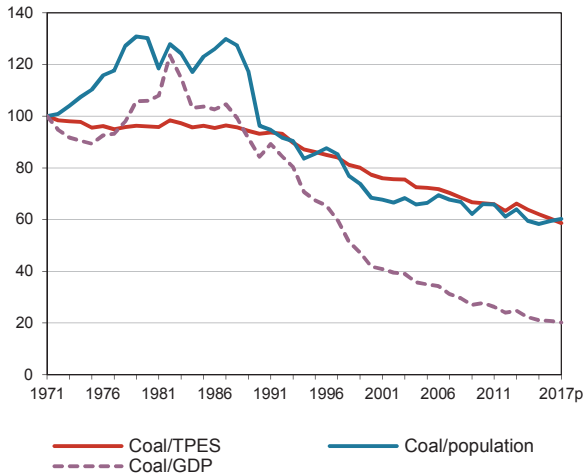


Figure 2: TPES by fuel (Mtce)

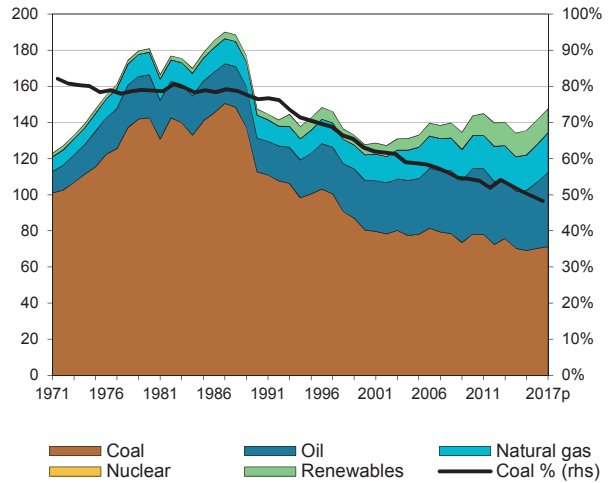


Figure 3: Primary coal supply (Mtce)

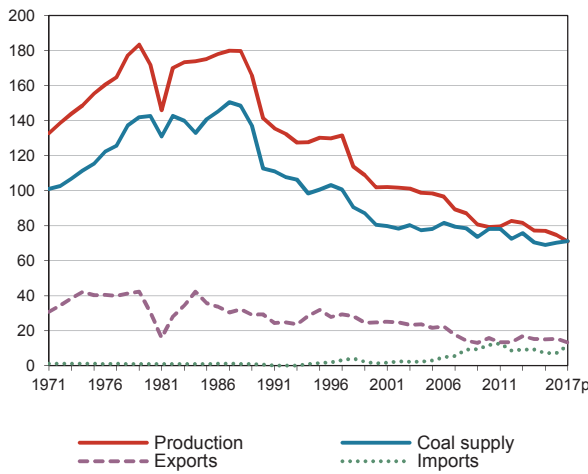


Figure 4: Coal consumption (Mtce)

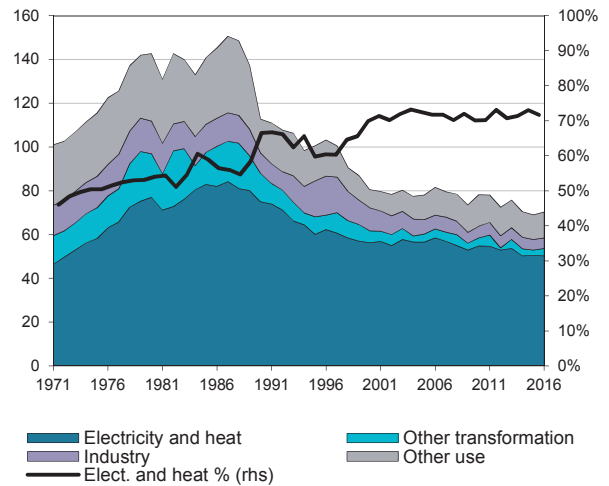


Figure 5: Electricity generation by fuel (TWh)

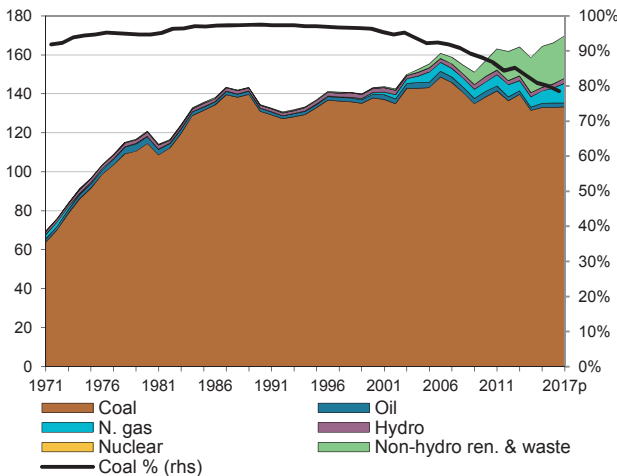
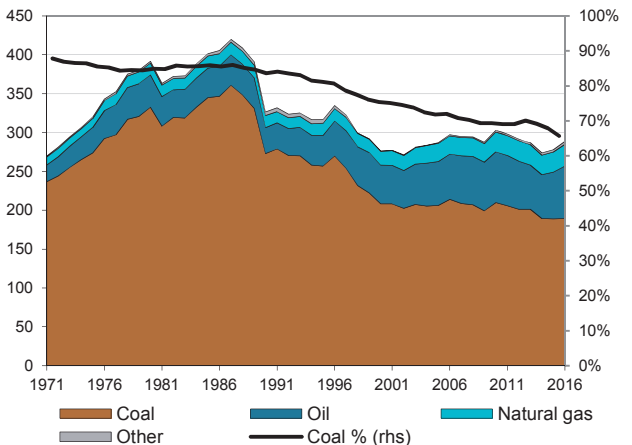


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

POLAND

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	143.9	171.9	141.4	101.9	79.1	77.0	74.7	71.0	-0.1	-2.4
Imports	1.2	1.0	0.6	1.5	11.8	7.2	7.2	11.5	-4.2	10.3
Exports	-38.5	-30.4	-29.3	-24.8	-15.7	-15.1	-15.5	-13.3	-1.6	-2.4
Stock changes	0.2	0.0	0.0	1.9	3.0	-0.0	3.8	1.9		
Primary supply	106.7	142.6	112.7	80.5	78.2	69.0	70.3	71.2	0.3	-1.8
Statistical differences	-4.7	-9.8	-5.7	0.4	-0.3	1.5	0.5	..		
Total transformation	-57.7 e	-84.4 e	-80.2 e	-59.8	-56.5	-52.8	-52.6	..	2.0	-1.6
Electricity and heat gen.	-52.9 e	-77.0	-74.9	-56.3	-54.8	-50.4	-50.3	..	2.1	-1.5
<i>Main activity producers</i> ³	-36.7 e	-53.6	-56.3	-53.4	-53.2	-48.9	-48.8	..	2.5	-0.5
<i>Autoproducers</i>	-16.2 e	-23.4	-18.7	-2.9	-1.6	-1.5	-1.5	..	0.8	-9.3
Gas works	-0.5 e	-0.6	-0.0	0.0	0.0	0.0	-	..	-14.4	-
Coal transformation ⁴	-4.3 e	-6.8 e	-5.2 e	-3.3	-1.5	-2.2	-2.1	..	1.2	-3.4
<i>BKB plants</i>	0.0	0.0	0.0	0.0	-	-	-	..	-	-
<i>Blast furnaces</i>	-3.2 e	-4.2 e	-3.2 e	-1.7	-0.8	-1.3	-1.3	..	0.1	-3.3
<i>Coke ovens</i>	-1.2	-2.7	-2.0	-1.6	-0.7	-0.9	-0.8	..	2.9	-3.5
<i>Patent fuel plants</i>	0.1	0.1	0.0	-	-	-0.0	-0.0	..	-23.8	-
Other transformation ⁵	-	-	-	-0.2	-0.2	-0.2	-0.2	..	-	-
Energy ind. own use	-2.8 e	-2.7	-2.0	-2.3	-1.6	-1.6	-1.5	..	-2.1	-0.9
Losses	-0.1 e	-0.1	-0.0	-0.0	-0.1	-	-	..		
Final consumption ⁶	41.5	45.7	24.8	18.8	19.7	16.2	16.6	..	-3.0	-1.5
Industry ⁷	14.4	14.9	9.4	10.6	5.4	4.9	4.7	..	-2.5	-2.6
<i>Iron and steel</i>	3.1 e	3.7 e	2.6 e	3.0	0.9	1.0	0.8	..	-1.0	-4.2
<i>Chemical</i>	0.7	0.7	0.4	1.8	1.7	1.6	1.6	..	-3.7	5.9
<i>Non-metallic minerals</i>	5.6	5.1	3.1	2.1	1.1	0.9	0.8	..	-3.4	-4.9
<i>Paper, pulp and print</i>	0.1	0.1	0.1	0.5	0.3	0.4	0.3	..	-1.0	6.7
<i>Other industry</i> ⁸	5.0	5.4	3.2	3.2	1.3	1.1	1.1	..	-2.5	-4.1
Transport ⁹	5.2	2.6	0.2	-	-	-	-	..	-16.4	-
Other	20.8	27.6	14.9	8.1	14.3	11.1	11.7	..	-1.9	-0.9
<i>Comm. and pub. services</i>	6.1 e	8.0 e	3.1 e	0.7	1.3	0.9	0.9	..	-3.9	-4.5
<i>Residential</i>	13.6 e	17.8 e	10.5 e	6.1	11.3	8.9	9.4	..	-1.5	-0.4
<i>Other sectors</i> ¹⁰	1.1	1.7	1.3	1.3	1.7	1.3	1.4	..	1.0	0.2
Non-energy use	1.0	0.6	0.3	0.1	0.1	0.1	0.1	..	-7.8	-2.8
Electricity gen. - TWh	78.8	114.5	131.0	137.9	138.4	133.0	132.9	133.4	3.0	0.1

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD World Energy Balances

POLAND

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	191.27	187.62	142.86	141.38	137.40	134.97	135.11	-0.16	-1.25
Total electricity and heat	121.67	144.47	110.78	106.33	105.67	104.90	103.67	1.44	-1.27
<i>Main activity producers</i>	94.07	121.63	107.70	104.64	103.98	103.35	102.21	2.16	-0.67
<i>Autoproducers</i>	27.61	22.84	3.08	1.69	1.69	1.55	1.46	-1.57	-10.03
Patent fuel/BKB plants	1.90	0.31	0.04	-	0.00	0.00	0.00	-14.00	-17.64
Coke ovens/Liquefaction ³	25.30	18.21	12.38	12.95	12.72	12.96	12.81	-2.70	-1.34
Blast furnace inputs	-	-	-	0.03	0.18	0.27	0.28	-	-
Gas manufacture	2.67	0.57	-	-	-	-	-	-12.07	-
Industry	9.42	6.78	9.76	5.52	5.12	4.62	4.58	-2.70	-1.50
<i>Iron and steel</i>	0.11	0.05	0.79	0.12	0.11	0.03	0.03	-6.00	-2.21
<i>Chemical</i>	0.36	0.32	2.17	2.07	2.06	1.86	1.94	-0.93	7.17
<i>Non-metallic minerals</i>	5.06	3.21	2.31	1.25	1.06	0.94	0.88	-3.73	-4.86
<i>Paper, pulp and print</i>	0.08	0.07	0.68	0.44	0.50	0.48	0.42	-1.35	7.28
<i>Other industry</i>	3.82	3.14	3.81	1.64	1.39	1.31	1.31	-1.62	-3.32
Other sectors ⁴	26.93	16.34	9.85	15.81	13.05	12.71	13.32	-4.08	-0.78
Non-energy use	0.04	0.02	0.01	0.09	0.15	0.17	0.15	-7.25	9.37
Steam coal	127.71	102.10	70.04	72.45	61.01	58.46	61.54	-1.85	-1.93
Total electricity and heat	84.76	77.55	51.63	50.47	42.34	42.39	43.75	-0.74	-2.18
<i>Main activity producers</i>	57.61	55.18	48.60	48.91	40.78	40.95	42.38	-0.36	-1.01
<i>Autoproducers</i>	27.15	22.38	3.03	1.56	1.56	1.43	1.37	-1.60	-10.19
Patent fuel/BKB plants	1.64	0.08	-	-	-	-	-	-22.50	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	1.49	0.38	-	-	-	-	-	-10.73	-
Industry	9.35	6.74	9.70	5.48	5.06	4.56	4.50	-2.69	-1.54
<i>Iron and steel</i>	0.11	0.05	0.79	0.11	0.11	0.03	0.03	-6.00	-2.21
<i>Chemical</i>	0.36	0.32	2.17	2.07	2.06	1.86	1.94	-0.96	7.22
<i>Non-metallic minerals</i>	5.05	3.19	2.30	1.23	1.02	0.90	0.84	-3.75	-5.02
<i>Paper, pulp and print</i>	0.08	0.07	0.68	0.44	0.50	0.48	0.42	-1.35	7.28
<i>Other industry</i>	3.76	3.11	3.76	1.62	1.38	1.29	1.27	-1.55	-3.38
Other sectors ⁴	26.49	16.18	9.60	14.94	12.44	12.15	12.86	-4.03	-0.88
Non-energy use	0.04	0.01	0.01	0.08	0.15	0.16	0.15	-7.78	9.66
Coking coal	25.85	18.13	13.33	12.34	12.55	13.46	13.18	-2.91	-1.22
Total electricity and heat	..	..	0.05	0.12	0.13	0.11	0.08	-	-
<i>Main activity producers</i>	..	..	0.00	-	-	-	-	-	-
<i>Autoproducers</i>	..	..	0.05	0.12	0.13	0.11	0.08	-	-
Patent fuel/BKB plants	-	-	-	-	0.00	0.00	0.00	-	-
Coke ovens/Liquefaction ³	25.30	18.21	12.38	12.95	12.72	12.96	12.81	-2.70	-1.34
Blast furnace inputs	-	-	-	0.03	0.18	0.27	0.28	-	-
Gas manufacture	1.17	0.16	-	-	-	-	-	-15.08	-
Industry	-	-	0.02	0.01	0.00	0.00	0.00	-	-
<i>Iron and steel</i>	..	..	-	0.00	0.00	0.00	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	..	..	0.00	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	..	..	0.01	0.01	0.00	0.00	0.00	-	-
Other sectors ⁴	-	-	0.00	0.00	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

POLAND

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	37.71	67.39	59.49	56.59	63.85	63.05	60.39	4.96	-0.42
Total electricity and heat	36.91	66.92	59.11	55.73	63.21	62.41	59.85	5.08	-0.43
<i>Main activity producers</i>	36.45	66.46	59.10	55.73	63.20	62.40	59.83	5.13	-0.40
<i>Autoproducers</i>	0.46	0.46	0.01	0.00	0.00	0.01	0.01	-0.05	-12.80
Patent fuel/BKB plants	0.26	0.23	0.04	-	-	-	-	-0.87	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	0.01	0.02	-	-	-	-	-	10.42	-
Industry	0.08	0.04	0.05	0.03	0.06	0.05	0.07	-4.76	1.91
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	0.00	0.00	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	0.02	0.02	0.01	0.02	0.04	0.04	0.04	0.54	3.88
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.06	0.02	0.04	0.01	0.01	0.02	0.03	-7.48	0.73
Other sectors ³	0.44	0.16	0.25	0.86	0.61	0.56	0.46	-7.84	4.00
Non-energy use	-	0.00	-	0.00	-	0.01	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

POLAND

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	41.12	28.99	17.24	14.21	11.74	13.34	12.51	-2.87	-2.94
Steam coal	125.04	93.12	67.30	65.96	50.87	44.70	41.54	-2.43	-2.78
Lignite	11.03	19.27	17.32	18.19	16.51	16.68	16.94	4.76	-0.55
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	40.85	28.79	17.22	14.07	11.66	13.20	12.38	-2.87	-2.95
Steam coal	151.78	118.94	86.11	83.83	65.07	57.58	53.50	-2.01	-2.75
Lignite	41.01	67.58	59.48	61.64	56.51	60.25	61.16	4.25	-0.44
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	1.04	0.56	1.46	3.08	11.81	9.17	7.23	7.20	11.54
Bituminous coal ³	-	-	0.17	2.31	8.48	6.46	4.30	4.77	7.60
Coking coal	1.04	0.56	1.27	0.62	3.18	2.43	2.72	2.20	3.62
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	0.01	0.05	0.08	0.08	0.09
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	-	-	0.02	0.15	0.14	0.24	0.13	0.15	0.23
Total exports	41.28	29.30	24.75	21.63	15.73	15.20	15.13	15.48	13.27
Bituminous coal ³	22.19	14.41	15.89	13.60	7.26	6.11	6.07	5.83	3.78
Coking coal	16.20	11.34	5.33	3.19	1.84	2.16	2.33	2.43	2.74
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	0.90	0.06	0.00	0.00	0.03	0.08	0.06	0.06	0.07
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	1.98	3.49	3.53	4.85	6.60	6.85	6.68	7.16	6.68

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

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5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	1044	560	1452	3372	13627	10593	8570	8588	13656
Coking coal	1044	560	1263	610	3155	2404	2692	2210	3630
Australia	-	-	-	35	283	1224	1590	1688	1731
Canada	-	-	-	-	-	-	64	-	270
Czech Republic	-	-	500	558	781	688	439	294	267
Germany	-	-	-	17	-	-	3	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	1839	300	385	168	539
Other OECD	-	-	1	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	198	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	736	-	54	171	194	60	593
<i>Other FSU</i>	x	x	26	-	-	8	17	-	10
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	1044	560	-	-	-	13	-	-	220
Steam coal	-	-	189	2762	10448	8013	5597	6089	9715
Australia	-	-	11	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	94	29	1408	792	370	177	88
Germany	-	-	6	4	12	13	12	15	5
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	4	19	11
United States	-	-	1	-	11	79	107	-	301
Other OECD	-	-	2	4	89	371	-	45	33
China, People's Rep.	-	-	-	5	5	4	2	2	6
Colombia	-	-	4	56	146	107	313	646	1059
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	7	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	13	2390	8101	6335	4744	5135	8106
<i>Other FSU</i>	x	x	51	274	676	311	44	50	105
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	1	1	-	1
Lignite	-	-	-	-	24	176	281	289	311

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

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6. Coking coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	16042	11226	5290	3151	1815	2141	2303	2438	2753
Total OECD	6619	2570	3649	2769	1797	2037	2101	2161	2351
Australia	..	..	-	-	-	-	-	-	-
Austria	470	566	599	520	367	215	281	394	376
Belgium	392	105	-	-	12	1	1	1	-
Canada	..	..	-	-	-	-	-	-	-
Chile	..	..	-	-	-	-	-	-	-
Czech Republic	..	..	214	523	720	1500	1366	1280	1602
Denmark	..	..	-	-	-	-	-	-	-
Estonia	x	..	-	-	-	-	-	-	-
Finland	..	203	717	13	-	-	-	-	-
France	1311	254	72	-	-	-	-	-	-
Germany	..	116	131	148	2	1	-	1	-
Greece	54	..	-	-	-	-	-	-	-
Hungary	..	..	266	219	119	37	120	75	25
Iceland	..	..	-	-	-	-	-	-	-
Ireland	..	2	-	-	-	-	-	-	-
Israel	..	..	-	-	-	-	-	-	-
Italy	1525	158	-	295	-	-	-	-	-
Japan	429	..	-	-	-	-	-	-	-
Korea	..	..	-	-	-	-	-	-	-
Latvia	x	..	-	-	-	-	-	-	-
Luxembourg	..	..	-	-	-	-	-	-	-
Mexico	..	..	-	-	-	-	-	-	-
Netherlands	376	98	323	48	-	-	-	-	-
New Zealand	..	..	-	-	-	-	-	-	-
Norway	125	..	53	-	-	-	-	-	-
Poland	..	..	-	-	-	-	-	-	-
Portugal	122	40	-	-	-	-	-	-	-
Slovak Republic	..	..	669	622	499	283	333	410	348
Slovenia	x	..	-	-	-	-	-	-	-
Spain	1369	234	7	99	-	-	-	-	-
Sweden	71	..	494	-	-	-	-	-	-
Switzerland	..	..	-	-	-	-	-	-	-
Turkey	..	..	100	212	78	-	-	-	-
United Kingdom	375	794	4	-	-	-	-	-	-
United States	..	..	-	70	-	-	-	-	-
Total non-OECD	1472	4576	1641	382	18	104	202	277	402
Brazil	..	1249	143	-	-	-	-	-	-
China ³	..	..	-	-	-	-	-	-	-
Chinese Taipei	..	..	-	-	-	-	-	-	-
Egypt	..	..	529	355	-	-	-	-	-
India	..	284	-	-	-	-	-	-	-
Romania	..	100	62	-	-	-	-	-	-
Oth. Africa & Mid. East	..	..	2	-	-	-	-	-	-
Oth. non-OECD Americas	..	1249	2	-	-	-	-	-	-
Other Asia & Oceania	..	..	-	-	-	-	-	-	-
Other non-OECD Europe and Eurasia	1472	1694	903	27	18	104	202	277	402
Non-specified/Other	7951	4080	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

POLAND

7. Steam coal exports by destination¹

(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	24064	16839	17955	16218	8150	6815	6888	6658	4312
Total OECD	16188	13038	17132	15745	8053	6141	6221	5258	4000
Australia	..	..	-	-	-	-	-	-	-
Austria	260	1202	1213	1187	443	670	568	418	504
Belgium	105	242	375	649	216	1	-	-	-
Canada	..	..	-	-	-	-	-	-	-
Chile	..	..	-	-	-	-	-	-	-
Czech Republic	274	2282	863	717	684	1155	1256	1524	1473
Denmark	3078	972	2214	837	437	365	150	141	5
Estonia	x	..	3	-	-	-	-	-	-
Finland	4089	2609	1175	653	185	183	85	76	26
France	3441	141	1336	1230	583	-	228	157	-
Germany	2041	2583	6396	6906	4007	2740	2679	1891	1259
Greece	..	..	1	-	-	-	-	-	-
Hungary	..	..	279	240	54	18	36	84	154
Iceland	..	..	-	9	-	-	-	-	-
Ireland	331	458	196	286	228	148	108	93	23
Israel	..	..	-	-	-	-	-	-	-
Italy	1437	507	913	245	-	4	70	7	22
Japan	..	..	-	-	-	-	-	-	-
Korea	..	..	-	-	-	-	-	-	-
Latvia	x	..	-	-	-	-	-	-	-
Luxembourg	..	..	-	-	-	-	-	-	-
Mexico	..	..	-	-	-	-	-	-	-
Netherlands	264	1043	208	222	73	54	381	159	-
New Zealand	..	..	-	-	-	-	-	-	-
Norway	..	..	88	142	73	108	62	36	37
Poland	..	..	-	-	-	-	-	-	-
Portugal	..	..	5	223	-	-	-	-	-
Slovak Republic	..	..	286	250	133	257	280	236	431
Slovenia	x	..	12	9	-	-	-	1	-
Spain	..	16	382	41	23	26	25	25	8
Sweden	174	732	146	172	132	117	100	90	32
Switzerland	8	1	-	-	-	-	2	-	-
Turkey	..	..	-	66	214	67	68	269	-
United Kingdom	41	250	1040	1614	568	228	123	51	26
United States	645	..	1	47	-	-	-	-	-
Total non-OECD	29	34	823	473	97	674	667	1365	312
Brazil	..	..	-	-	-	-	-	-	-
China ³	..	..	-	-	-	-	-	-	-
Chinese Taipei	..	..	-	-	-	-	-	-	-
Egypt	..	..	-	-	-	-	132	539	-
India	..	..	-	-	-	-	-	-	-
Romania	..	16	-	-	-	37	50	51	22
Oth. Africa & Mid. East	29	18	1	436	-	588	377	486	-
Oth. non-OECD Americas	..	..	16	-	-	-	-	-	-
Other Asia & Oceania	..	..	3	-	-	-	-	-	-
Other non-OECD Europe and Eurasia	..	..	803	37	97	49	108	289	290
Non-specified/Other	7847	3767	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I. Steam coal includes all sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

PORTUGAL¹

Figure 1: Coal supply indicators (1971 = 100)

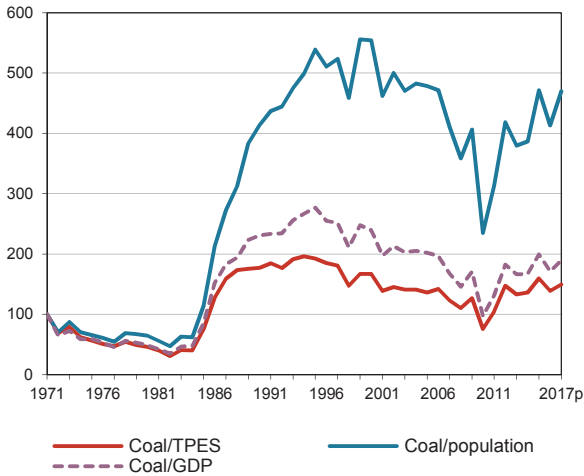


Figure 2: TPES by fuel (Mtce)

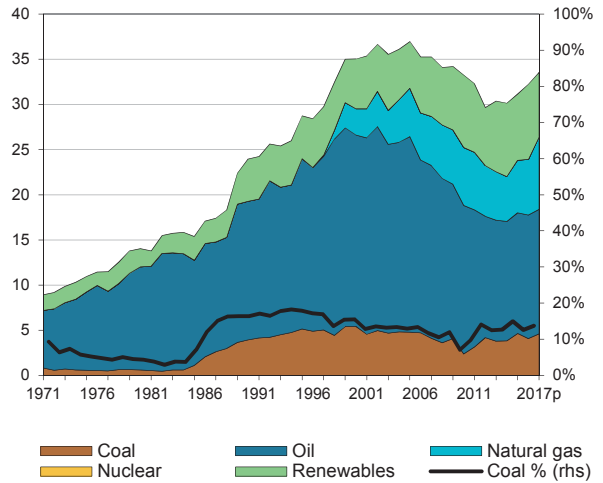


Figure 3: Primary coal supply (Mtce)

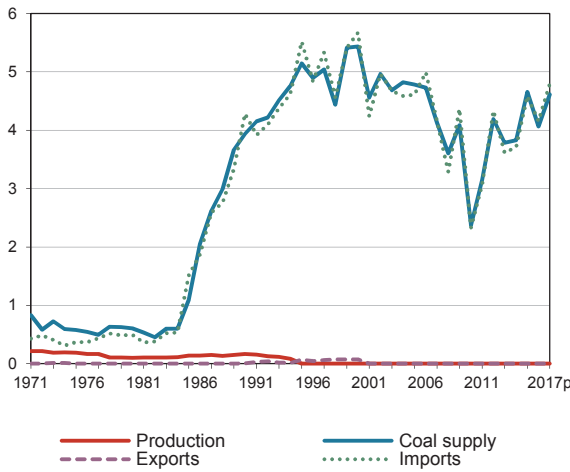


Figure 4: Coal consumption (Mtce)

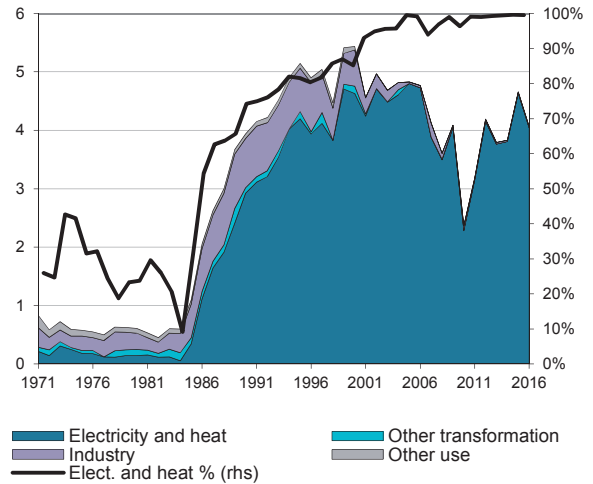


Figure 5: Electricity generation by fuel (TWh)

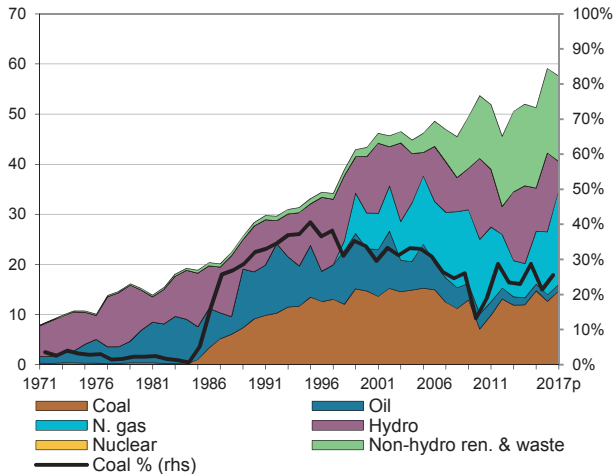
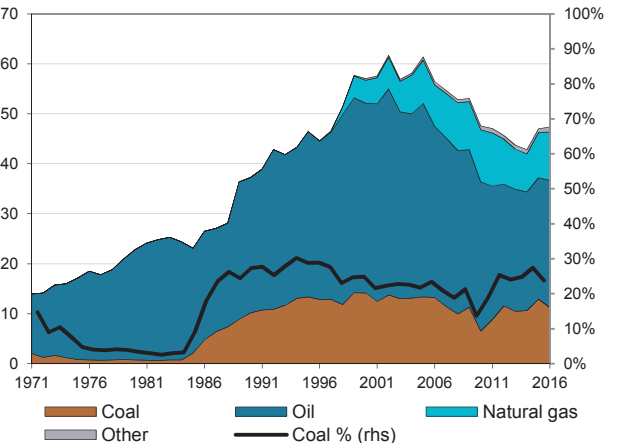


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

PORTUGAL

1. Coal balance¹
(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	0.2	0.1	0.2	-	-	-	-	-	-0.8	-
Imports	0.4	0.5	4.3	5.7	2.3	4.6	4.2	4.8	14.9	-0.1
Exports	-0.0	-	-0.0	-0.1	-	-	-	-	-	-
Stock changes	0.1	0.0	-0.5	-0.2	0.0	0.1	-0.1	-0.2	-	-
Primary supply	0.7	0.6	3.9	5.4	2.4	4.7	4.1	4.6	10.5	0.1
Statistical differences	0.1	0.0	-0.0	-0.0	-0.0	0.0	-0.0	..		
Total transformation	-0.4 e	-0.2 e	-3.0 e	-4.7 e	-2.3	-4.6	-4.0	..	12.6	1.2
Electricity and heat gen.	-0.3	-0.1	-2.9	-4.6	-2.3	-4.6	-4.0	..	14.1	1.3
<i>Main activity producers</i> ³	-0.3	-0.1	-2.9	-4.6	-2.3	-4.6	-4.0	..	14.1	1.3
<i>Autoproducers</i>	-	-0.0	-0.0	-0.1	-	-	-	..	-	-
Gas works	0.1	0.1	0.1	0.1	-	-	-	..	1.2	-
Coal transformation ⁴	-0.2 e	-0.1 e	-0.1 e	-0.1 e	-	-	-	..	-1.5	-
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-0.1 e	-0.1 e	-0.1 e	-0.1 e	-	-	-	..	-2.3	-
<i>Coke ovens</i>	-0.0	-0.0	-0.0	-0.0	-	-	-	..	-	-
<i>Patent fuel plants</i>	0.0	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-0.0	-0.0	-0.0	-0.0	-	-	-	..	-	-
Losses	-0.0	-0.0	-0.0	-0.0	-	-	-	..		
Final consumption ⁶	0.3	0.4	0.9	0.7	0.1	0.0	0.0	..	6.0	-14.0
Industry ⁷	0.2	0.3	0.8	0.6	0.1	0.0	0.0	..	8.9	-13.7
<i>Iron and steel</i>	0.1 e	0.2 e	0.1 e	0.1 e	0.0	0.0	0.0	..	0.9	-8.9
<i>Chemical</i>	-	0.0	0.0	0.0	0.0	0.0	-	..	-	-
<i>Non-metallic minerals</i>	0.0	0.0	0.7	0.4	0.0	0.0	0.0	..	26.6	-15.7
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	..	-	-
<i>Other industry</i> ⁸	0.1	0.1	0.0	0.1	-	-	-	..	-9.8	-
Transport ⁹	0.0	0.0	-	-	-	-	-	..	-	-
Other	0.1	0.1	0.1	0.1	-	-	-	..	-2.4	-
<i>Comm. and pub. services</i>	0.0	0.0	0.0	0.0	-	-	-	..	-	-
<i>Residential</i>	0.1	0.0	0.1	0.0	-	-	-	..	-1.8	-
<i>Other sectors</i> ¹⁰	0.0	0.0	-	-	-	-	-	..	-	-
Non-energy use	-	-	-	-	-	-	-	..	-	-
Electricity gen. - TWh	0.4	0.3	9.1	14.7	7.1	14.7	12.6	14.7	20.4	1.3

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

PORTUGAL

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	0.63	4.40	6.15	2.70	4.52	5.50	4.80	17.58	0.34
Total electricity and heat	0.17	3.26	5.17	2.61	4.51	5.49	4.79	27.72	1.49
<i>Main activity producers</i>	0.17	3.26	5.17	2.61	4.51	5.49	4.79	27.72	1.49
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	0.34	0.31	0.49	-	-	-	-	-0.59	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.09	0.82	0.48	0.08	0.01	0.01	0.01	19.97	-17.22
<i>Iron and steel</i>	0.01	-	-	0.01	0.01	0.01	0.01	-	-
<i>Chemical</i>	0.00	0.01	-	0.01	0.00	0.01	-	6.99	-
<i>Non-metallic minerals</i>	0.03	0.81	0.48	0.06	-	-	-	32.70	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.06	0.00	-	-	-	-	-	-19.74	-
Other sectors ⁴	0.01	0.00	-	-	-	-	-	-9.91	-
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	0.21	4.08	5.66	2.70	4.52	5.50	4.80	28.21	0.62
Total electricity and heat	0.17	3.26	5.17	2.61	4.51	5.49	4.79	27.90	1.49
<i>Main activity producers</i>	0.17	3.26	5.17	2.61	4.51	5.49	4.79	27.90	1.49
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.04	0.82	0.48	0.08	0.01	0.01	0.01	29.73	-17.22
<i>Iron and steel</i>	0.01	-	-	0.01	0.01	0.01	0.01	-	-
<i>Chemical</i>	0.00	0.01	-	0.01	0.00	0.01	-	6.99	-
<i>Non-metallic minerals</i>	0.03	0.81	0.48	0.06	-	-	-	32.70	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	0.00	-	-	-	-	-	-	-
Other sectors ⁴	0.00	0.00	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	0.42	0.31	0.50	-	-	-	-	-2.48	-
Total electricity and heat	0.00	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	0.00	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	0.34	0.31	0.49	-	-	-	-	-0.59	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.06	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.06	-	-	-	-	-	-	-	-
Other sectors ⁴	0.01	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

PORTUGAL

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	0.11	0.16	-	-	-	-	-	3.78	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	0.18	0.28	-	-	-	-	-	3.78	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	0.52	4.28	5.67	4.61	2.33	3.71	4.58	4.16	4.80
Bituminous coal ³	0.01	3.89	5.18	4.60	2.32	3.70	4.58	4.15	4.78
Coking coal	0.40	0.38	0.49	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.11	0.01	-	0.01	0.00	0.01	0.01	0.01	0.01
Total exports	-	0.01	0.08	-	-	-	-	-	-
Bituminous coal ³	-	-	-	-	-	-	-	-	-
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	-	0.01	0.08	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

PORTUGAL

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	412	4669	6367	5272	2657	4379	5420	4911	5666
Coking coal	404	377	487	-	-	-	-	-	-
Australia	-	-	-	-	-	-	-	-	-
Canada	-	162	289	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	8	-	-	-	-	-	-	-	-
Poland	122	40	-	-	-	-	-	-	-
United Kingdom	3	20	-	-	-	-	-	-	-
United States	257	155	198	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	14	-	-	-	-	-	-	-	-
Steam coal	8	4292	5880	5272	2657	4379	5420	4911	5666
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	3	-	-	-	-	-	-	-	-
Poland	-	-	-	222	-	-	-	-	-
United Kingdom	-	177	-	-	-	-	-	-	-
United States	-	1555	343	378	609	288	121	81	702
Other OECD	-	4	19	228	221	8	6	3	2
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	390	2846	2314	1297	3851	5288	4520	4509
Indonesia	-	-	156	144	-	-	-	-	-
South Africa	5	2112	2426	1985	483	156	-	307	156
Former Soviet Union ⁴	-	54	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	90	-	47	-	5	-	297
<i>Other FSU</i>	x	x	-	1	-	76	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

SLOVAK REPUBLIC¹

Figure 1: Coal supply indicators (1971 = 100)

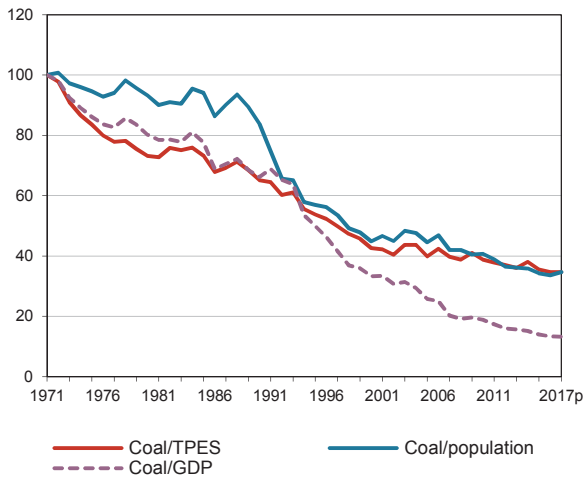


Figure 2: TPES by fuel (Mtce)

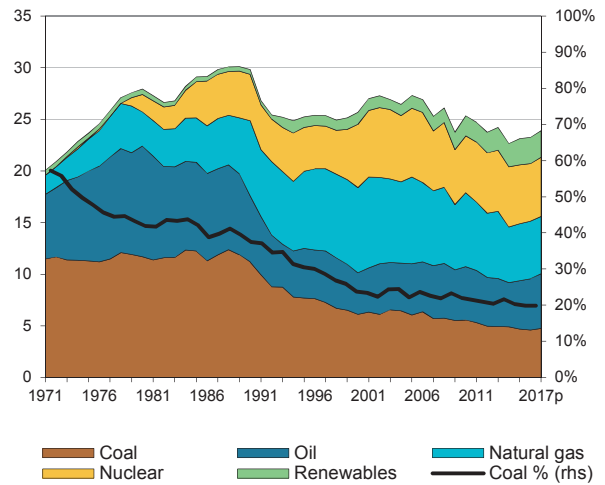


Figure 3: Primary coal supply (Mtce)

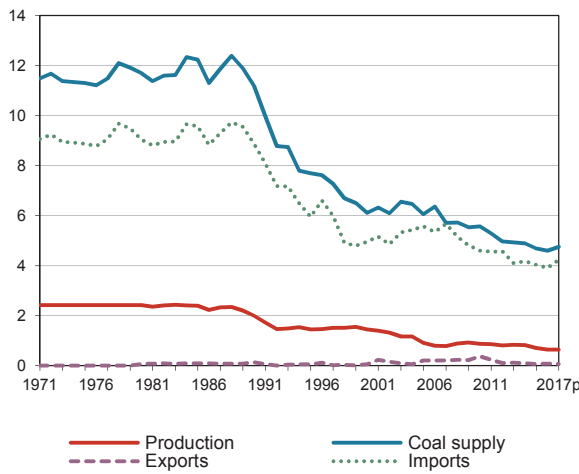


Figure 4: Coal consumption (Mtce)

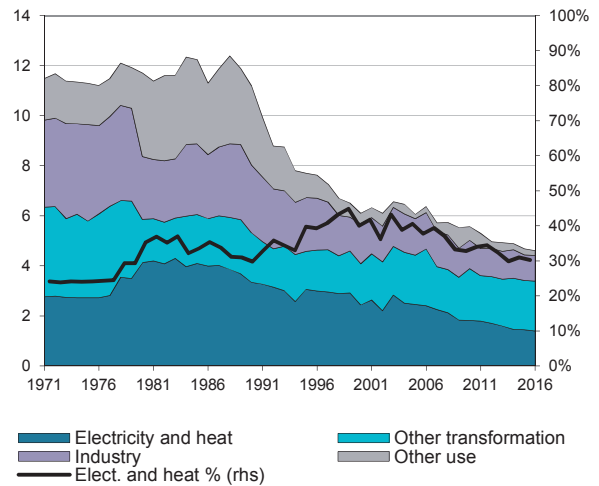


Figure 5: Electricity generation by fuel (TWh)

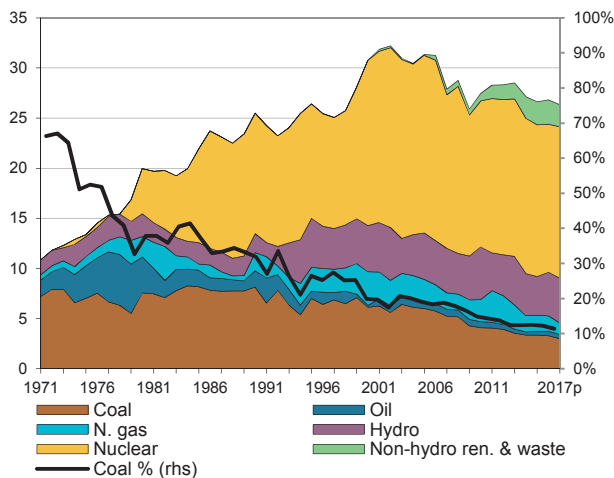
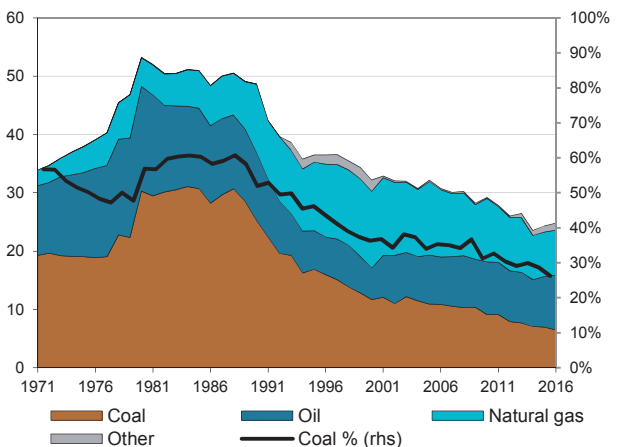


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

SLOVAK REPUBLIC

1. Coal balance¹
(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	2.4	2.4	2.0	1.5	0.9	0.7	0.6	0.6	-1.1	-4.2
Imports	8.9	9.0	8.9	5.0	4.6	4.0	3.9	4.2	-0.0	-3.1
Exports	-	-0.1	-0.1	-0.1	-0.4	-0.1	-0.1	-0.1	-	-2.0
Stock changes	-	0.3	0.5	-0.2	0.5	0.0	0.1	-0.1		
Primary supply	11.4	11.7	11.2	6.1	5.6	4.7	4.6	4.7	-0.1	-3.4
Statistical differences	-1.9	-0.1	-0.0	0.0	-0.1	-0.1	-0.0	..		
Total transformation	-4.0 e	-5.1 e	-4.6 e	-3.6 e	-3.2	-2.8 e	-2.8	..	0.8	-1.9
Electricity and heat gen.	-2.7	-4.1	-3.3	-2.4	-1.8	-1.5	-1.4	..	1.2	-3.3
<i>Main activity producers</i> ³	-2.7	-3.5	-2.9	-2.1	-1.6	-1.3	-1.2	..	0.3	-3.2
<i>Autoproducers</i>	-	-0.6	-0.5	-0.3	-0.2	-0.2	-0.2	..	-	-4.3
Gas works	-	-	-	-	-	-	-	..	-	-
Coal transformation ⁴	-1.3 e	-1.0 e	-1.3 e	-1.2 e	-1.4	-1.3 e	-1.4	..	0.1	0.3
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-0.6 e	-0.9 e	-1.2 e	-1.0 e	-1.3	-1.2 e	-1.3	..	4.4	0.3
<i>Coke ovens</i>	-0.7	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	..	-11.8	1.1
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-	-0.6	-0.6	-0.4	-0.5	-0.5	-0.6	..	-	-0.5
Losses	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.0	..		
Final consumption ⁶	5.5	5.8	5.9	2.0	1.7	1.3	1.2	..	0.4	-5.9
Industry ⁷	3.8	2.5	2.7	1.6	1.1	1.0	1.0	..	-2.0	-3.7
<i>Iron and steel</i>	1.5 e	1.0 e	1.4 e	1.0 e	0.9	0.9 e	0.9	..	-0.4	-1.6
<i>Chemical</i>	-	0.3	0.3	0.1	0.0	-	-	..	-	-
<i>Non-metallic minerals</i>	-	0.2	0.2	0.2	0.2	0.1	0.1	..	-	-3.4
<i>Paper, pulp and print</i>	-	0.2	0.2	0.2	0.0	-	-	..	-	-
<i>Other industry</i> ⁸	2.3	0.8	0.6	0.1	0.0	0.0	0.0	..	-7.2	-12.5
Transport ⁹	-	-	-	-	-	-	-	..	-	-
Other	1.7	3.3	3.1	0.4	0.5	0.2	0.1	..	3.6	-11.7
<i>Comm. and pub. services</i>	-	2.7	2.4	0.3	0.4	0.2	0.1	..	-	-12.1
<i>Residential</i>	-	0.3	0.6	0.1	0.1	0.0	0.0	..	-	-9.8
<i>Other sectors</i> ¹⁰	1.7	0.4	0.1	0.0	0.0	0.0	0.0	..	-13.9	-20.3
Non-energy use	-	0.0	0.0	0.0	0.1	0.1	0.1	..	-	1.5
Electricity gen. - TWh	7.9	7.6	8.1	6.1	4.1	3.3	3.3	3.0	0.1	-3.4

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

SLOVAK REPUBLIC

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	19.52	18.36	8.87	7.21	6.30	6.36	6.09	-0.51	-4.16
Total electricity and heat	6.19	5.72	4.36	3.57	2.87	2.94	2.78	-0.66	-2.74
<i>Main activity producers</i>	6.19	5.11	4.01	3.48	2.78	2.86	2.71	-1.58	-2.41
<i>Autoproducers</i>	-	0.61	0.35	0.09	0.09	0.09	0.06	-	-8.29
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	2.15	2.92	2.21	2.13	2.03	2.13	2.13	2.56	-1.20
Blast furnace inputs	-	0.18 e	0.35 e	0.36	0.63 e	0.61 e	0.59	-	4.69
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	5.08	3.10	1.31	0.52	0.50	0.46	0.38	-4.05	-7.73
<i>Iron and steel</i>	-	0.62 e	0.42 e	0.33	0.39 e	0.35 e	0.29	-	-2.83
<i>Chemical</i>	-	0.62	0.30	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	0.21	0.20	0.17	0.07	0.07	0.05	-	-5.28
<i>Paper, pulp and print</i>	-	0.44	0.27	0.02	-	-	-	-	-
<i>Other industry</i>	5.08	1.21 e	0.12 e	0.00	0.04 e	0.05 e	0.04	-11.27	-12.55
Other sectors ⁴	2.93	6.35	0.62	0.61	0.24	0.19	0.18	6.66	-12.80
Non-energy use	-	-	-	0.02	0.03	0.03	0.03	-	-
Steam coal	3.97	2.74	2.06	1.67	1.17	1.03	0.95	-3.04	-4.00
Total electricity and heat	2.21	1.98	1.33	0.71	0.55	0.49	0.51	-0.91	-5.08
<i>Main activity producers</i>	2.21	1.68	1.12	0.62	0.47	0.41	0.45	-2.25	-4.96
<i>Autoproducers</i>	-	0.30	0.21	0.09	0.08	0.08	0.06	-	-5.86
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	1.24	0.65	0.68	0.50	0.43	0.40	0.34	-5.27	-2.45
<i>Iron and steel</i>	-	0.39	0.36	0.33	0.37	0.35	0.29	-	-1.09
<i>Chemical</i>	-	0.01	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	0.12	0.20	0.16	0.06	0.05	0.05	-	-3.65
<i>Paper, pulp and print</i>	-	0.03	0.11	0.01	-	-	-	-	-
<i>Other industry</i>	1.24	0.10	0.01	-	0.00	0.00	0.00	-19.12	-74.07
Other sectors ⁴	0.08	0.12	0.05	0.44	0.16	0.10	0.07	3.99	-1.89
Non-energy use	-	-	-	0.02	0.03	0.03	0.03	-	-
Coking coal	2.18	3.14	2.60	2.49	2.68	2.74	2.72	3.08	-0.55
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	2.15	2.92	2.21	2.13	2.03	2.13	2.13	2.56	-1.20
Blast furnace inputs	-	0.18 e	0.35 e	0.36	0.63 e	0.61 e	0.59	-	4.69
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.03	0.04	0.04	-	0.02	0.00	-	3.54	-
<i>Iron and steel</i>	-	0.04 e	0.04 e	-	0.02 e	0.00 e	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.03	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

SLOVAK REPUBLIC

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	13.36	12.48	4.21	3.05	2.45	2.60	2.42	-0.57	-6.11
Total electricity and heat	3.98	3.74	3.03	2.86	2.32	2.45	2.27	-0.52	-1.91
<i>Main activity producers</i>	3.98	3.43	2.89	2.86	2.32	2.45	2.27	-1.23	-1.58
<i>Autoproducers</i>	-	0.31	0.14	0.00	0.00	0.01	0.00	-	-17.62
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	3.82	2.41	0.60	0.01	0.05	0.06	0.04	-3.77	-14.35
<i>Iron and steel</i>	-	0.19	0.01	-	-	-	-	-	-
<i>Chemical</i>	-	0.61	0.30	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	0.09	0.01	0.01	0.01	0.01	0.01	-	-9.97
<i>Paper, pulp and print</i>	-	0.41	0.17	0.00	-	-	-	-	-
<i>Other industry</i>	3.82	1.11	0.11	0.00	0.03	0.05	0.04	-9.77	-12.27
Other sectors ³	2.85	6.23	0.57	0.17	0.08	0.09	0.11	6.72	-14.47
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

SLOVAK REPUBLIC

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	2.43	2.00	1.45	0.91	0.88	0.65	0.64	-1.62	-4.25
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	5.80	4.77	3.65	2.51	2.38	1.85	1.84	-1.63	-3.58
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	9.67	8.87	4.95	5.56	4.59	4.17	4.03	3.91	4.23
Bituminous coal ³	3.24	2.33	1.92	2.23	1.18	0.99	0.83	0.78	0.97
Coking coal	2.08	2.99	2.58	2.74	2.49	2.71	2.79	2.73	2.78
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	3.15	2.96	0.31	0.33	0.31	0.24	0.22	0.23	0.23
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	1.21	0.60	0.14	0.26	0.61	0.22	0.20	0.17	0.25
Total exports	-	0.13	0.06	0.21	0.38	0.10	0.07	0.08	0.07
Bituminous coal ³	-	-	-	-	-	-	-	-	-
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	0.13	0.00	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	-	-	0.06	0.21	0.38	0.10	0.07	0.08	0.07

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

SLOVAK REPUBLIC

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	13711	12941	5657	6000	4411	4258	4099	4051	4298
Coking coal	2180	3132	2596	2732	2472	2680	2740	2686	2732
Australia	-	-	-	-	-	-	-	69	-
Canada	-	-	-	-	-	91	263	289	168
Czech Republic	-	-	901 e	1586	1557	823	804	1064	736
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	669 e	579	445	385	354	413	455
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	290	309	455	257	70	337
Other OECD	-	-	-	-	-	-	-	14	26
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	30
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	1026 e	180	153	379	624	342	452
<i>Other FSU</i>	x	x	-	97	8	414	411	285	272
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	2180	3132	-	-	-	133	27	140	256
Steam coal	3971	2734	2255	2531	1326	1104	923	871	1076
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	931 e	22	279	202	244	159	56
Germany	-	-	-	-	2	-	-	-	-
Poland	-	-	286 e	227	96	147	123	167	300
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	82	25	-	-
Other OECD	-	-	-	2	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	579 e	1968	863	525	524	531	714
<i>Other FSU</i>	x	x	459 e	163	29	95	5	14	6
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	3971	2734	-	149	57	53	2	-	-
Lignite	7560	7075	806	737	613	474	436	494	490

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

SLOVENIA¹

Figure 1: Coal supply indicators (1971 = 100)

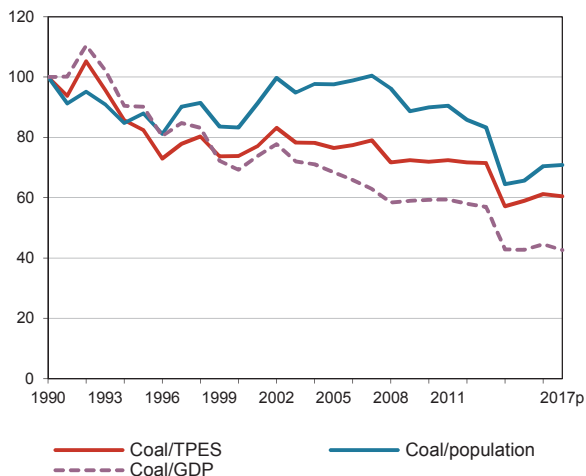


Figure 2: TPES by fuel (Mtce)

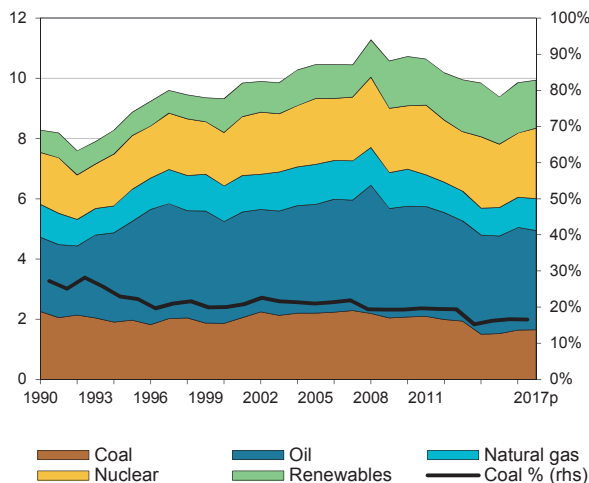


Figure 3: Primary coal supply (Mtce)

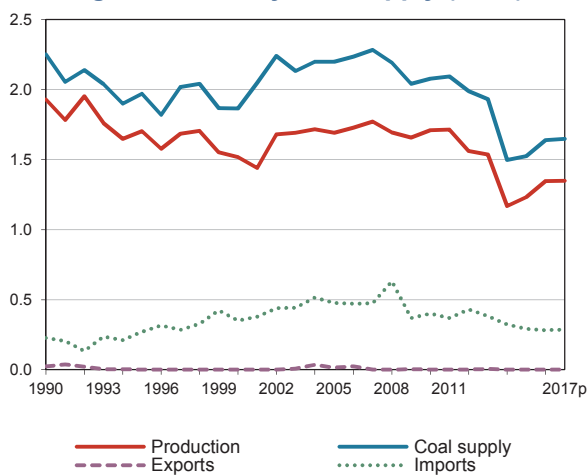


Figure 4: Coal consumption (Mtce)

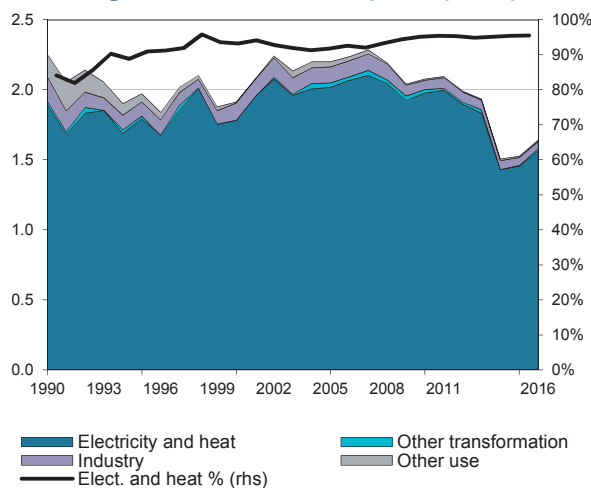


Figure 5: Electricity generation by fuel (TWh)

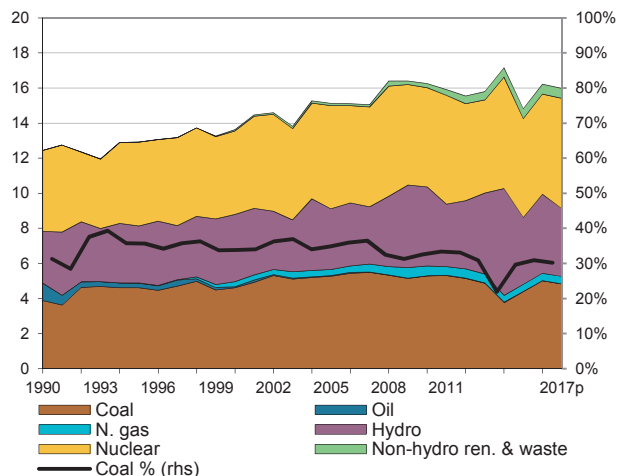
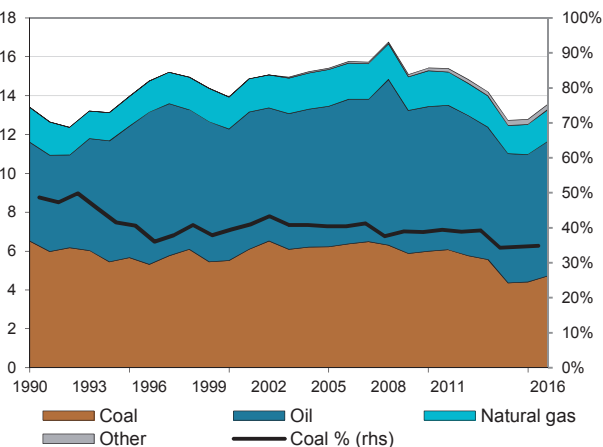


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

SLOVENIA

1. Coal balance¹
(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	x	x	1.9	1.5	1.7	1.2	1.3	1.3	-	-1.4
Imports	x	x	0.2	0.4	0.4	0.3	0.3	0.3	-	0.9
Exports	x	x	-0.0	-0.0	-	-	-	-	-	-
Stock changes	x	x	0.1	-0.0	-0.0	0.0	0.0	0.0		
Primary supply	x	x	2.3	1.9	2.1	1.5	1.6	1.6	-	-1.2
Statistical differences	x	x	-0.0	0.0	-0.0	-0.0	-0.0	..		
Total transformation	x	x	-1.9 e	-1.8	-2.0	-1.5	-1.6	..	-	-0.8
Electricity and heat gen.	x	x	-1.9	-1.8	-2.0	-1.5	-1.6	..	-	-0.7
<i>Main activity producers</i> ³	x	x	-1.9	-1.8	-2.0	-1.4	-1.6	..	-	-0.7
<i>Autoproducers</i>	x	x	-0.0	-0.0	-0.0	-0.0	-0.0	..	-	-
Gas works	x	x	0.0	-	-	-	-	..	-	-
Coal transformation ⁴	x	x	-0.0 e	-	-	-	-	..	-	-
<i>BKB plants</i>	x	x	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	x	x	-0.0 e	-	-	-	-	..	-	-
<i>Coke ovens</i>	x	x	-	-	-	-	-	..	-	-
<i>Patent fuel plants</i>	x	x	-	-	-	-	-	..	-	-
Other transformation ⁵	x	x	-	-	-	-	-	..	-	-
Energy ind. own use	x	x	-0.0	-	-	-	-	..	-	-
Losses	x	x	-0.0	-	-	-	-	..		
Final consumption ⁶	x	x	0.3	0.1	0.1	0.1	0.1	..	-	-6.3
Industry ⁷	x	x	0.2	0.1	0.1	0.1	0.1	..	-	-4.6
<i>Iron and steel</i>	x	x	0.0 e	0.0	0.0	0.0	0.0	..	-	-
<i>Chemical</i>	x	x	0.0	-	-	-	-	..	-	-
<i>Non-metallic minerals</i>	x	x	0.0	0.0	0.0	0.0	0.0	..	-	-
<i>Paper, pulp and print</i>	x	x	0.0	0.0	0.0	0.0	0.0	..	-	-
<i>Other industry</i> ⁸	x	x	0.1	0.0	0.0	0.0	0.0	..	-	-13.8
Transport ⁹	x	x	-	-	-	-	-	..	-	-
Other	x	x	0.2	0.0	0.0	-	-	..	-	-
<i>Comm. and pub. services</i>	x	x	-	-	-	-	-	..	-	-
<i>Residential</i>	x	x	0.2	0.0	0.0	-	-	..	-	-
<i>Other sectors</i> ¹⁰	x	x	-	-	-	-	-	..	-	-
Non-energy use	x	x	-	-	0.0	0.0	0.0	..	-	-
Electricity gen. - TWh	x	x	3.9	4.6	5.3	4.4	5.0	4.8	-	1.0

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

SLOVENIA

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	x	6.09	4.93	4.92	3.58	3.58	3.76	-	-1.84
Total electricity and heat	x	5.30	4.83	4.84	3.51	3.52	3.71	-	-1.37
<i>Main activity producers</i>	x	5.22	4.82	4.81	3.49	3.50	3.69	-	-1.33
<i>Autoproducers</i>	x	0.08	0.02	0.03	0.02	0.02	0.02	-	-5.87
Patent fuel/BKB plants	x	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	x	-	-	-	-	-	-	-	-
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	-	-	-	-	-	-	-	-
Industry	x	0.31	0.08	0.07	0.07	0.06	0.05	-	-6.89
<i>Iron and steel</i>	x	0.03	-	-	-	-	-	-	-
<i>Chemical</i>	x	0.00	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	x	-	-	0.01	0.00	0.00	-	-	-
<i>Paper, pulp and print</i>	x	0.08	0.06	0.06	0.07	0.06	0.05	-	-2.20
<i>Other industry</i>	x	0.19	0.02	0.00	0.00	0.00	0.00	-	-16.07
Other sectors ⁴	x	0.45	0.01	0.00	0.00	-	-	-	-
Non-energy use	x	-	-	-	-	0.00	0.00	-	-
Steam coal	x	0.26	0.45	0.50	0.39	0.37	0.38	-	1.47
Total electricity and heat	x	0.23	0.36	0.44	0.35	0.33	0.34	-	1.49
<i>Main activity producers</i>	x	0.23	0.35	0.42	0.34	0.32	0.33	-	1.32
<i>Autoproducers</i>	x	-	0.02	0.02	0.01	0.01	0.01	-	-
Patent fuel/BKB plants	x	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	x	-	-	-	-	-	-	-	-
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	-	-	-	-	-	-	-	-
Industry	x	0.03	0.08	0.06	0.04	0.04	0.04	-	0.99
<i>Iron and steel</i>	x	0.01	-	-	-	-	-	-	-
<i>Chemical</i>	x	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	x	-	-	0.01	0.00	0.00	-	-	-
<i>Paper, pulp and print</i>	x	-	0.06	0.04	0.04	0.04	0.04	-	-
<i>Other industry</i>	x	0.02	0.01	0.00	0.00	0.00	0.00	-	-8.48
Other sectors ⁴	x	-	0.01	0.00	0.00	-	-	-	-
Non-energy use	x	-	-	-	-	0.00	0.00	-	-
Coking coal	x	0.00	-	-	-	-	-	-	-
Total electricity and heat	x	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	x	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	x	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	x	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	x	-	-	-	-	-	-	-	-
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	-	-	-	-	-	-	-	-
Industry	x	0.00	-	-	-	-	-	-	-
<i>Iron and steel</i>	x	-	-	-	-	-	-	-	-
<i>Chemical</i>	x	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	x	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	x	-	-	-	-	-	-	-	-
<i>Other industry</i>	x	0.00	-	-	-	-	-	-	-
Other sectors ⁴	x	-	-	-	-	-	-	-	-
Non-energy use	x	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

SLOVENIA

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	x	5.83	4.48	4.42	3.19	3.21	3.38	-	-2.08
Total electricity and heat	x	5.07	4.47	4.40	3.16	3.19	3.37	-	-1.56
<i>Main activity producers</i>	x	4.99	4.47	4.39	3.15	3.18	3.37	-	-1.50
<i>Autoproducers</i>	x	0.08	-	0.01	0.01	0.01	0.00	-	-11.95
Patent fuel/BKB plants	x	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	x	-	-	-	-	-	-	-	-
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	-	-	-	-	-	-	-	-
Industry	x	0.28	0.01	0.02	0.03	0.02	0.01	-	-12.72
<i>Iron and steel</i>	x	0.02	-	-	-	-	-	-	-
<i>Chemical</i>	x	0.00	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	x	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	x	0.08	-	0.02	0.03	0.02	0.01	-	-8.56
<i>Other industry</i>	x	0.17	0.01	-	-	-	-	-	-
Other sectors ³	x	0.45	0.00	-	-	-	-	-	-
Non-energy use	x	-	-	-	-	-	-	-	-
Peat	x	-	-	-	-	-	-	-	-
Total electricity and heat	x	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	x	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	x	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	x	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	x	-	-	-	-	-	-	-	-
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	-	-	-	-	-	-	-	-
Industry	x	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	x	-	-	-	-	-	-	-	-
<i>Chemical</i>	x	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	x	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	x	-	-	-	-	-	-	-	-
<i>Other industry</i>	x	-	-	-	-	-	-	-	-
Other sectors ³	x	-	-	-	-	-	-	-	-
Non-energy use	x	-	-	-	-	-	-	-	-
Oil shale and oil sands	x	-	-	-	-	-	-	-	-
Total electricity and heat	x	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	x	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	x	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	x	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	x	-	-	-	-	-	-	-	-
Blast furnace inputs	x	-	-	-	-	-	-	-	-
Gas manufacture	x	-	-	-	-	-	-	-	-
Industry	x	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	x	-	-	-	-	-	-	-	-
<i>Chemical</i>	x	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	x	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	x	-	-	-	-	-	-	-	-
<i>Other industry</i>	x	-	-	-	-	-	-	-	-
Other sectors ³	x	-	-	-	-	-	-	-	-
Non-energy use	x	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

SLOVENIA

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	x	-	-	-	-	-	-	-	-
Steam coal	x	-	-	-	-	-	-	-	-
Lignite	x	1.93	1.52	1.69	1.71	1.35	1.35	-	-1.38
Peat	x	-	-	-	-	-	-	-	-
Oil shale and oil sands	x	-	-	-	-	-	-	-	-
Mt:									
Coking coal	x	-	-	-	-	-	-	-	-
Steam coal	x	-	-	-	-	-	-	-	-
Lignite	x	5.58	4.48	4.54	4.43	3.35	3.36	-	-1.95
Peat	x	-	-	-	-	-	-	-	-
Oil shale and oil sands	x	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹
(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	x	0.23	0.35	0.48	0.40	0.32	0.29	0.28	0.29
Bituminous coal ³	x	0.02	0.01	0.04	0.02	0.02	0.01	0.01	0.01
Coking coal	x	0.00	-	-	-	-	-	-	-
Sub-bituminous coal	x	0.14	0.27	0.38	0.31	0.25	0.24	0.24	0.25
Lignite	x	-	-	-	0.04	0.02	0.01	0.00	-
Peat	x	-	-	-	-	-	-	-	-
Coal products ⁴	x	0.07	0.07	0.05	0.03	0.03	0.03	0.03	0.03
Total exports	x	0.02	0.00	0.01	-	0.00	-	-	-
Bituminous coal ³	x	-	-	-	-	0.00	-	-	-
Coking coal	x	-	-	-	-	-	-	-	-
Sub-bituminous coal	x	-	-	0.01	-	-	-	-	-
Lignite	x	0.02	0.00	-	-	-	-	-	-
Peat	x	-	-	-	-	-	-	-	-
Coal products ⁴	x	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

SLOVENIA

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	x	254	448	593	575	454	403	385	383
Coking coal	x	1	-	-	-	-	-	-	-
Australia	x	-	-	-	-	-	-	-	-
Canada	x	-	-	-	-	-	-	-	-
Czech Republic	x	-	-	-	-	-	-	-	-
Germany	x	-	-	-	-	-	-	-	-
Poland	x	-	-	-	-	-	-	-	-
United Kingdom	x	-	-	-	-	-	-	-	-
United States	x	-	-	-	-	-	-	-	-
Other OECD	x	-	-	-	-	-	-	-	-
China, People's Rep.	x	-	-	-	-	-	-	-	-
Colombia	x	-	-	-	-	-	-	-	-
Indonesia	x	-	-	-	-	-	-	-	-
South Africa	x	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	x	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	x	-	-	-	-	-	-	-	-
Viet Nam	x	-	-	-	-	-	-	-	-
Non-specified/other	x	1	-	-	-	-	-	-	-
Steam coal	x	253	448	593	500	406	373	374	383
Australia	x	-	-	-	-	-	-	-	-
Canada	x	-	-	-	-	-	-	-	-
Czech Republic	x	-	8	22	9	3	3	2	3
Germany	x	-	-	1	2	1	1	1	-
Poland	x	-	-	11	-	-	-	1	-
United Kingdom	x	-	-	-	-	-	-	-	-
United States	x	-	-	-	-	-	-	-	-
Other OECD	x	-	-	12	13	8	7	10	9
China, People's Rep.	x	-	-	1	-	-	-	-	-
Colombia	x	-	-	2	-	9	-	-	-
Indonesia	x	-	427	501	434	381	357	360	371
South Africa	x	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	x	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	41	7	2	5	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	x	-	-	-	11	-	-	-	-
Viet Nam	x	-	-	-	-	-	-	-	-
Non-specified/other	x	253	13	2	24	2	-	-	-
Lignite	x	-	-	-	75	48	30	11	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

SPAIN¹

Figure 1: Coal supply indicators (1971 = 100)

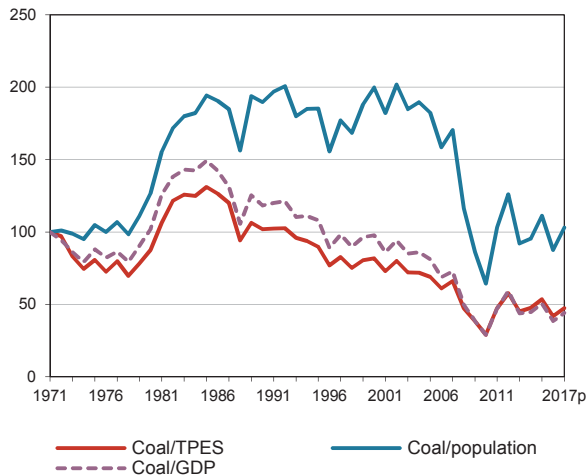


Figure 2: TPES by fuel (Mtce)

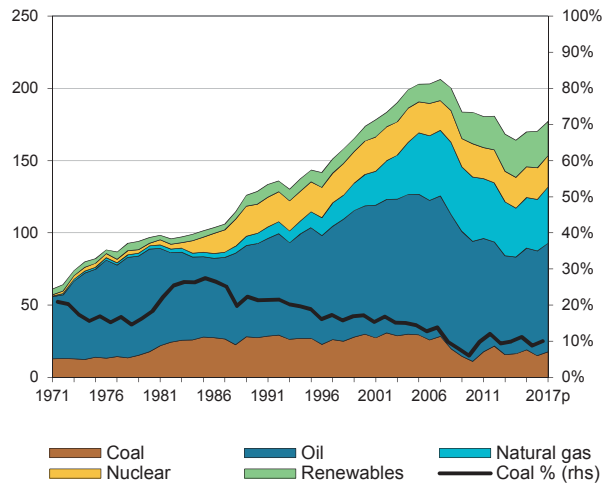


Figure 3: Primary coal supply (Mtce)

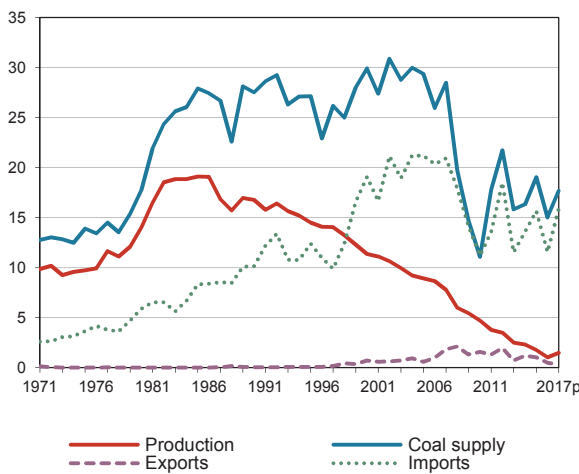


Figure 4: Coal consumption (Mtce)

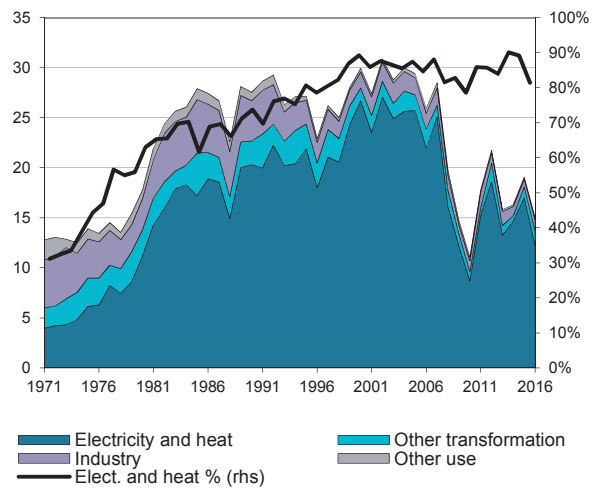


Figure 5: Electricity generation by fuel (TWh)

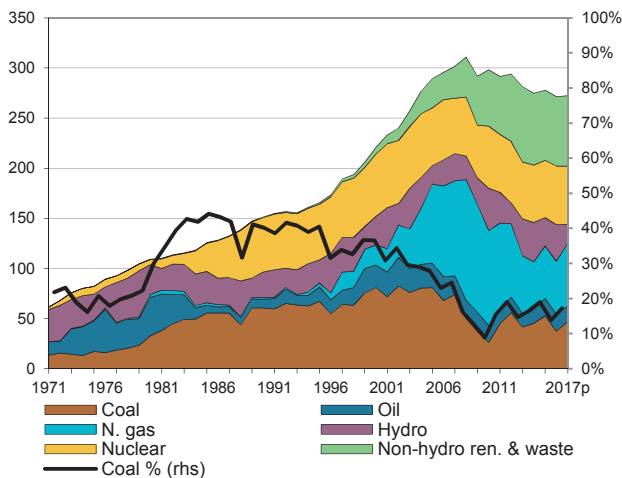
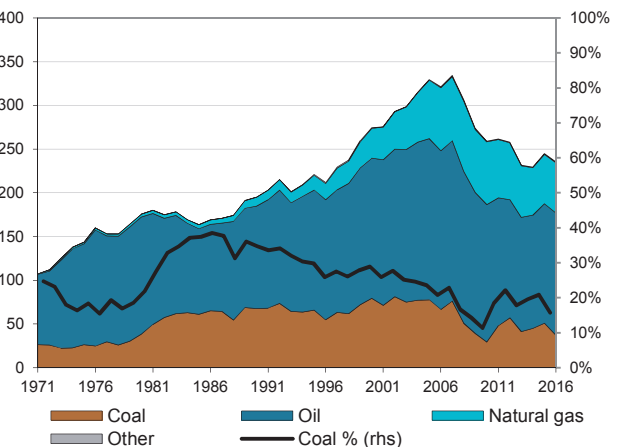


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

SPAIN

1. Coal balance¹
(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	9.3	14.0	16.8	11.4	4.7	1.8	1.1	1.5	3.6	-10.1
Imports	3.1	5.9	10.1	19.1	11.2	15.6	11.6	15.9	7.3	0.5
Exports	-0.0	-0.0	-0.0	-0.7	-1.6	-1.0	-0.5	-0.3	-	9.8
Stock changes	0.6	-2.2	0.6	0.2	-3.3	2.7	2.9	0.7		
Primary supply	12.9	17.8	27.5	29.9	11.1	19.1	15.0	17.7	4.6	-2.3
Statistical differences	1.2	0.0	-0.1	0.7	0.8	0.7	-0.1	..		
Total transformation	-7.4 e	-12.9 e	-22.0 e	-28.3 e	-9.5 e	-18.3	-13.1	..	6.6	-2.0
Electricity and heat gen.	-4.3	-11.2	-20.3	-26.7	-8.7	-17.0	-12.2	..	9.5	-1.9
<i>Main activity producers</i> ³	-4.3	-11.1	-20.1	-26.4	-8.5	-16.8	-12.1	..	9.5	-1.9
<i>Autoproducers</i>	-	-0.1	-0.2	-0.3	-0.2	-0.2	-0.1	..	-	-1.3
Gas works	0.4	0.5	0.4	0.1	0.0	0.0	0.0	..	-0.2	-23.1
Coal transformation ⁴	-3.5 e	-2.3 e	-2.2 e	-1.7 e	-0.8 e	-1.3	-0.8	..	-2.9	-3.5
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-2.3 e	-1.6 e	-1.4 e	-1.0 e	-0.9 e	-1.2	-1.1	..	-2.8	-1.0
<i>Coke ovens</i>	-1.3	-0.7	-0.8	-0.7	0.0	-0.1	0.2	..	-2.9	-
<i>Patent fuel plants</i>	-0.0	0.0 e	0.0	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-0.7	-0.8	-0.5	-0.4	-0.8	-0.2	-0.2	..	-1.7	-3.2
Losses	-0.0	-0.0	-0.0	-0.0	-0.1	-0.3	-0.3	..		
Final consumption ⁶	5.9	4.0	4.8	2.0	1.5	1.0	1.3	..	-1.2	-4.9
Industry ⁷	5.1	3.1	4.0	1.6	1.1	0.8	1.1	..	-1.4	-5.0
<i>Iron and steel</i>	3.1 e	2.3 e	1.9 e	1.0 e	0.8 e	0.4	0.8	..	-2.9	-3.2
<i>Chemical</i>	0.4	0.3	0.2	0.1	0.2	0.3	0.2	..	-3.9	-0.3
<i>Non-metallic minerals</i>	-	0.3	1.6	0.4	0.0	0.0	0.0	..	-	-17.2
<i>Paper, pulp and print</i>	-	0.0	0.0	-	-	-	-	..	-	-
<i>Other industry</i> ⁸	1.6	0.2	0.2	0.1	0.1	0.1	0.1	..	-10.4	-5.9
Transport ⁹	0.0	0.0	-	-	-	-	-	..	-	-
Other	0.8	0.8	0.8	0.4	0.4	0.2	0.2	..	0.3	-6.2
<i>Comm. and pub. services</i>	0.1	0.1	0.1	0.1 e	0.0	0.0	0.0	..	-1.1	-17.5
<i>Residential</i>	0.7	0.7	0.8	0.3	0.3	0.1	0.1	..	0.3	-7.0
<i>Other sectors</i> ¹⁰	-	-	0.0	-	0.1	0.0	0.0	..	-	-
Non-energy use	-	-	-	-	-	-	0.1	..	-	-
Electricity gen. - TWh	14.3	32.8	60.7	80.9	26.3	52.7	37.5	46.8	8.9	-1.8

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

SPAIN

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	21.35	46.82	45.65	14.66	21.39	24.41	19.19	6.76	-3.37
Total electricity and heat	14.90	39.50	41.02	10.97	19.83	22.69	16.56	8.46	-3.29
<i>Main activity producers</i>	14.77	39.42	40.83	10.71	19.62	22.46	16.34	8.52	-3.33
<i>Autoproducers</i>	0.13	0.08	0.19	0.26	0.21	0.23	0.23	-4.23	4.16
Patent fuel/BKB plants	0.06	0.01	-	-	-	-	-	-18.93	-
Coke ovens/Liquefaction ³	5.16	4.48	3.64	2.65	2.02	2.03	2.06	-1.17	-2.95
Blast furnace inputs	-	-	0.57 e	0.56 e	0.73 e	0.88	0.82	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.78	2.33	0.65	0.38	0.40	0.32	0.31	9.49	-7.46
<i>Iron and steel</i>	0.31	0.30	0.11 e	0.12 e	0.15 e	0.08	0.06	-0.16	-6.00
<i>Chemical</i>	0.23	0.14	0.06	0.22	0.23	0.21	0.22	-3.99	1.86
<i>Non-metallic minerals</i>	0.18	1.78	0.47	0.04	0.01	0.01	0.02	21.25	-16.78
<i>Paper, pulp and print</i>	0.00	0.06	-	-	-	-	-	33.31	-
<i>Other industry</i>	0.08	0.05	-	-	0.01 e	0.01	0.01	-3.32	-5.34
Other sectors ⁴	0.38	0.58	0.30	0.35	0.19	0.18	0.17	3.53	-4.71
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	11.30	25.79	33.70	12.16	19.53	22.58	17.33	7.12	-1.52
Total electricity and heat	9.71	22.92	32.62	10.97	19.83	22.69	16.56	7.42	-1.24
<i>Main activity producers</i>	9.58	22.84	32.43	10.71	19.62	22.46	16.34	7.51	-1.28
<i>Autoproducers</i>	0.13	0.08	0.19	0.26	0.21	0.23	0.23	-4.23	4.16
Patent fuel/BKB plants	0.06	0.01	-	-	-	-	-	-18.93	-
Coke ovens/Liquefaction ³	0.30	0.02	-	-	-	-	-	-18.94	-
Blast furnace inputs	-	-	0.57 e	0.56 e	0.73 e	0.88	0.82	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.78	2.33	0.65	0.38	0.40	0.32	0.31	9.49	-7.46
<i>Iron and steel</i>	0.31	0.30	0.11 e	0.12 e	0.15 e	0.08	0.06	-0.16	-6.00
<i>Chemical</i>	0.23	0.14	0.06	0.22	0.23	0.21	0.22	-3.99	1.86
<i>Non-metallic minerals</i>	0.18	1.78	0.47	0.04	0.01	0.01	0.02	21.25	-16.78
<i>Paper, pulp and print</i>	0.00	0.06	-	-	-	-	-	33.31	-
<i>Other industry</i>	0.08	0.05	-	-	0.01 e	0.01	0.01	-3.32	-5.34
Other sectors ⁴	0.38	0.58	0.30	0.35	0.19	0.18	0.17	3.53	-4.71
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	4.86	4.46	3.56	2.50	1.86	1.83	1.86	-0.73	-3.30
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	4.86	4.46	3.64	2.65	2.02	2.03	2.06	-0.73	-2.93
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

SPAIN

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	5.20	16.58	8.40	-	-	-	-	10.15	-
Total electricity and heat	5.20	16.58	8.40	-	-	-	-	10.15	-
<i>Main activity producers</i>	5.20	16.58	8.40	-	-	-	-	10.15	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

SPAIN

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	1.87	0.28	-	-	-	-	-	-14.69	-
Steam coal	7.86	12.12	9.23	7.27	4.71	1.05	1.48	3.68	-8.97
Lignite	1.38	4.38	2.15	1.68	-	-	-	10.09	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	1.80	0.28	-	-	-	-	-	-14.39	-
Steam coal	12.63	19.03	14.95	11.89	8.43	1.80	2.78	3.48	-8.67
Lignite	5.22	16.37	8.52	7.59	-	-	-	9.99	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹
(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	3.63	10.15	19.07	21.19	11.21	13.60	15.64	11.56	15.88
Bituminous coal ³	0.24	5.48	15.09	17.40	8.26	11.74	13.62	9.63	13.88
Coking coal	3.14	4.29	3.84	3.66	2.75	1.63	1.72	1.76	1.76
Sub-bituminous coal	0.00	0.00	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.24	0.39	0.13	0.13	0.20	0.23	0.31	0.17	0.24
Total exports	0.01	0.04	0.72	0.59	1.59	1.19	1.03	0.49	0.34
Bituminous coal ³	0.01	0.00	-	-	1.23	1.04	0.90	0.37	0.21
Coking coal	-	-	-	-	-	0.02	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	-	0.04	0.72	0.59	0.36	0.12	0.13	0.13	0.12

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

SPAIN

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	3382	10456	21649	24756	12817	16394	18735	13830	19177
Coking coal	3029	4169	3755	3571	2777	1631	1721	1767	1767
Australia	454	672	1388	1682	1272	710	788	1065	1021
Canada	68	-	383	285	60	-	1	-	154
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	395	364	-	-	-	-	-	-	-
Poland	1369	234	-	99	-	-	-	-	-
United Kingdom	-	-	-	-	1	-	-	-	-
United States	743	2899	1912	1273	1384	901	932	702	592
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	178	-	-	-	-	-
Colombia	-	-	-	-	60	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	72	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	54	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	20	-	-	-
Steam coal	353	6287	17894	21185	10040	14763	17014	12063	17410
Australia	-	271	1627	1433	400	206	464	296	-
Canada	-	-	-	16	1	1	1	1	40
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	43	102	169	80	45	54	45	4
Poland	-	16	313	28	12	22	18	18	9
United Kingdom	12	153	27	4	16	20	-	11	32
United States	-	275	585	227	481	326	390	447	1176
Other OECD	27	90	39	12	18	316	125	322	743
China, People's Rep.	-	-	191	47	7	-	9	12	11
Colombia	-	404	1112	1938	2796	5611	6276	4047	4570
Indonesia	-	-	2804	3784	2411	3936	3851	3997	4257
South Africa	114	4667	9180	8736	2584	1555	1209	315	1432
Former Soviet Union ⁴	196	285	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	1496	4235	852	2222	4035	2448	5057
<i>Other FSU</i>	x	x	29	450	322	445	144	33	-
Venezuela	-	53	389	91	54	-	113	-	19
Viet Nam	-	-	-	15	-	-	105	-	-
Non-specified/other	4	30	-	-	6	58	220	71	60
Lignite	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

SPAIN

7. Steam coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	10	3	-	-	1488	1259	1088	453	264
Total OECD	10	3	-	-	1288	1031	936	348	156
Australia	-	-	-	-	-	-	5	7	-
Austria	-	-	-	-	-	-	-	-	-
Belgium	10	-	-	-	-	-	-	-	41
Canada	-	-	-	-	-	-	-	-	-
Chile	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	-	-	-	-	-	-	-	-
France	-	3	-	-	1	32	18	40	31
Germany	-	-	-	-	-	-	-	-	-
Greece	-	-	-	-	-	22	32	4	-
Hungary	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	4	9	-	8	-
Israel	-	-	-	-	-	-	-	-	-
Italy	-	-	-	-	1172	786	764	243	24
Japan	-	-	-	-	-	-	-	-	-
Korea	-	-	-	-	-	-	-	-	-
Latvia	x	-	-	-	-	4	9	-	-
Luxembourg	-	-	-	-	-	-	-	-	-
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	-	-	-	-	2	2	2	2	-
New Zealand	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	11	6	4	-	-
Poland	-	-	-	-	-	40	-	-	-
Portugal	-	-	-	-	28	11	21	14	13
Slovak Republic	-	-	-	-	-	-	-	-	-
Slovenia	x	-	-	-	-	-	-	-	-
Spain	-	-	-	-	-	-	-	-	-
Sweden	-	-	-	-	-	-	-	-	-
Switzerland	-	-	-	-	-	-	-	-	-
Turkey	-	-	-	-	-	-	-	-	6
United Kingdom	-	-	-	-	70	119	81	30	41
United States	-	-	-	-	-	-	-	-	-
Total non-OECD	-	-	-	-	29	165	121	98	108
Brazil	-	-	-	-	-	-	-	-	-
China ³	-	-	-	-	-	-	-	-	-
Chinese Taipei	-	-	-	-	-	-	-	-	-
Egypt	-	-	-	-	14	55	-	-	7
India	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-
Oth. Africa & Mid. East	-	-	-	-	15	62	35	37	42
Oth. non-OECD Americas	-	-	-	-	-	8	-	11	-
Other Asia & Oceania	-	-	-	-	-	-	-	-	-
Other non-OECD Europe and Eurasia	-	-	-	-	-	40	86	50	59
Non-specified/Other	-	-	-	-	171	63	26	2	-

1. Please refer to the explanatory notes and definitions in Part I. Steam coal includes all sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

SWEDEN¹

Figure 1: Coal supply indicators (1971 = 100)

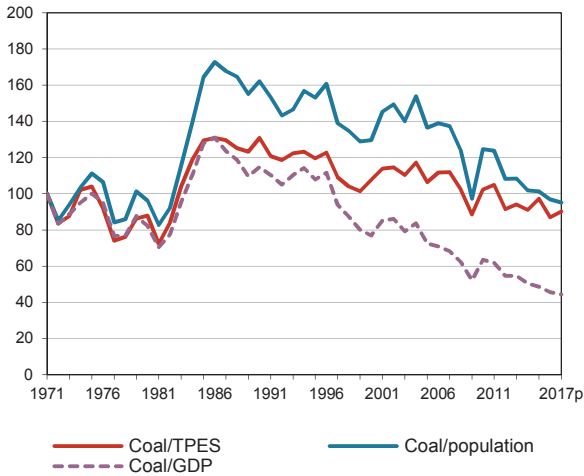


Figure 2: TPES by fuel (Mtce)

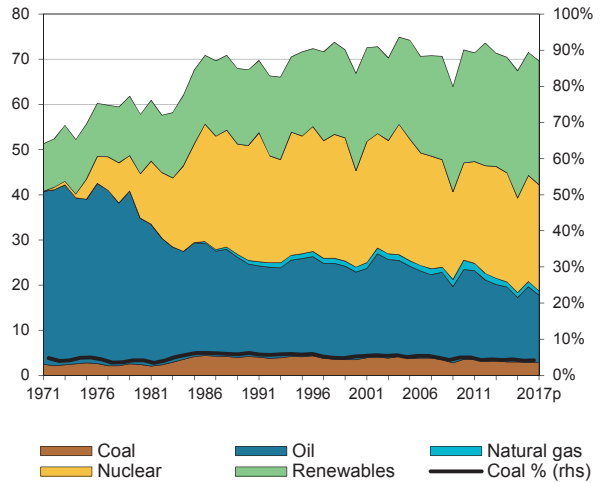


Figure 3: Primary coal supply (Mtce)

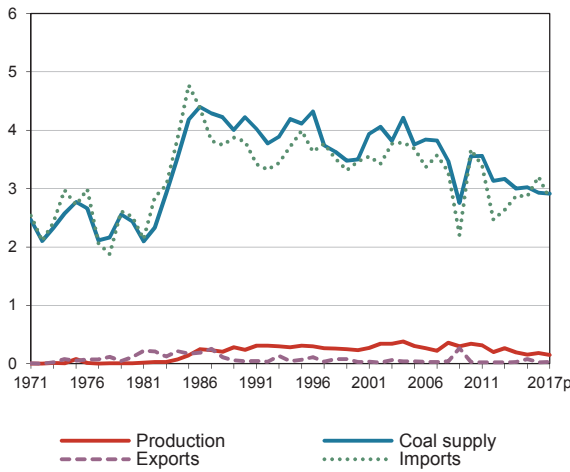


Figure 4: Coal consumption (Mtce)

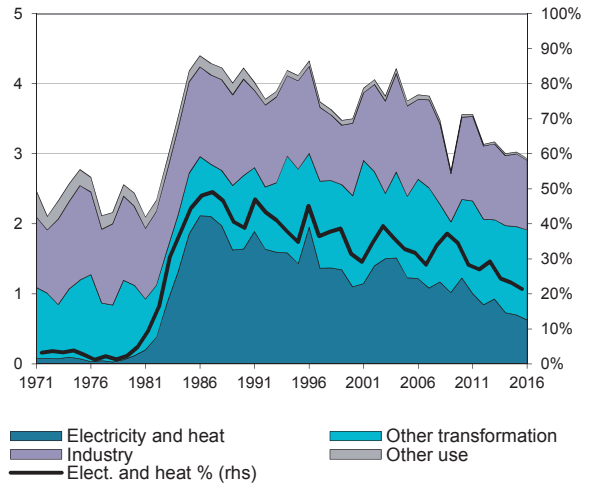


Figure 5: Electricity generation by fuel (TWh)

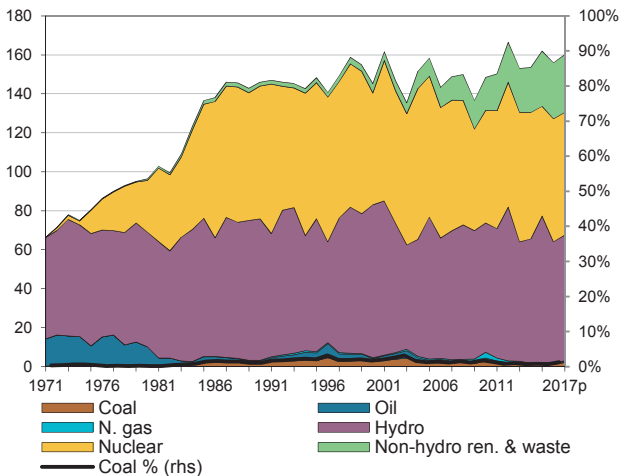
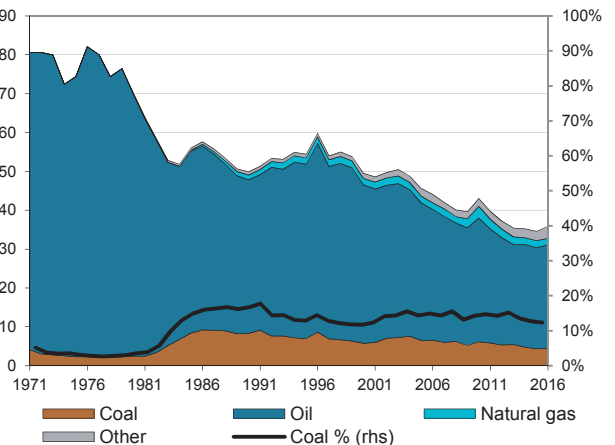


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

SWEDEN

1. Coal balance¹
(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	0.0	0.0	0.2	0.2	0.3	0.2	0.2	0.2	19.5	-1.1
Imports	2.4	2.5	3.8	3.5	3.7	2.9	3.2	2.8	2.7	-0.7
Exports	-0.0	-0.1	-0.0	-0.0	-0.0	-0.1	-0.0	-0.0	-	-
Stock changes	-0.1	0.0	0.2	-0.2	-0.4	0.1	-0.4	-0.0		
Primary supply	2.3	2.4	4.2	3.5	3.6	3.0	2.9	2.9	3.6	-1.4
Statistical differences	0.0	0.0	0.0	0.1	0.3	-0.2	-0.1	..		
Total transformation	-0.7 e	-0.9 e	-2.5 e	-2.3 e	-2.4 e	-1.6 e	-1.5 e	..	7.5	-1.8
Electricity and heat gen.	-0.1	-0.1	-1.6	-1.1	-1.2	-0.7	-0.6	..	19.8	-3.6
<i>Main activity producers</i> ³	-0.1	-0.1	-1.6	-1.0	-1.1	-0.6	-0.6	..	19.7	-3.8
<i>Autoproducers</i>	-	-0.0	-0.0	-0.1	-0.1	-0.1	-0.0	..	-	-
Gas works	0.2	0.1	0.1	0.1	0.0	0.0	0.0	..	-6.0	-6.3
Coal transformation ⁴	-0.8 e	-0.9 e	-0.9 e	-1.2 e	-1.2 e	-0.9 e	-0.9 e	..	0.7	0.0
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-0.8 e	-0.7 e	-0.7 e	-0.8 e	-0.8 e	-0.7 e	-0.8 e	..	-0.8	0.4
<i>Coke ovens</i>	-0.0	-0.2	-0.2	-0.4	-0.5	-0.2	-0.2	..	11.2	-1.4
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-0.1 e	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	..	3.6	0.6
Losses	-0.1 e	-0.1	-0.1	-0.1	-0.1	-0.0	-0.1	..		
Final consumption ⁶	1.5	1.3	1.5	1.1	1.2	1.1	1.0	..	0.2	-1.6
Industry ⁷	1.2	1.1	1.4	1.0	1.2	1.0	1.0	..	0.7	-1.3
<i>Iron and steel</i>	0.7 e	0.6 e	0.6 e	0.5 e	0.7 e	0.6 e	0.6 e	..	-1.4	0.1
<i>Chemical</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	..	-	-
<i>Non-metallic minerals</i>	0.3	0.2	0.4	0.3	0.2	0.2	0.2	..	2.8	-2.5
<i>Paper, pulp and print</i>	0.0	0.0	0.1	0.0	0.0	0.0	0.0	..	16.8	-8.4
<i>Other industry</i> ⁸	0.2	0.2	0.3	0.2	0.2	0.2	0.2	..	0.8	-1.3
Transport ⁹	-	0.0	-	-	-	-	-	..	-	-
Other	0.2	0.1	0.1	0.0	0.0	0.0	0.0	..	-4.2	-9.7
<i>Comm. and pub. services</i>	-	0.0	0.0	0.0	0.0	0.0	0.0	..	-	-
<i>Residential</i>	0.2	0.1	0.0	0.0	0.0	0.0	0.0	..	-11.8	-
<i>Other sectors</i> ¹⁰	-	0.0	0.1	-	-	-	-	..	-	-
Non-energy use	0.1	0.1	0.1	0.0	0.0	0.0	0.0	..	0.3	-4.2
Electricity gen. - TWh	0.5	0.2	1.6	2.5	2.7	1.3	1.1	2.0	7.0	-1.6

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD World Energy Balances

SWEDEN

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	1.57	3.71	2.86	2.86	2.67	2.80	2.67	7.43	-1.25
Total electricity and heat	0.02	1.19	0.50	0.44	0.29	0.29	0.18	43.16	-6.92
<i>Main activity producers</i>	0.02	1.17	0.49	0.44	0.29	0.29	0.18	43.02	-6.87
<i>Autoproducers</i>	-	0.01	0.01	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	1.23	1.52	1.77	1.85	1.46	1.58	1.53	1.77	0.04
Blast furnace inputs	-	0.18 e	0.27 e	0.31 e	0.34 e	0.26 e	0.38 e	-	2.89
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.30	0.74	0.50	0.53	0.50	0.52	0.50	7.88	-1.55
<i>Iron and steel</i>	0.02	0.05 e	0.04 e	0.12 e	0.07 e	0.06 e	0.08 e	6.32	1.78
<i>Chemical</i>	0.01	0.03	-	-	-	-	-	9.89	-
<i>Non-metallic minerals</i>	0.19	0.39	0.25	0.23	0.21	0.25	0.21	6.43	-2.40
<i>Paper, pulp and print</i>	0.00	0.10	0.03	0.01	0.02	0.01	0.01	33.48	-8.70
<i>Other industry</i>	0.08	0.18 e	0.17 e	0.18 e	0.21 e	0.20 e	0.20 e	7.07	0.51
Other sectors ⁴	0.00	0.07	-	-	-	-	-	33.66	-
Non-energy use	0.03	0.02	-	-	-	-	-	-3.02	-
Steam coal	0.34	2.19	1.09	0.99	1.22	1.21	1.13	16.72	-2.52
Total electricity and heat	0.02	1.19	0.50	0.44	0.29	0.29	0.18	43.16	-6.92
<i>Main activity producers</i>	0.02	1.17	0.49	0.44	0.29	0.29	0.18	43.02	-6.87
<i>Autoproducers</i>	-	0.01	0.01	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	0.18 e	0.27 e	0.31 e	0.34 e	0.26 e	0.38 e	-	2.89
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.30	0.74	0.50	0.53	0.50	0.52	0.50	7.88	-1.55
<i>Iron and steel</i>	0.02	0.05 e	0.04 e	0.12 e	0.07 e	0.06 e	0.08 e	6.32	1.78
<i>Chemical</i>	0.01	0.03	-	-	-	-	-	9.89	-
<i>Non-metallic minerals</i>	0.19	0.39	0.25	0.23	0.21	0.25	0.21	6.43	-2.40
<i>Paper, pulp and print</i>	0.00	0.10	0.03	0.01	0.02	0.01	0.01	33.48	-8.70
<i>Other industry</i>	0.08	0.18 e	0.17 e	0.18 e	0.21 e	0.20 e	0.20 e	7.07	0.51
Other sectors ⁴	0.00	0.07	-	-	-	-	-	33.66	-
Non-energy use	0.03	0.02	-	-	-	-	-	-3.02	-
Coking coal	1.23	1.52	1.77	1.87	1.46	1.59	1.54	1.77	0.07
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	1.23	1.52	1.77	1.85	1.46	1.58	1.53	1.77	0.04
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

SWEDEN

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	-	0.83	0.77	1.16	0.56	0.45	0.48	-	-2.08
Total electricity and heat	-	0.81	0.76	1.13	0.54	0.44	0.47	-	-2.11
<i>Main activity producers</i>	-	0.81	0.76	1.13	0.53	0.43	0.46	-	-2.14
<i>Autoproducers</i>	-	-	0.01	0.00	0.00	0.01	0.00	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	0.02	0.01	0.03	0.02	0.01	0.01	-	-0.80
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	0.01	0.02	0.02	0.01	0.01	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	0.02	-	0.00	0.01	0.00	0.00	-	-5.19
<i>Other industry</i>	-	-	-	0.00	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

SWEDEN

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	0.01	0.01	-	-	-	-	-	-3.07	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	0.23	0.23	0.30	0.34	0.18	0.15	-	-0.97
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	0.02	0.01	-	-	-	-	-	-3.07	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	0.58	0.54	0.71	0.80	0.42	0.36	-	-1.20
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	1.88	3.81	3.47	3.68	3.67	2.87	2.87	3.20	2.83
Bituminous coal ³	0.26	2.05	1.19	1.17	0.96	1.15	1.14	0.98	0.99
Coking coal	1.21	1.35	1.86	2.00	2.31	1.58	1.61	2.10	1.71
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	0.00	-	-	-	-	-	-	-
Peat	-	0.10	0.10	0.13	0.16	0.05	0.04	0.03	0.03
Coal products ⁴	0.41	0.31	0.32	0.38	0.24	0.09	0.08	0.10	0.09
Total exports	0.12	0.04	0.03	0.04	0.03	0.03	0.08	0.03	0.03
Bituminous coal ³	0.03	0.00	0.00	0.00	0.00	0.00	-	-	-
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.09	0.04	0.03	0.04	0.03	0.03	0.08	0.03	0.03

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

SWEDEN

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	1545	3545	3092	3203	3285	2774	2791	3100	2731
Coking coal	1239	1315	1814	1955	2258	1542	1573	2047	1667
Australia	-	449 e	990	1000	1373	988	1031	1536	951
Canada	78	102 e	54	-	-	-	22	-	191
Czech Republic	99	-	-	-	-	-	-	-	-
Germany	231	-	-	-	-	-	-	-	-
Poland	71	-	-	22	-	-	-	-	-
United Kingdom	5	-	-	-	-	-	-	-	-
United States	338	764 e	570	462	529	554	520	511	520
Other OECD	-	-	-	1	-	-	-	-	5
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	417	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	470	356	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	200	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Steam coal	306	2228	1278	1248	1027	1232	1218	1053	1064
Australia	-	187 e	83	370	73	188	185	111	58
Canada	-	1 e	-	-	-	-	-	-	-
Czech Republic	8	6 e	-	-	-	-	-	-	-
Germany	42	7 e	-	3	1	-	1	6	2
Poland	174	732 e	698	127	178	125	100	97	48
United Kingdom	30	103 e	15	2	-	-	-	4	4
United States	-	117 e	25	30	24	-	-	-	-
Other OECD	-	8 e	66	286	368	410	363	331	424
China, People's Rep.	-	8 e	-	-	-	-	-	-	-
Colombia	-	108 e	120	-	-	-	3	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	52	573	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	271	377	300	505	548	504	502
<i>Other FSU</i>	x	x	-	-	17	4	14	-	12
Venezuela	-	375 e	-	53	66	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	3 e	-	-	-	-	4	-	14
Lignite	-	2	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

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Figure 1: Coal supply indicators (1971 = 100)

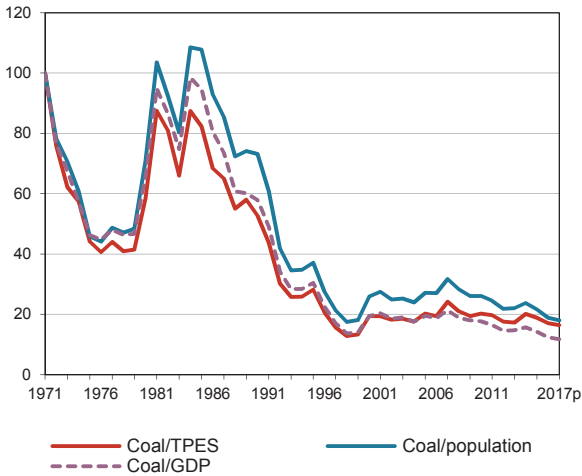


Figure 2: TPES by fuel (Mtce)

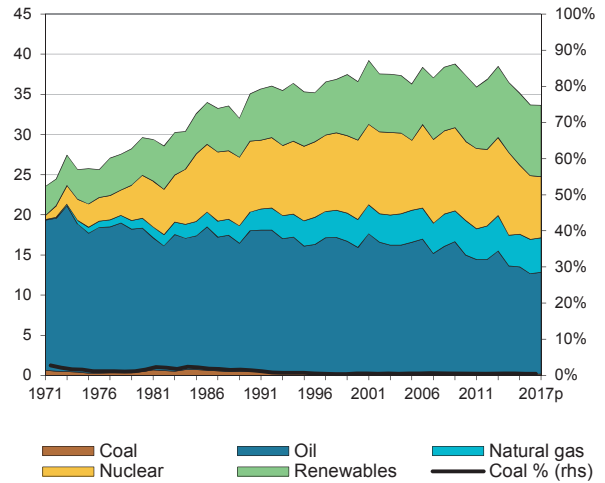


Figure 3: Primary coal supply (Mtce)

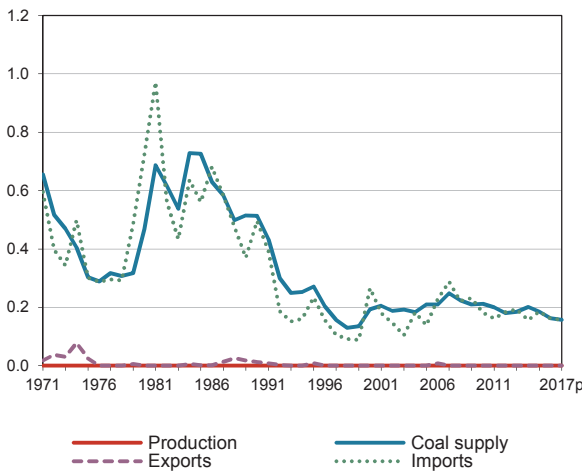


Figure 4: Coal consumption (Mtce)

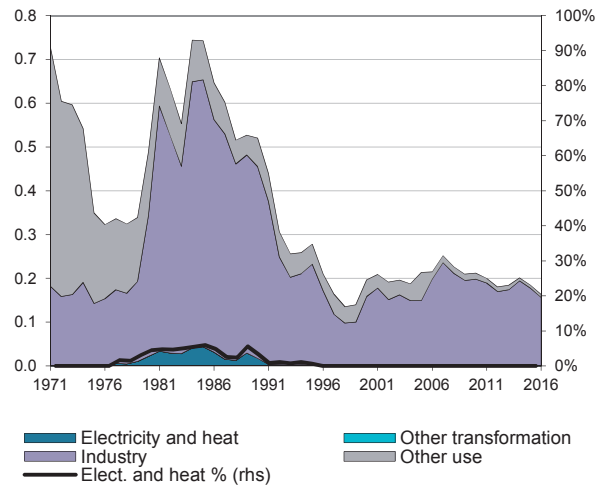


Figure 5: Electricity generation by fuel (TWh)

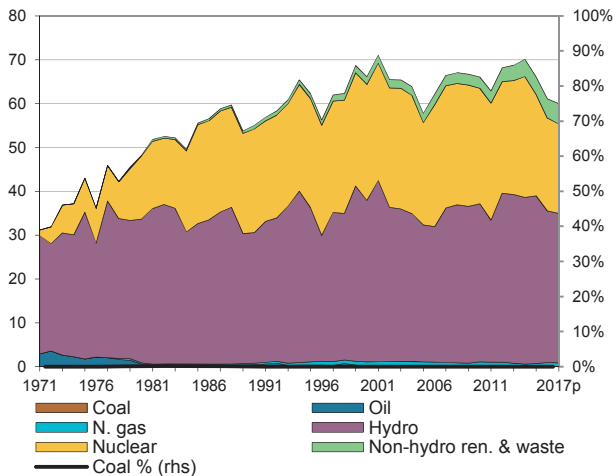
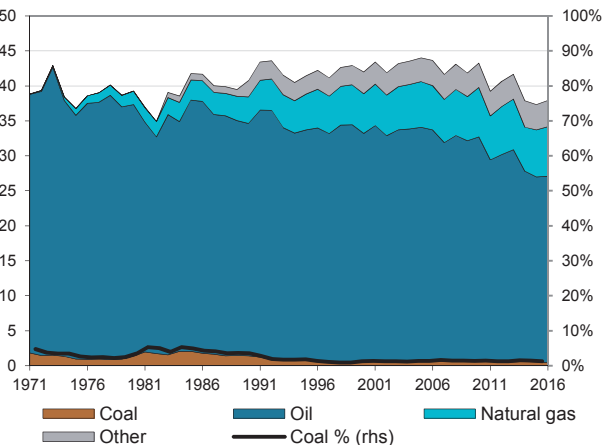


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

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1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	-	-	-	-	-	-	-	-	-	-
Imports	0.3	0.7	0.5	0.3	0.2	0.2	0.2	0.2	2.2	-4.2
Exports	-0.0	-	-0.0	-	-	-	-	-	-	-
Stock changes	0.2	-0.3	0.0	-0.1	0.0	-0.0	0.0	-	-	-
Primary supply	0.5	0.5	0.5	0.2	0.2	0.2	0.2	0.2	0.5	-4.3
Statistical differences	-	-	-0.0	-	-	-	-	..	-	-
Total transformation	0.2	0.0	-0.0	0.0	-	-	-	..	-	-
Electricity and heat gen.	-	-0.0	-0.0	-	-	-	-	..	-	-
<i>Main activity producers</i> ³	-	-0.0	-0.0	-	-	-	-	..	-	-
<i>Autoproducers</i>	-	-0.0	-0.0	-	-	-	-	..	-	-
Gas works	0.2	0.0	0.0	0.0	-	-	-	..	-15.7	-
Coal transformation ⁴	-	-	-	-	-	-	-	..	-	-
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-	-	-	-	-	-	-	..	-	-
<i>Coke ovens</i>	-	-	-	-	-	-	-	..	-	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-0.0	-0.0	-	-	-	-	-	..	-	-
Losses	-0.0	-0.0	-0.0	-0.0	-	-	-	..	-	-
Final consumption ⁶	0.6	0.5	0.5	0.2	0.2	0.2	0.2	..	-1.0	-4.2
Industry ⁷	0.2	0.3	0.4	0.2	0.2	0.2	0.2	..	6.0	-3.9
<i>Iron and steel</i>	0.0	-	-	0.0	0.0	0.0	0.0	..	-	-
<i>Chemical</i>	0.0	0.0	0.0	-	-	-	-	..	-	-
<i>Non-metallic minerals</i>	0.0	0.2	0.4	0.1	0.2	0.2	0.1	..	19.2	-3.8
<i>Paper, pulp and print</i>	0.0	0.0	0.0	-	-	-	-	..	-	-
<i>Other industry</i> ⁸	0.1	0.1	0.0	0.0	0.0	0.0	0.0	..	-6.9	-
Transport ⁹	-	-	-	-	-	-	-	..	-	-
Other	0.4	0.1	0.1	0.0	0.0	0.0	0.0	..	-10.9	-8.0
<i>Comm. and pub. services</i>	-	-	0.0	-	-	-	-	..	-	-
<i>Residential</i>	0.4	0.1	0.0	0.0	0.0	0.0	0.0	..	-17.0	-
<i>Other sectors</i> ¹⁰	-	-	0.0	0.0	-	-	-	..	-	-
Non-energy use	-	0.0	0.0	-	-	-	-	..	-	-
Electricity gen. - TWh	-	0.1	0.0	-	-	-	-	-	-	-

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD World Energy Balances

SWITZERLAND

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	0.15	0.49	0.18	0.23	0.22	0.21	0.18	10.50	-3.79
Total electricity and heat	0.01	0.02	-	-	-	-	-	12.70	-
<i>Main activity producers</i>	0.00	0.02	-	-	-	-	-	26.63	-
<i>Autoproducers</i>	0.00	0.00	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.10	0.45	0.17	0.21	0.22	0.20	0.17	13.51	-3.63
<i>Iron and steel</i>	-	-	0.02	0.01	0.02	0.02	0.01	-	-
<i>Chemical</i>	0.01	0.01	-	-	-	-	-	-6.82	-
<i>Non-metallic minerals</i>	0.05	0.40	0.14	0.20	0.20	0.18	0.16	19.28	-3.44
<i>Paper, pulp and print</i>	0.02	0.04	-	-	-	-	-	6.70	-
<i>Other industry</i>	0.02	0.01	0.01	0.00	0.00	0.00	0.00	-4.17	-9.11
Other sectors ⁴	0.03	0.02	0.01	0.02	0.01	0.01	0.01	-4.62	-2.86
Non-energy use	0.02	0.00	-	-	-	-	-	-12.55	-
Steam coal	0.15	0.48	0.17	0.17	0.09	0.08	0.05	10.26	-8.27
Total electricity and heat	0.01	0.02	-	-	-	-	-	12.70	-
<i>Main activity producers</i>	0.00	0.02	-	-	-	-	-	26.63	-
<i>Autoproducers</i>	0.00	0.00	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.10	0.45	0.17	0.15	0.09	0.07	0.04	13.51	-8.66
<i>Iron and steel</i>	-	-	0.02	0.01	0.02	0.02	0.01	-	-
<i>Chemical</i>	0.01	0.01	-	-	-	-	-	-6.82	-
<i>Non-metallic minerals</i>	0.05	0.40	0.14	0.14	0.07	0.05	0.03	19.28	-9.46
<i>Paper, pulp and print</i>	0.02	0.04	-	-	-	-	-	6.70	-
<i>Other industry</i>	0.02	0.01	0.01	0.00	0.00	0.00	0.00	-4.17	-9.11
Other sectors ⁴	0.03	0.00	0.01	0.02	0.01	0.01	0.01	-15.46	2.70
Non-energy use	0.02	0.00	-	-	-	-	-	-12.55	-
Coking coal	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

SWITZERLAND

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	-	0.01	0.01	0.06	0.13	0.13	0.13	-	9.26
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	0.06	0.13	0.13	0.13	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	0.06	0.13	0.13	0.13	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	0.01	0.01	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

SWITZERLAND

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	-	-	-	-	-	-	-	-	-
Steam coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹ (Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	0.29	0.50	0.27	0.14	0.18	0.16	0.19	0.16	0.16
Bituminous coal ³	0.13	0.46	0.24	0.09	0.11	0.03	0.07	0.04	0.05
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	0.01	0.00	0.03	0.05	0.11	0.11	0.11	0.10
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.15	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01
Total exports	-	0.01	-	-	-	-	-	-	-
Bituminous coal ³	-	0.01	-	-	-	-	-	-	-
Coking coal	-	-	-	-	-	-	-	-	-
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	-	0.00	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

SWITZERLAND

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	141	490	256	139	196	173	208	180	175
Coking coal	-	-	-	-	-	-	-	-	-
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Steam coal	141	482	250	100	130	39	76	47	52
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	14	-	-	-	-	-	-	-	-
Germany	79	55	12	4	5	7	4	4	2
Poland	8	1	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	17	6	2	2	16	1	1	14	3
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	23	420	234	91	107	29	64	21	37
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	2	3	2	-	2	3	4
<i>Other FSU</i>	x	x	-	-	-	1	3	4	4
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	1	1	1	1
Non-specified/other	-	-	-	-	-	-	1	-	1
Lignite	-	8	6	39	66	134	132	133	123

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

TURKEY¹

Figure 1: Coal supply indicators (1971 = 100)

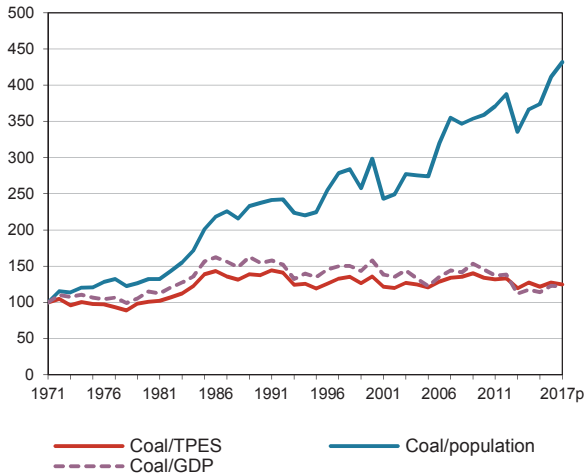


Figure 2: TPES by fuel (Mtce)

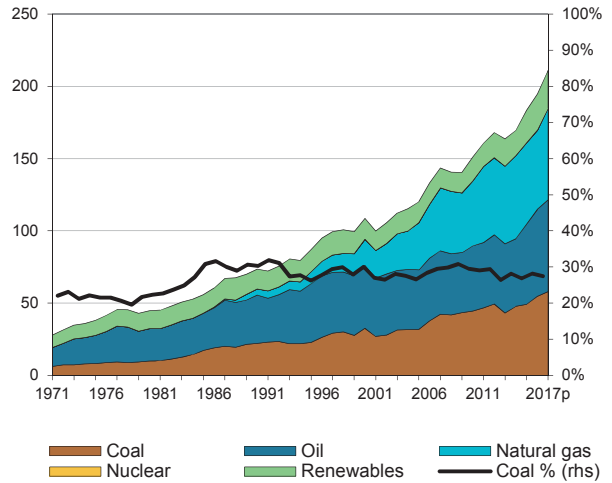


Figure 3: Primary coal supply (Mtce)

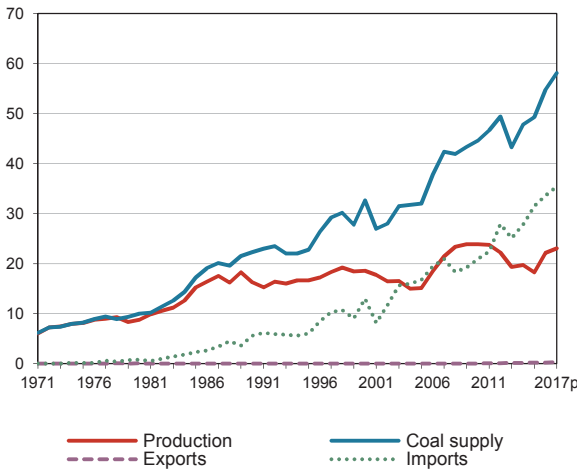


Figure 4: Coal consumption (Mtce)

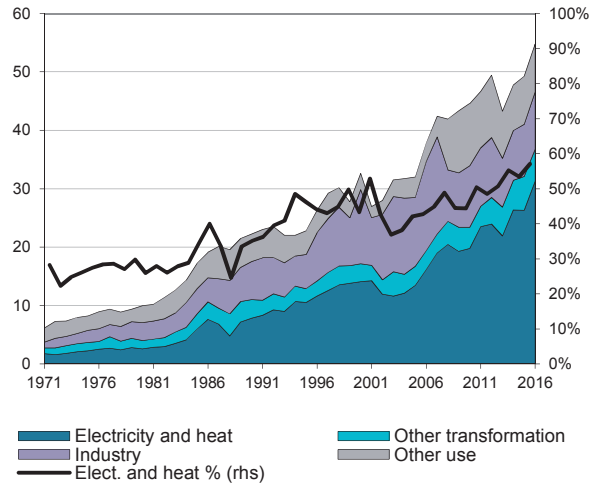


Figure 5: Electricity generation by fuel (TWh)

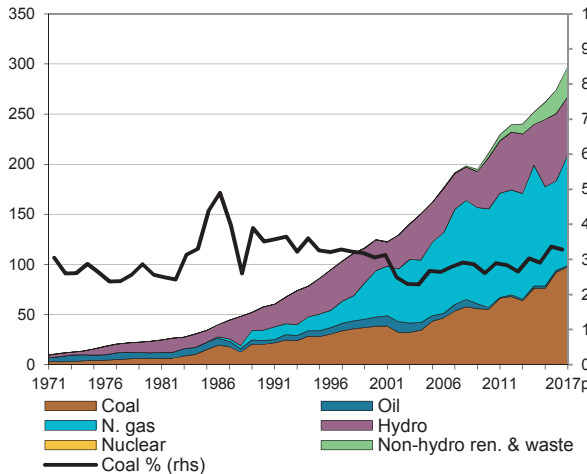
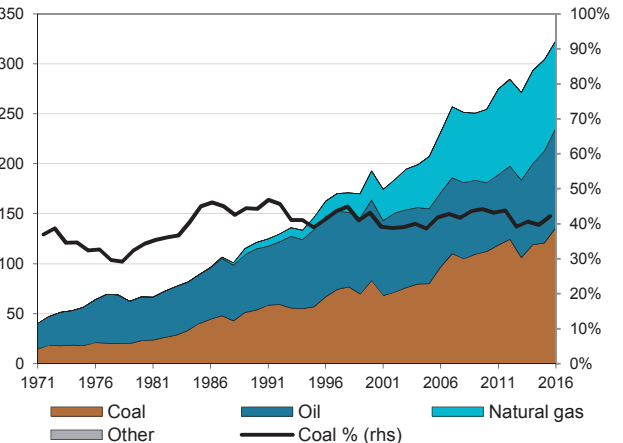


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

TURKEY

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	7.4	8.8	16.3	18.6	23.9	18.3	22.1	23.1	4.7	1.2
Imports	0.0	0.8	5.6	13.0	20.9	31.5	33.6	35.4	41.7	7.1
Exports	-	-0.1	-0.0	-0.1	-0.0	-0.2	-0.2	-0.3	-	8.6
Stock changes	-0.1	0.4	0.4	1.1	-0.3	-0.2	-0.8	-0.1		
Primary supply	7.4	10.0	22.3	32.6	44.6	49.3	54.8	58.1	6.7	3.5
Statistical differences	-	-0.3	-0.0	-0.1	-0.1	-0.6	-0.6	..		
Total transformation	-2.9 e	-3.4 e	-10.4 e	-16.6 e	-22.4 e	-30.1 e	-34.7 e	..	7.9	4.7
Electricity and heat gen.	-1.8	-2.6	-7.8	-14.1	-19.8	-26.3	-31.2	..	9.0	5.5
<i>Main activity producers</i> ³	-1.8	-2.2	-7.2	-13.4	-18.2	-23.4	-28.3	..	8.4	5.4
<i>Autoproducers</i>	-	-0.4	-0.7	-0.7	-1.6	-3.0	-2.9	..	-	5.9
Gas works	-0.1	-0.0	-0.0	-	-	-	-	..	-8.7	-
Coal transformation ⁴	-0.9 e	-0.7 e	-2.6 e	-2.5 e	-2.6 e	-3.8 e	-3.5 e	..	6.1	1.1
<i>BKB plants</i>	0.0	0.0	0.0	0.0	-	-	-	..	-	-
<i>Blast furnaces</i>	-0.6 e	-0.9 e	-1.6 e	-1.8 e	-2.0 e	-2.9 e	-2.7 e	..	6.3	1.9
<i>Coke ovens</i>	-0.4	0.1	-1.0	-0.7	-0.6	-0.9	-0.8	..	5.7	-0.8
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-0.2	-0.3	-0.6	-0.5	-0.9	-1.4	-1.4	..	5.7	3.6
Losses	-0.0	-0.0	-0.0	-0.0	-	-	-	..		
Final consumption ⁶	4.2	6.0	11.2	15.5	21.2	17.2	18.0	..	5.9	1.8
Industry ⁷	1.6	3.1	6.5	12.7	10.5	8.9	9.8	..	8.5	1.6
<i>Iron and steel</i>	0.4 e	0.9 e	1.1 e	1.4 e	2.4 e	1.5 e	2.0 e	..	7.0	2.1
<i>Chemical</i>	0.3	0.2	0.4	0.1	0.6	0.9	0.8	..	2.1	2.8
<i>Non-metallic minerals</i>	-	-	1.8	1.8	4.6	4.0	4.3	..	-	3.4
<i>Paper, pulp and print</i>	-	-	-	0.0	0.1	0.2	0.3	..	-	-
<i>Other industry</i> ⁸	1.0	2.0	3.2	9.4	2.9	2.4	2.5	..	7.1	-0.9
Transport ⁹	0.7	0.3	0.0	0.0	-	-	-	..	-18.7	-
Other	1.9	2.6	4.7	2.8	10.7	8.2	8.2	..	5.6	2.2
<i>Comm. and pub. services</i>	0.0	0.0	0.4	0.3	5.8	5.4	5.3	..	29.3	10.8
<i>Residential</i>	1.9	2.6	4.3	2.5	4.8	2.8	2.9	..	5.1	-1.5
<i>Other sectors</i> ¹⁰	-	-	-	-	-	-	-	..	-	-
Non-energy use	-	-	-	-	-	-	-	..	-	-
Electricity gen. - TWh	3.2	6.0	20.2	38.2	55.0	76.2	92.3	97.5	11.4	6.0

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.

3. Main activity electricity and heat generation includes district heating.

4. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

5. Other transformation includes Liquefaction and Non-specified transformations.

6. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

7. Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.

8. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

9. Transport includes Rail and Inland waterways.

10. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

TURKEY

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	17.86	54.37	79.93	94.81	96.88	92.51	106.53	9.72	2.62
Total electricity and heat	5.49	30.36	54.48	62.79	70.98	65.18	78.27	15.31	3.71
<i>Main activity producers</i>	5.30	30.08	53.94	61.77	68.33	62.67	75.76	15.57	3.62
<i>Autoproducers</i>	0.19	0.28	0.54	1.02	2.65	2.51	2.51	3.17	8.77
Patent fuel/BKB plants	0.02	0.04	0.00	-	-	-	-	6.74	-
Coke ovens/Liquefaction ³	2.49	4.72	4.19	5.32	5.72	6.04	5.68	5.49	0.71
Blast furnace inputs	-	-	-	0.46 e	0.61 e	0.67 e	0.62 e	-	-
Gas manufacture	0.29	0.10	-	-	-	-	-	-8.83	-
Industry	3.97	9.99	15.55	12.33	9.64	10.18	10.78	8.00	0.29
<i>Iron and steel</i>	0.00	-	0.09	0.59 e	0.45 e	0.43 e	0.64 e	-	-
<i>Chemical</i>	0.73	0.93	0.25	0.95	0.99	1.21	1.09	2.10	0.58
<i>Non-metallic minerals</i>	-	2.98	2.53	6.13	4.98	4.71	4.88	-	1.92
<i>Paper, pulp and print</i>	-	-	0.02	0.07	0.23	0.27	0.38	-	-
<i>Other industry</i>	3.24	6.07	12.66	4.59 e	2.99 e	3.57 e	3.79 e	5.38	-1.79
Other sectors ⁴	5.10	8.76	5.52	13.74	9.34	9.88	10.03	4.61	0.52
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	1.21	3.22	8.50	18.96	25.92	29.20	32.29	8.53	9.27
Total electricity and heat	0.68	0.37	1.66	6.81	13.86	15.81	18.68	-5.01	16.29
<i>Main activity producers</i>	0.68	0.37	1.66	6.81	12.34	14.36	17.20	-5.01	15.92
<i>Autoproducers</i>	-	-	-	-	1.51	1.45	1.48	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	0.09	0.06	-	-	-	-	-	-3.28	-
Blast furnace inputs	-	-	-	0.46 e	0.61 e	0.67 e	0.62 e	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	0.29	1.27	6.16	4.08	4.64	5.30	5.81	13.24	6.03
<i>Iron and steel</i>	-	-	-	0.43 e	0.45 e	0.43 e	0.64 e	-	-
<i>Chemical</i>	-	-	0.06	0.20	0.38	0.59	0.55	-	-
<i>Non-metallic minerals</i>	-	1.00	1.25	3.17	3.07	3.61	4.02	-	5.50
<i>Paper, pulp and print</i>	-	-	-	0.05	0.04	0.04	0.19	-	-
<i>Other industry</i>	0.29	0.27	4.86	0.23 e	0.69 e	0.63 e	0.41 e	-0.51	1.69
Other sectors ⁴	0.10	1.38	0.63	7.58	6.44	6.98	6.71	24.25	6.27
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	3.43	5.26	7.05	6.61	6.31	6.65	6.30	3.63	0.69
Total electricity and heat	0.36	0.11	0.28	0.54	0.52	0.59	0.61	-9.80	6.99
<i>Main activity producers</i>	0.31	0.08	-	-	-	-	-	-11.22	-
<i>Autoproducers</i>	0.05	0.03	0.28	0.54	0.52	0.59	0.61	-4.01	12.27
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	2.39	4.66	4.19	5.32	5.72	6.04	5.68	5.71	0.76
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	0.29	0.10	-	-	-	-	-	-8.83	-
Industry	0.05	0.25	2.47	0.55	0.01	-	-	14.47	-
<i>Iron and steel</i>	-	-	0.09	0.15	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	0.05	0.25	2.38	0.40	0.01	-	-	14.47	-
Other sectors ⁴	0.11	0.13	0.10	0.18	-	-	-	1.19	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

TURKEY

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	13.23	45.89	64.38	69.24	64.66	56.66	67.95	10.92	1.52
Total electricity and heat	4.45	29.88	52.54	55.44	56.60	48.78	58.98	17.21	2.65
<i>Main activity producers</i>	4.30	29.63	52.29	54.96	55.99	48.31	58.56	17.45	2.65
<i>Autoproducers</i>	0.15	0.25	0.26	0.48	0.61	0.47	0.42	4.71	1.97
Patent fuel/BKB plants	0.02	0.04	0.00	-	-	-	-	6.74	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	3.63	8.47	6.92	7.70	5.00	4.88	4.97	7.31	-2.03
<i>Iron and steel</i>	0.00	-	-	-	-	-	-	-	-
<i>Chemical</i>	0.73	0.93	0.19	0.75	0.61	0.61	0.54	2.10	-2.08
<i>Non-metallic minerals</i>	-	1.98	1.28	2.96	1.91	1.11	0.86	-	-3.18
<i>Paper, pulp and print</i>	-	-	0.02	0.02	0.19	0.23	0.19	-	-
<i>Other industry</i>	2.90	5.56	5.42	3.97	2.29	2.93	3.38	5.56	-1.89
Other sectors ³	4.88	7.25	4.79	5.98	2.90	2.89	3.32	3.34	-2.95
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

TURKEY

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	2.58	1.95	0.68	0.56	0.97	0.62	0.60	-2.30	-4.34
Steam coal	1.16	0.88	1.15	1.68	2.03	1.50	1.36	-2.23	2.06
Lignite	5.55	13.43	16.78	12.87	20.91	20.02	21.12	7.64	1.55
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	2.96	1.82	0.74	0.65	1.09	0.70	0.68	-3.97	-3.64
Steam coal	1.33	1.20	1.68	2.41	2.61	2.07	1.87	-0.88	2.13
Lignite	15.12	44.41	60.85	55.28	69.70	70.24	74.10	9.39	1.78
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	0.41	5.62	13.02	16.74	20.93	27.81	31.47	33.62	35.40
Bituminous coal ³	-	1.63	6.02	11.10	15.44	21.77	24.84	27.11	29.39
Coking coal	0.41	3.98	6.27	5.23	5.33	5.71	6.10	5.97	5.43
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	0.01	0.00	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	-	-	0.72	0.41	0.16	0.34	0.53	0.54	0.58
Total exports	0.09	0.03	0.06	-	0.01	0.19	0.24	0.22	0.26
Bituminous coal ³	-	-	-	-	-	0.06	0.13	0.05	0.08
Coking coal	-	-	-	-	-	-	-	0.00	0.01
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	0.09	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	-	0.03	0.06	-	0.01	0.13	0.11	0.17	0.17

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

TURKEY

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	475	5572	13001	17360	22083	29816	33979	36216	38252
Coking coal	475	3717	6202	4943	5135	5466	5931	5794	5274
Australia	-	1318	2793	882	1376	517	2544	2282	1087
Canada	-	51	847	1175	865	492	504	1344	486
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	70	-	-	-	-	-	-	-	-
Poland	-	-	100	187	78	-	-	-	-
United Kingdom	-	-	-	6	-	-	-	-	-
United States	405	2011	2150	1810	2518	4098	1777	1032	1835
Other OECD	-	-	-	-	-	-	-	61	-
China, People's Rep.	-	-	-	101	-	-	-	-	-
Colombia	-	-	-	-	-	96	238	265	392
Indonesia	-	-	-	-	-	-	242	56	160
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	337	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	259	574	14	185	626	650	1162
<i>Other FSU</i>	x	x	-	208	55	-	-	104	53
Venezuela	-	-	-	-	90	-	-	-	-
Viet Nam	-	-	53	-	-	-	-	-	-
Non-specified/other	-	-	-	-	139	78	-	-	99
Steam coal	-	1840	6788	12417	16948	24350	28048	30422	32978
Australia	-	-	-	24	-	114	249	-	-
Canada	-	-	-	-	89	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	3	-	-	-
Poland	-	-	-	-	292	67	112	196	73
United Kingdom	-	-	69	1	84	-	-	-	-
United States	-	58	-	-	-	227	235	184	76
Other OECD	-	-	36	-	35	17	44	358	72
China, People's Rep.	-	-	-	1517	215	-	11	-	-
Colombia	-	-	-	2456	2841	9279	11017	15182	16945
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	1252	1440	1448	1812	3985	4976	2317	2219
Former Soviet Union ⁴	-	530	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	5023	6198	9844	8460	10599	11779	13228
<i>Other FSU</i>	x	x	174	611	1340	1987	196	50	142
Venezuela	-	-	-	11	234	-	27	-	-
Viet Nam	-	-	-	-	-	-	33	-	-
Non-specified/other	-	-	46	151	162	109	365	229	101
Lignite	-	15	11	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

UNITED KINGDOM¹

Figure 1: Coal supply indicators (1971 = 100)

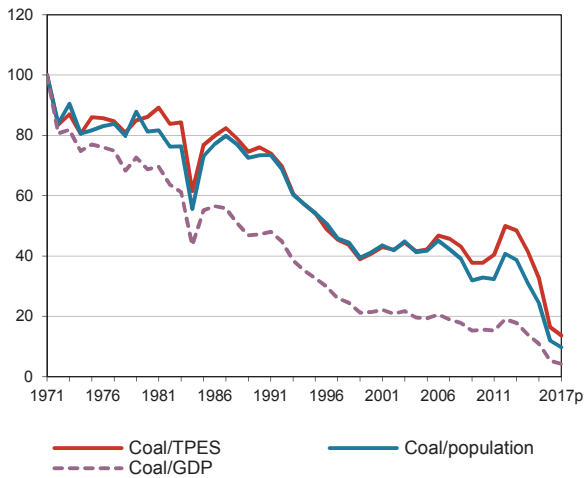


Figure 2: TPES by fuel (Mtce)

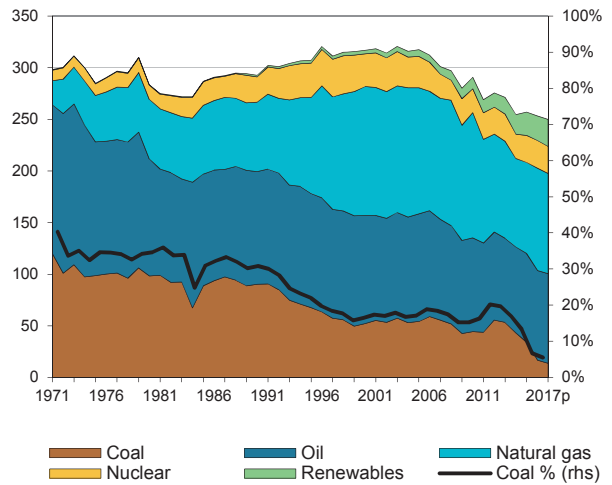


Figure 3: Primary coal supply (Mtce)

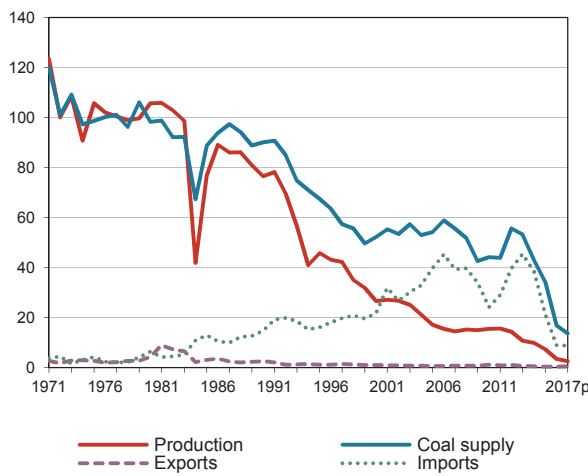


Figure 4: Coal consumption (Mtce)

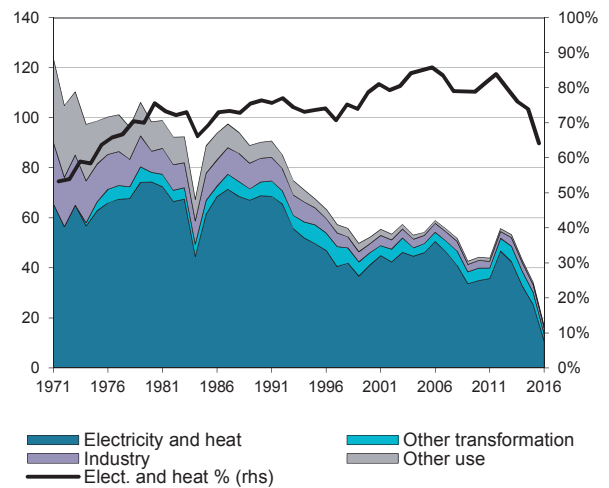


Figure 5: Electricity generation by fuel (TWh)

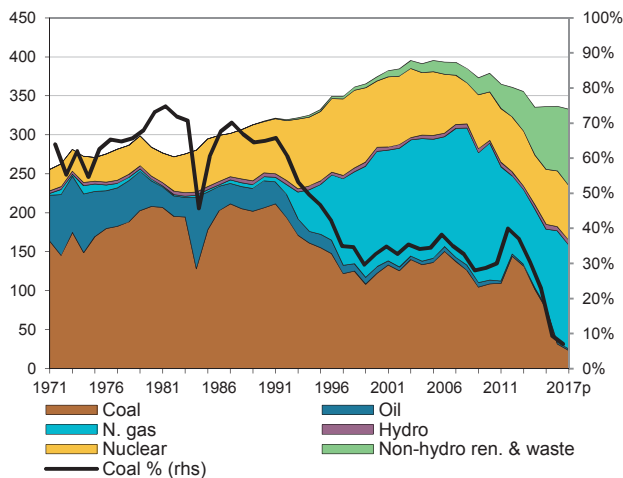
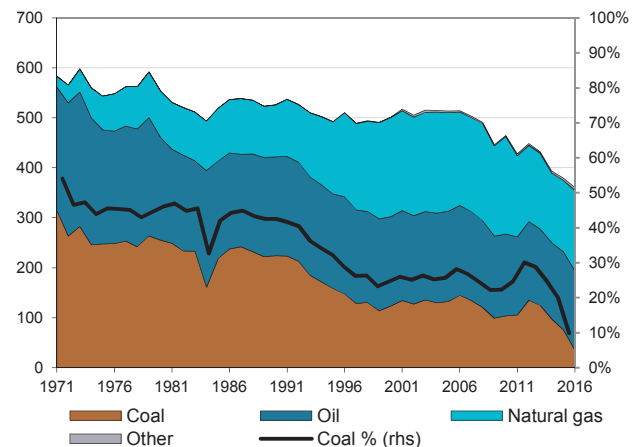


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

UNITED KINGDOM

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017p ²	Average annual percent change	
									73-90	90-16
Production	108.4	105.7	76.6	26.7	15.5	7.3	3.6	2.6	-2.0	-11.1
Imports	1.6	6.4	14.8	21.8	24.2	21.4	9.1	8.8	14.0	-1.9
Exports	-2.8	-4.4	-2.6	-1.1	-1.3	-0.5	-0.5	-0.5	-0.6	-6.3
Stock changes	2.0	-9.4	1.4	4.9	5.8	6.0	4.8	2.9		
Primary supply	109.2	98.3	90.2	52.2	44.2	34.2	16.9	13.8	-1.1	-6.2
Statistical differences	3.3	0.1	-0.9	0.0	-1.5	-0.9	-0.2	..		
Total transformation	-62.1 e	-76.3 e	-72.3 e	-44.3 e	-37.2 e	-27.9 e	-12.7 e	..	0.9	-6.5
Electricity and heat gen.	-65.0	-74.3	-68.8	-41.1	-34.9	-25.2	-10.9	..	0.3	-6.9
<i>Main activity producers</i> ³	-65.0	-72.0	-66.9	-37.7	-32.5	-23.9	-9.8	..	0.2	-7.1
<i>Autoproducers</i>	-	-2.3	-1.9	-3.3	-2.4	-1.4	-1.0	..	-	-2.3
Gas works	8.4	0.3	0.0	-	-	-	-	..	-37.0	-
Coal transformation ⁴	-5.5 e	-2.4 e	-3.5 e	-3.2 e	-2.4 e	-2.7 e	-1.9 e	..	-2.7	-2.3
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-2.3 e	-0.9 e	-2.6 e	-3.0 e	-2.1 e	-2.6 e	-1.9 e	..	0.9	-1.3
<i>Coke ovens</i>	-3.2	-1.4	-0.7	-0.3	-0.4	-0.1	-0.1	..	-8.8	-8.7
<i>Patent fuel plants</i>	-0.0	-0.0	-0.2	0.1	0.1	-0.0	0.0	..	9.7	-
Other transformation ⁵	-	-	-	0.0	0.0	0.0	0.0	..	-	-
Energy ind. own use	-3.2	-1.9	-1.1	-1.5	-0.9	-1.0	-0.6	..	-6.1	-2.5
Losses	-1.8	-0.0	-0.0	-0.2	-0.2	-0.3	-0.1	..		
Final consumption ⁶	45.3	20.2	15.9	6.2	4.3	4.0	3.3	..	-6.0	-5.9
Industry ⁷	20.1	8.5	9.5	3.6	3.0	3.1	2.4	..	-4.3	-5.2
<i>Iron and steel</i>	9.0 e	3.6 e	4.3 e	1.5 e	1.2 e	1.2 e	1.0 e	..	-4.3	-5.6
<i>Chemical</i>	0.3	0.2	0.9	0.0	0.1	0.1	0.1	..	6.2	-10.0
<i>Non-metallic minerals</i>	3.5	2.5	1.4	1.1	1.0	0.9	0.7	..	-5.4	-2.3
<i>Paper, pulp and print</i>	1.2	0.1	0.6	0.1	0.1	0.1	0.1	..	-4.5	-5.9
<i>Other industry</i> ⁸	6.0	2.0	2.4	0.9	0.6	0.7	0.5	..	-5.2	-5.7
Transport ⁹	0.1	0.1	0.0	-	0.0	0.0	0.0	..	-18.3	-
Other	25.2	11.6	6.3	2.3	1.1	0.8	0.8	..	-7.8	-7.6
<i>Comm. and pub. services</i>	4.2	1.9	1.3	0.1	0.0	0.0	0.0	..	-6.6	-14.0
<i>Residential</i>	20.9	9.7	5.0	2.2	1.0	0.8	0.8	..	-8.0	-6.9
<i>Other sectors</i> ¹⁰	0.1	0.0	0.0	0.0	0.0	0.0	0.0	..	-8.2	-
Non-energy use	-	-	-	0.3	0.2	0.1	0.1	..	-	-
Electricity gen. - TWh	174.6	207.9	206.4	122.3	108.7	77.0	31.5	23.2	1.0	-7.0

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.

3. Main activity electricity and heat generation includes district heating.

4. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

5. Other transformation includes Liquefaction and Non-specified transformations.

6. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

7. Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.

8. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

9. Transport includes Rail and Inland waterways.

10. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

UNITED KINGDOM

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	120.67	106.72	59.84	51.38	48.32	37.59	17.88	-1.02	-6.64
Total electricity and heat	83.21	84.01	46.85	41.98	38.51	29.54	12.27	0.08	-7.13
<i>Main activity producers</i>	80.64	82.56	44.76	40.23	38.22	29.31	12.04	0.20	-7.14
<i>Autoproducers</i>	2.57	1.46	2.09	1.75	0.29	0.23	0.23	-4.59	-6.83
Patent fuel/BKB plants	1.19	0.78	0.54	0.23	0.26	0.23	0.22	-3.51	-4.69
Coke ovens/Liquefaction ³	16.76	10.09	8.23	5.40	4.98	3.67	1.82	-4.15	-6.37
Blast furnace inputs	-	0.62 e	0.43 e	0.85 e	1.37 e	1.37 e	1.18 e	-	2.52
Gas manufacture	0.01	-	-	-	-	-	-	-	-
Industry	6.19	5.40	1.90	2.08	2.58	2.22	1.80	-1.13	-4.14
<i>Iron and steel</i>	0.11	0.16 e	0.03 e	0.19 e	0.19 e	0.22 e	0.22 e	3.38	1.21
<i>Chemical</i>	0.03	1.04	0.03	0.08	0.11	0.07	0.07	35.13	-10.00
<i>Non-metallic minerals</i>	3.09	1.50	1.24	1.06	1.24	1.05	0.81	-5.84	-2.33
<i>Paper, pulp and print</i>	0.32	0.63	0.12	0.12	0.17	0.13	0.13	5.93	-5.88
<i>Other industry</i>	2.65	2.07 e	0.48 e	0.63 e	0.88 e	0.74 e	0.57 e	-2.04	-4.83
Other sectors ⁴	12.19	5.45	1.97	0.76	0.59	0.57	0.58	-6.50	-8.24
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	105.68	96.21	51.02	45.01	42.15	32.53	15.11	-0.78	-6.87
Total electricity and heat	83.21	84.01	46.85	41.98	38.51	29.54	12.27	0.08	-7.13
<i>Main activity producers</i>	80.64	82.56	44.76	40.23	38.22	29.31	12.04	0.20	-7.14
<i>Autoproducers</i>	2.57	1.46	2.09	1.75	0.29	0.23	0.23	-4.59	-6.83
Patent fuel/BKB plants	1.19	0.78	0.54	0.23	0.26	0.23	0.22	-3.51	-4.69
Coke ovens/Liquefaction ³	1.85	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	0.01	-	-	-	-	-	-	-	-
Industry	6.19	5.25	1.88	1.96	2.44	2.04	1.62	-1.36	-4.43
<i>Iron and steel</i>	0.11	0.01	0.00	0.06	0.05	0.04	0.04	-16.73	4.20
<i>Chemical</i>	0.03	1.04	0.03	0.08	0.11	0.07	0.07	35.13	-10.00
<i>Non-metallic minerals</i>	3.09	1.50	1.24	1.06	1.24	1.05	0.81	-5.84	-2.33
<i>Paper, pulp and print</i>	0.32	0.63	0.12	0.12	0.17	0.13	0.13	5.93	-5.88
<i>Other industry</i>	2.65	2.07	0.48	0.63	0.88	0.74	0.57	-2.04	-4.83
Other sectors ⁴	12.19	5.45	1.97	0.76	0.59	0.57	0.58	-6.50	-8.24
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	14.99	10.52	8.82	6.37	6.17	5.07	2.78	-2.91	-5.00
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	14.91	10.09	8.23	5.40	4.98	3.67	1.82	-3.21	-6.37
Blast furnace inputs	-	0.62 e	0.43 e	0.85 e	1.37 e	1.37 e	1.18 e	-	2.52
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	0.15	0.03	0.12	0.14	0.18	0.19	-	0.84
<i>Iron and steel</i>	-	0.15 e	0.03 e	0.12 e	0.14 e	0.18 e	0.19 e	-	0.84
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

UNITED KINGDOM

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	14.68	1.60	0.26	0.29	0.28	0.06	0.04	-16.87	-12.12
Steam coal	84.26	74.99	26.40	16.95	15.20	3.52	2.56	-0.97	-11.10
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	15.11	1.60	0.26	0.27	0.27	0.05	0.04	-17.06	-12.28
Steam coal	108.47	91.16	30.94	20.22	18.08	4.13	3.00	-1.44	-11.22
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	2.18	14.78	21.78	39.66	24.18	38.39	21.35	9.07	8.80
Bituminous coal ³	0.75	5.54	12.94	32.27	17.15	30.89	15.30	4.93	5.01
Coking coal	1.34	8.84	8.34	6.45	6.91	6.55	4.90	2.87	2.78
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.08	0.40	0.51	0.93	0.12	0.95	1.15	1.27	1.01
Total exports	2.75	2.59	1.13	0.71	1.25	0.55	0.51	0.47	0.52
Bituminous coal ³	1.69	2.12	0.66	0.57	0.73	0.43	0.39	0.45	0.50
Coking coal	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub-bituminous coal	-	-	-	-	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.97	0.42	0.47	0.14	0.52	0.11	0.11	0.02	0.02

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

UNITED KINGDOM

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	2352	14783	23446	43968	26541	42225	22519	8494	8495
Coking coal	1383	8614	8462	6551	6635	6344	4751	2781	2692
Australia	380	2966	4880	3468	3437	1249	910	778	749
Canada	-	961	1633	1092	458	434	334	-	36
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	207	2	-	-	-	-	-	-	-
Poland	375	794	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	421	3791	1936	1284	2276	3019	2075	1044	899
Other OECD	-	7	2	-	1	32	33	42	29
China, People's Rep.	-	-	-	-	-	-	-	-	64
Colombia	-	-	-	-	70	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	93	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	11	707	376	1396	1291	730	915
<i>Other FSU</i>	x	x	-	-	17	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	214	108	187	-
Steam coal	969	6169	14984	37417	19906	35881	17768	5713	5803
Australia	645	67	1222	828	12	-	-	-	-
Canada	-	24	-	-	-	-	-	-	-
Czech Republic	-	2	-	-	3	-	-	-	-
Germany	53	248	-	17	31	38	34	49	26
Poland	41	250	1107	630	563	212	208	85	28
United Kingdom	-	-	-	-	-	-	-	-	-
United States	1	1641	837	266	2347	8164	2943	376	1453
Other OECD	73	1868	204	396	443	633	338	262	251
China, People's Rep.	-	69	143	130	17	107	23	11	10
Colombia	-	956	5649	3369	6247	9700	6553	2667	731
Indonesia	-	-	9	1682	271	-	-	-	-
South Africa	26	356	4756	12911	763	151	267	98	50
Former Soviet Union ⁴	106	499	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	480	16964	9209	16474	7090	1563	2969
<i>Other FSU</i>	x	x	-	-	-	387	173	589	103
Venezuela	-	169	208	-	-	-	130	-	141
Viet Nam	-	-	123	-	-	-	-	-	-
Non-specified/other	24	20	246	224	-	15	9	13	41
Lignite	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

UNITED KINGDOM

7. Steam coal exports by destination¹

(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	2176	2258	656	533	714	424	384	443	493
Total OECD	2174	1960	651	525	682	381	372	393	453
Australia	-	1	-	-	-	-	-	-	-
Austria	-	-	-	-	-	-	-	-	-
Belgium	113	67	-	83	166	32	49	40	65
Canada	-	-	-	1	1	1	2	2	1
Chile	-	-	-	-	-	-	2	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	125	366	12	4	4	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	6	204	-	-	5	7	-	27	11
France	950	271	77	32	5	9	21	14	31
Germany	446	214	13	1	9	1	-	7	3
Greece	-	-	-	-	-	17	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Iceland	-	18	-	2	-	-	-	-	-
Ireland	202	246	265	310	372	245	222	234	210
Israel	-	-	-	-	-	-	-	-	-
Italy	53	-	1	-	-	-	27	-	-
Japan	-	-	-	-	-	-	-	-	-
Korea	-	-	-	-	-	-	-	-	-
Latvia	x	-	-	-	-	-	-	-	-
Luxembourg	-	-	71	-	-	-	-	-	-
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	168	25	15	3	5	2	5	8	4
New Zealand	-	-	-	-	-	-	-	-	-
Norway	79	145	158	84	80	39	23	46	53
Poland	-	-	-	-	-	6	-	-	7
Portugal	3	178	-	-	-	-	-	-	-
Slovak Republic	-	-	-	-	-	-	-	-	-
Slovenia	x	-	-	-	-	-	-	-	-
Spain	3	138	31	-	10	22	21	15	68
Sweden	26	87	8	5	25	-	-	-	-
Switzerland	-	-	-	-	-	-	-	-	-
Turkey	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Total non-OECD	2	289	4	6	11	6	8	47	39
Brazil	-	5	-	-	-	-	-	-	-
China ³	-	-	2	-	-	-	-	-	-
Chinese Taipei	-	-	-	-	-	-	-	-	-
Egypt	-	1	1	1	1	-	-	-	-
India	-	1	-	1	2	3	2	3	2
Romania	-	-	-	-	-	-	-	-	-
Oth. Africa & Mid. East	2	282	-	-	1	-	4	4	2
Oth. non-OECD Americas	-	-	-	-	-	-	-	-	-
Other Asia & Oceania	-	-	1	4	2	3	2	3	4
Other non-OECD Europe and Eurasia	-	-	-	-	5	-	-	37	31
Non-specified/Other	-	9	1	2	21	37	4	3	1

1. Please refer to the explanatory notes and definitions in Part I. Steam coal includes all sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

UNITED STATES¹

Figure 1: Coal supply indicators (1971 = 100)

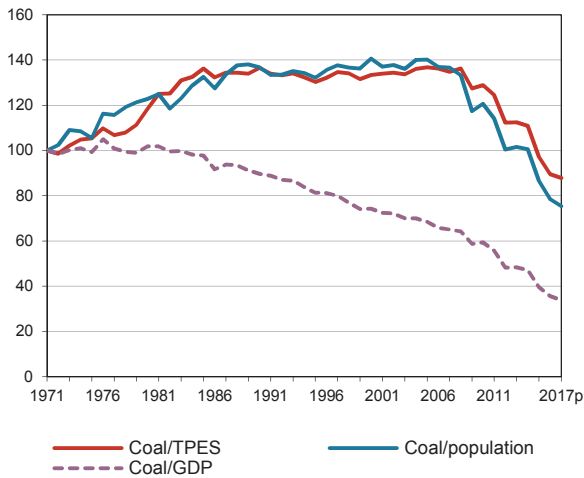


Figure 2: TPES by fuel (Mtce)

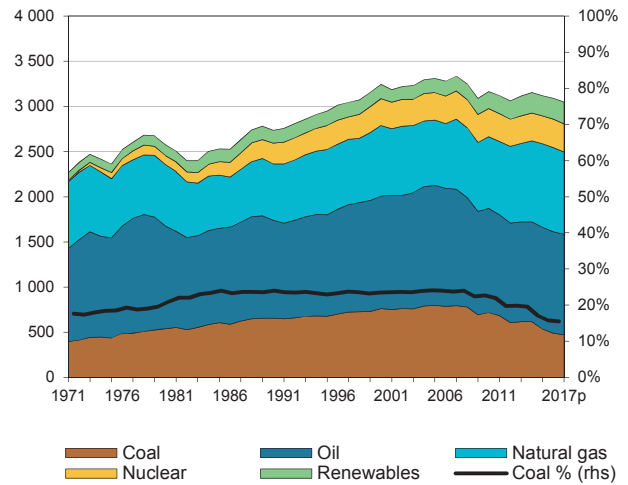


Figure 3: Primary coal supply (Mtce)

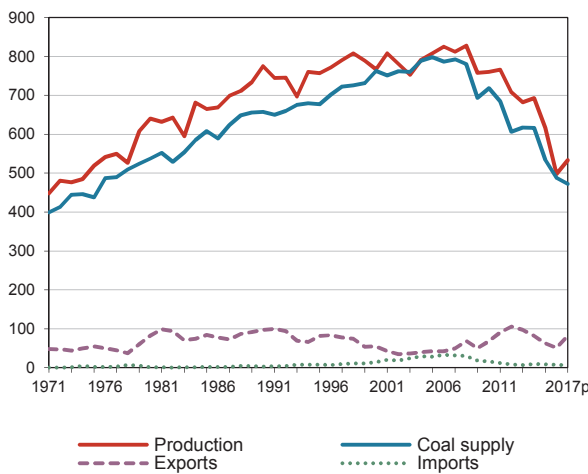


Figure 4: Coal consumption (Mtce)

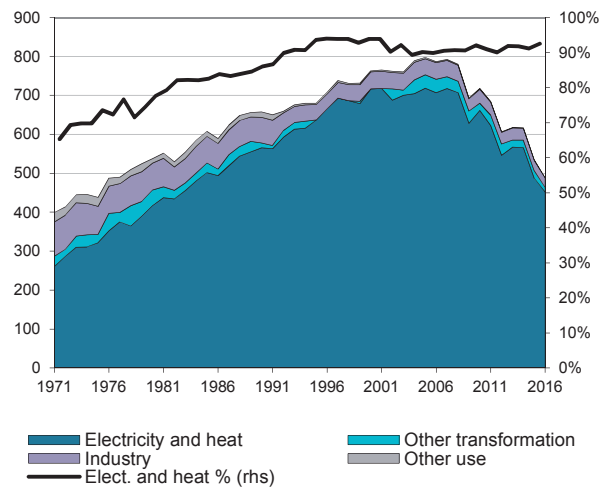


Figure 5: Electricity generation by fuel (TWh)

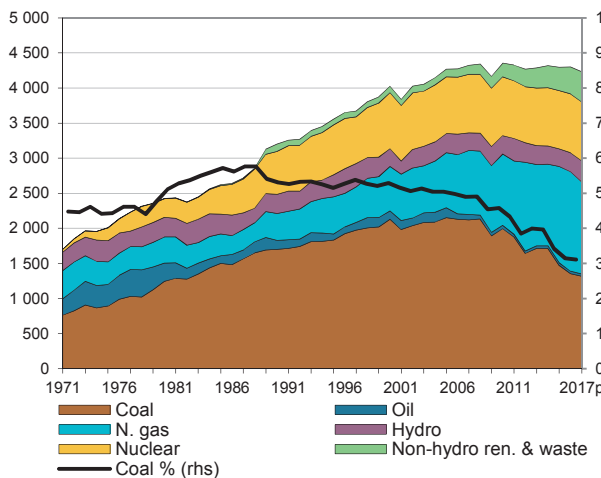
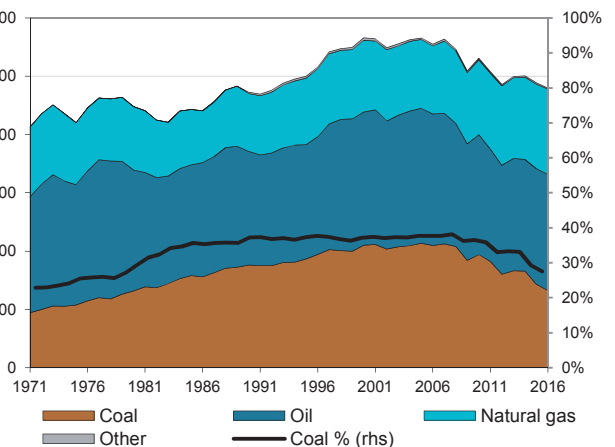


Figure 6: CO₂ emissions by fuel (Mt CO₂)



1. Please refer to notes and definitions in Part I. Peat and oil shale and oil sands are included in coal for all figures.

Sources: IEA/OECD World Energy Balances, IEA/OECD CO₂ Emissions from Fuel Combustion, OECD Main Economic Indicators

UNITED STATES

1. Coal balance¹

(Mtce)

	1973	1980	1990	2000	2010	2015	2016	2017 ^{p2}	Average annual percent change	
									73-90	90-16
Production	476.2	639.9	774.7	766.9	759.8	616.1	497.8	533.1	2.9	-1.7
Imports	1.0	1.5	3.0	14.3	16.3	8.6	7.4	5.8	6.6	3.5
Exports	-44.3	-83.0	-97.1	-54.7	-68.9	-62.8	-51.7	-82.0	4.7	-2.4
Stock changes	11.4	-21.0	-23.3	36.3	10.8	-27.6	34.4	15.2		
Primary supply	444.4	537.5	657.3	762.8	718.0	534.3	488.0	472.0	2.3	-1.1
Statistical differences	18.1	-11.1	9.2	21.2	-4.0	-3.7	2.2	..		
Total transformation	-348.0 e	-442.6	-585.2 e	-735.5 e	-673.4 e	-500.9 e	-463.5 e	..	3.1	-0.9
Electricity and heat gen.	-309.9	-417.2	-565.7 e	-716.6 e	-661.1	-486.8	-451.4	..	3.6	-0.9
<i>Main activity producers</i> ³	-309.9	-417.2	-559.6	-699.7 e	-654.8	-483.0	-448.6	..	3.5	-0.8
<i>Autoproducers</i>	-	-	-6.2 e	-16.8 e	-6.3	-3.9	-2.7	..	-	-3.1
Gas works	0.5	c	-2.6 e	-2.7 e	-2.7	-2.8	-2.8	..	-	0.2
Coal transformation ⁴	-38.7 e	-25.3 e	-16.8 e	-16.2 e	-9.6 e	-11.2 e	-9.4 e	..	-4.8	-2.2
<i>BKB plants</i>	-	-	-	-	-	-	-	..	-	-
<i>Blast furnaces</i>	-25.8 e	-16.2 e	-11.4 e	-10.9 e	-6.0 e	-5.9 e	-5.3 e	..	-4.7	-2.9
<i>Coke ovens</i>	-12.9	-9.1	-5.4	-5.3 e	-3.6	-5.3	-4.1	..	-5.0	-1.1
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	..	-	-
Other transformation ⁵	-	-	-	-	-	-	-	..	-	-
Energy ind. own use	-8.6	-3.6	-1.8	-2.0 e	-2.2	-1.9	-1.6	..	-8.9	-0.3
Losses	-	-	-	-	-	-	-	..		
Final consumption ⁶	105.8	80.2	79.5	46.5	38.4	27.9	25.0	..	-1.7	-4.4
Industry ⁷	86.1	68.9	65.7	43.4	36.2	26.9	24.2	..	-1.6	-3.8
<i>Iron and steel</i>	48.4 e	29.6 e	18.1 e	11.3 e	7.0 e	4.2 e	5.3 e	..	-5.6	-4.6
<i>Chemical</i>	11.9	11.2	12.5 e	9.6 e	6.1	4.6	3.7	..	0.3	-4.5
<i>Non-metallic minerals</i>	5.2	10.0	11.1	11.4	7.3	8.1	6.5	..	4.5	-2.0
<i>Paper, pulp and print</i>	6.8	7.1	10.4	3.7	5.8	3.3	2.4	..	2.5	-5.4
<i>Other industry</i> ⁸	13.7	11.1	13.7 e	7.5 e	10.0	6.8	6.3	..	0.0	-3.0
Transport ⁹	-	-	-	-	-	-	-	..	-	-
Other	19.8	11.3	13.8	3.2	2.2	1.0	0.8	..	-2.1	-10.5
<i>Comm. and pub. services</i>	4.9	2.6	3.4	1.3 e	2.2	1.0	0.8	..	-2.0	-5.6
<i>Residential</i>	4.5	2.2	2.1	1.9 e	-	-	-	..	-4.4	-
<i>Other sectors</i> ¹⁰	10.3	6.5	8.2	-	-	-	-	..	-1.4	-
Non-energy use	-	-	-	-	-	-	-	..	-	-
Electricity gen. - TWh	907.4	1242.9	1699.6	2129.5	1994.2	1471.0	1354.0	1316.3	3.8	-0.9

- "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, and lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products, and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.
- Provisional data cover primary "coal" products only. Net trade of secondary products will influence TPES for all other years.
- Main activity electricity and heat generation includes district heating.
- Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.
- Other transformation includes Liquefaction and Non-specified transformations.
- Final Consumption includes non-energy use and energy use (Industry, Transport and Other).
- Please refer to the explanatory notes and definitions in Part I for a more detailed explanation.
- Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.
- Transport includes Rail and Inland waterways.
- Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

UNITED STATES

2a. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Total coal²	584.39	815.95	966.39	949.70	839.05	718.79	657.70	2.82	-0.83
Total electricity and heat	436.57	709.04 e	905.54 e	892.21	775.91	672.72	618.42	4.12	-0.52
<i>Main activity producers</i>	436.57	701.67	888.82 e	884.55	771.53	668.95	615.57	4.03	-0.50
<i>Autoproducers</i>	-	7.37 e	16.72 e	7.66	4.38	3.78	2.84	-	-3.60
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	64.77	35.27	25.96 e	19.13	19.32	17.88	14.96	-4.94	-3.25
Blast furnace inputs	-	0.17 e	2.39 e	1.28 e	0.94 e	0.71 e	1.07 e	-	7.25
Gas manufacture	-	5.64 e	5.67	5.57	5.39	5.55	5.41	-	-0.16
Industry	46.82	53.42	37.30	32.72	28.24	25.04	22.35	1.11	-3.30
<i>Iron and steel</i>	3.66	1.71 e	1.46 e	0.68 e	0.27 e	0.16 e	0.39 e	-6.17	-5.53
<i>Chemical</i>	10.08	14.49 e	10.75 e	7.09	6.24	5.37	4.66	3.07	-4.27
<i>Non-metallic minerals</i>	11.51	11.97	12.23	8.00	9.33	8.78	7.40	0.33	-1.83
<i>Paper, pulp and print</i>	7.54	11.28	4.07	6.50	4.27	3.64	2.84	3.41	-5.16
<i>Other industry</i>	14.02	13.98 e	8.79 e	10.45 e	8.14 e	7.09 e	7.06 e	-0.02	-2.59
Other sectors ⁴	19.04	15.45	3.73	2.51	1.50	1.22	0.97	-1.73	-10.10
Non-energy use	-	-	-	-	-	-	-	-	-
Steam coal	484.73	701.66	866.16	862.25	742.49	633.17	576.10	3.13	-0.76
Total electricity and heat	408.08	637.00	835.53 e	830.29	711.96	612.36	559.61	3.78	-0.50
<i>Main activity producers</i>	408.08	630.72	820.06 e	825.21	707.59	608.59	556.77	3.70	-0.48
<i>Autoproducers</i>	-	6.27	15.48 e	5.08	4.38	3.77	2.84	-	-3.00
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	0.17 e	2.39 e	1.28 e	0.94 e	0.71 e	1.07 e	-	7.25
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	44.63	52.18	35.88	32.42	27.78	24.60	21.90	1.31	-3.29
<i>Iron and steel</i>	3.66	1.71 e	1.46 e	0.68 e	0.27 e	0.16 e	0.39 e	-6.17	-5.53
<i>Chemical</i>	10.08	14.26 e	10.51 e	6.84	5.82	4.97	4.25	2.93	-4.55
<i>Non-metallic minerals</i>	11.51	11.97	12.23	8.00	9.33	8.78	7.40	0.32	-1.83
<i>Paper, pulp and print</i>	7.54	11.28	4.07	6.50	4.27	3.64	2.84	3.41	-5.16
<i>Other industry</i>	11.83	12.98 e	7.62 e	10.41 e	8.10 e	7.05 e	7.02 e	0.77	-2.34
Other sectors ⁴	18.95	15.34	3.68	2.51	1.50	1.22	0.97	-1.75	-10.07
Non-energy use	-	-	-	-	-	-	-	-	-
Coking coal	68.89	35.27	25.96	19.15	20.07	17.71	14.38	-5.43	-3.39
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ³	64.77	35.27	25.96 e	19.13	19.32	17.88	14.96	-4.94	-3.25
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ⁴	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Total coal comprises anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite.

3. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

4. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

UNITED STATES

2b. Use of coal for selected end-uses¹

(million tonnes)

	1978	1990	2000	2010	2014	2015	2016	Average annual percent change	
								78-90	90-16
Lignite	30.77	79.02	74.27	68.30	76.49	67.92	67.22	8.18	-0.62
Total electricity and heat	28.49	72.04 e	70.01 e	61.92	63.95	60.36	58.81	8.04	-0.78
<i>Main activity producers</i>	28.49	70.94	68.76	59.34	63.94	60.36	58.81	7.90	-0.72
<i>Autoproducers</i>	-	1.10 e	1.25 e	2.57	0.01	0.01	0.00	-	-21.54
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	5.64 e	5.67	5.57	5.39	5.55	5.41	-	-0.16
Industry	2.19	1.24	1.42	0.30	0.46	0.44	0.45	-4.61	-3.83
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	0.23 e	0.24 e	0.26	0.43	0.40	0.40	-	2.12
<i>Non-metallic minerals</i>	-	0.00	0.00	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	2.19	1.01 e	1.18 e	0.04	0.03	0.04	0.05	-6.27	-11.19
Other sectors ³	0.09	0.11	0.05	-	-	-	-	1.52	-
Non-energy use	-	-	-	-	-	-	-	-	-
Peat	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Total electricity and heat	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i>	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-
Patent fuel/BKB plants	-	-	-	-	-	-	-	-	-
Coke ovens/Liquefaction ²	-	-	-	-	-	-	-	-	-
Blast furnace inputs	-	-	-	-	-	-	-	-	-
Gas manufacture	-	-	-	-	-	-	-	-	-
Industry	-	-	-	-	-	-	-	-	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-
<i>Other industry</i>	-	-	-	-	-	-	-	-	-
Other sectors ³	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-

1. Coal totals may not match the sum of the individual rows due to statistical differences. Please refer to notes and definitions in Part I.

2. Liquefaction primarily refers to direct distillation processes. Liquefaction from syngas may be reported here or as gas manufacture.

3. Other sectors are Residential, Commercial and public services, Agriculture/Forestry, Fishing, and Non-specified other.

Source: IEA/OECD World Energy Statistics

UNITED STATES

3. Solid fossil-fuel production by type^{1,2}

	1978 ³	1990	2000	2005	2010	2016	2017p	Average annual percent change	
								78-90	90-16
Mtce:									
Coking coal	93.39	96.20	56.00	45.21	65.91	49.47	64.55	0.25	-2.53
Steam coal	417.76	641.20	674.42	726.85	660.22	416.78	438.26	3.63	-1.64
Lignite	15.55	37.33	36.51	35.48	33.64	31.55	30.25	7.57	-0.64
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-
Mt:									
Coking coal	92.20	93.26	54.29	46.44	68.65	50.14	65.43	0.10	-2.36
Steam coal	484.60	760.39	839.69	916.00	856.49	544.31	573.28	3.83	-1.28
Lignite	31.16	79.91	77.62	76.15	70.97	66.31	63.57	8.16	-0.71
Peat	-	-	-	-	-	-	-	-	-
Oil shale and oil sands	-	-	-	-	-	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Solid fossil-fuels exclude oil products such as petroleum coke and paraffin wax.

3. Earliest year for which split by coal type is available.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

4. Coal and peat trade by type of coal¹

(Mtce)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total imports	7.23	3.03	14.31	28.00	16.34	9.09	8.64	7.44	5.79
Bituminous coal ³	2.37	2.34	9.27	21.96	12.93	7.12	5.53	4.99	4.12
Coking coal	-	-	1.60	1.54	1.33	1.39	1.50	0.84	0.63
Sub-bituminous coal	-	-	0.03	1.28	0.94	0.46	1.44	1.37	0.94
Lignite	-	-	0.04	0.06	0.06	0.05	0.05	0.04	0.04
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	4.87	0.68	3.38	3.15	1.08	0.07	0.13	0.20	0.05
Total exports	37.11	97.12	54.74	42.09	68.91	81.71	62.81	51.72	82.04
Bituminous coal ³	8.69	37.19	22.24	11.57	15.23	25.93	19.16	13.95	28.54
Coking coal	27.79	59.39	30.72	24.46	47.88	51.30	39.29	34.95	47.19
Sub-bituminous coal	-	-	0.73	4.39	4.40	3.62	3.58	1.92	5.22
Lignite	0.04	0.03	0.03	0.10	0.10	0.01	0.01	0.01	0.01
Peat	-	-	-	-	-	-	-	-	-
Coal products ⁴	0.59	0.51	1.02	1.56	1.31	0.85	0.77	0.89	1.08

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Bituminous coal includes anthracite.

4. Coal products includes products derived from coal, for example: coke, coal tar, briquettes, patent fuels and also peat products.

Source: IEA/OECD World Energy Balances, IEA/OECD World Energy Statistics

UNITED STATES

5. Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	2679	2449	11351	27634	17556	10297	10267	8934	7055
Coking coal	-	-	1547	1603	1385	1449	1557	869	654
Australia	-	-	-	144	-	-	-	-	-
Canada	-	-	1511	1458	1385	755	868	705	653
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	1
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	694	689	164	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	36	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	1	-	-	-	-	-
Steam coal	2679	2449	9724	25903	16036	8748	8611	7978	6314
Australia	933	22	152	66	345	-	55	111	1
Canada	49	883	155	244	86	84	112	188	72
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	645	-	-	70	-	-	-	-	-
United Kingdom	-	5	-	1	3	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	-	-	6	86	1	-	-	-	10
China, People's Rep.	-	-	18	18	47	29	14	5	4
Colombia	-	1296	6928	19247	13230	6832	7418	6994	5522
Indonesia	-	-	651	2239	1728	1385	808	557	634
South Africa	996	-	-	70	-	-	46	26	34
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	357	-	39	-	60	31
<i>Other FSU</i>	x	x	-	32	38	94	53	-	-
Venezuela	-	238	1813	3387	528	262	67	-	-
Viet Nam	-	-	-	85	-	-	-	32	-
Non-specified/other	56	5	1	1	30	23	38	5	6
Lignite	-	-	80	128	135	100	99	87	87

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. Total coal consists of steam coal (anthracite, other bituminous coal and sub-bituminous coal), coking coal and lignite.

4. For years prior to 1990.

UNITED STATES

6. Coking coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	27433	57568	29780	26001	50906	54495	41736	37131	50126
Total OECD	23813	47721	22752	19577	31740	37049	27086	23479	28813
Australia	-	-	-	-	-	-	-	-	43
Austria	-	-	-	239	412	426	378	381	517
Belgium	956	5532	2343	1470	1689	810	1066	1031	1135
Canada	5410	3988	3501	4034	3091	3945	3886	3425	3761
Chile	-	68	-	-	-	353	60	-	-
Czech Republic	-	-	-	-	-	-	-	-	16
Denmark	-	50	-	-	-	-	-	-	-
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	86	288	260	262	670	352	341	379
France	1468	4501	2197	1116	1792	1887	1126	1039	1293
Germany	560	636	419	473	1478	2304	1600	1504	2207
Greece	-	-	-	-	-	-	-	-	-
Hungary	-	-	65	-	40	-	-	-	-
Iceland	-	28	48	57	59	56	41	18	-
Ireland	-	-	-	-	-	-	-	-	83
Israel	-	50	56	-	-	-	-	-	-
Italy	2905	6377	3297	2203	2388	2222	1840	1418	2025
Japan	8991	10019	852	1652	2696	3032	3201	3568	4513
Korea	505	2908	1096	727	2715	2871	2651	2858	3250
Latvia	x	-	-	-	96	-	-	-	-
Luxembourg	-	-	-	-	77	-	-	-	-
Mexico	-	3	355	588	700	1642	406	456	785
Netherlands	929	3606	1735	1548	4929	5212	4053	3743	3081
New Zealand	-	-	-	-	-	-	-	-	-
Norway	68	99	42	18	75	75	49	58	63
Poland	-	-	-	-	2149	600	513	219	755
Portugal	265	234	198	-	-	75	-	85	77
Slovak Republic	-	-	-	-	201	454	210	-	470
Slovenia	x	-	-	163	223	187	198	-	105
Spain	688	3156	1993	1685	1393	1015	1135	1040	779
Sweden	299	764	642	464	401	651	585	262	658
Switzerland	-	-	-	-	37	-	-	-	-
Turkey	409	1906	1584	1642	2076	3729	1780	1177	1898
United Kingdom	360	3710	2041	1238	2761	4833	1956	856	920
United States	-	-	-	-	-	-	-	-	-
Total non-OECD	3620	9847	6642	6424	19097	16935	14319	13461	21138
Brazil	1342	5219	4093	3113	7125	6759	5577	6187	6640
China ³	-	-	-	-	3808	1367	207	653	2636
Chinese Taipei	205	357	116	-	227	-	-	-	-
Egypt	218	586	682	280	1042	375	148	-	660
India	-	-	22	1078	2299	3149	3587	2583	3561
Romania	673	1559	443	547	812	370	229	179	192
Oth. Africa & Mid. East	1	485	269	377	161	349	129	647	1077
Oth. non-OECD Americas	914	580	184	207	321	413	412	126	577
Other Asia & Oceania	24	21	-	-	-	-	-	-	119
Other non-OECD Europe and Eurasia	243	1040	833	822	3302	4153	4030	3086	5676
Non-specified/Other	-	-	386	-	69	-	-	-	-

1. Please refer to the explanatory notes and definitions in Part I.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

UNITED STATES

7. Steam coal exports by destination¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	9837	38344	23226	19094	23023	33712	25331	17525	37808
Total OECD	9370	33473	22026	16990	19962	27636	22390	13783	25409
Australia	-	1	-	-	105	1	-	-	-
Austria	-	-	-	-	-	-	1	2	2
Belgium	-	2178	278	411	367	109	19	107	-
Canada	8782	10083	13524	13625	7245	2152	1518	1121	1033
Chile	-	274	48	76	1053	763	720	179	574
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	2842	70	66	73	-	41	55	108
Estonia	x	-	-	-	-	-	-	-	-
Finland	-	-	-	-	166	-	-	54	-
France	38	1740	564	28	1080	265	82	176	681
Germany	36	320	467	133	935	2063	2045	1674	2238
Greece	-	-	-	-	47	-	-	-	62
Hungary	-	-	-	-	-	-	-	-	-
Iceland	-	15	-	-	-	-	-	-	-
Ireland	-	1322	456	-	-	-	-	-	-
Israel	-	530	-	-	-	-	-	-	1
Italy	22	4451	65	23	612	3023	1272	315	825
Japan	160	2074	3181	236	175	1411	1023	565	2444
Korea	300	719	508	580	2523	4297	2912	1198	5323
Latvia	x	-	-	-	33	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-
Mexico	-	188	373	341	983	2626	3005	2352	2603
Netherlands	27	3982	643	829	1700	6108	7657	5473	5424
New Zealand	-	1	-	-	-	-	-	-	-
Norway	-	62	74	-	-	7	15	8	9
Poland	-	-	-	-	65	53	-	-	476
Portugal	-	1386	343	143	531	126	126	-	663
Slovak Republic	-	-	-	-	-	-	-	-	-
Slovenia	x	-	-	-	182	-	-	-	11
Spain	-	282	441	-	373	252	16	223	811
Sweden	-	21	-	71	275	-	-	-	137
Switzerland	-	-	-	-	-	-	-	-	-
Turkey	5	15	55	67	220	316	83	172	428
United Kingdom	-	987	936	361	1219	4064	1855	109	1556
United States	-	-	-	-	-	-	-	-	-
Total non-OECD	95	4869	923	1946	3061	4059	2686	3400	11195
Brazil	11	79	22	693	63	527	173	108	219
China ³	-	108	9	-	1445	243	1	249	299
Chinese Taipei	-	3820	-	1	-	91	-	-	-
Egypt	-	-	-	-	146	-	-	1	1108
India	-	-	-	217	171	1011	2208	2431	6839
Romania	-	-	-	844	-	-	17	-	-
Oth. Africa & Mid. East	1	682	825	63	1044	1918	110	294	1751
Oth. non-OECD Americas	82	128	1	13	115	266	175	197	191
Other Asia & Oceania	1	5	-	-	77	2	1	90	666
Other non-OECD Europe and Eurasia	-	47	66	115	-	1	1	30	122
Non-specified/Other	372	2	277	158	-	1477	-	-	-

1. Please refer to the explanatory notes and definitions in Part I. Steam coal includes all sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. China comprises the People's Republic of China and Hong Kong, China.

COUNTRY NOTES

GENERAL NOTES

In some cases, data submitted by Member countries to the Secretariat do not conform to the standard reporting methodology or have other particular characteristics. Information set out below will assist readers to interpret data for particular countries and aid in the comparison of data among countries.

The notes given below refer to the years 1960 to the provisional 2017 data cover the summary tables at the back of the book, as well as the information on CD-ROM and the on-line data service. In general, more detailed notes are available for data since 1990.

Data for anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite are available separately from 1978. Prior to 1978, only data for hard coal (anthracite + coking coal + other bituminous coal) and brown coal (lignite + sub-bituminous coal) are available. In prior editions to *Coal Information 2014*, sub-bituminous coal was included under hard coal for the following countries, namely; Australia, Belgium, Chile, Finland, France, Iceland, Japan, Korea, Mexico, New Zealand, Portugal and the United States. While this is no longer the case since 1978, data earlier than this were aggregated into either hard coal or brown coal, and unless specified, there has been no attempt to reclassify portions of data from hard coal to brown coal in this period.

In 1996, the IEA Secretariat extensively revised data on coal and coke use in blast furnaces, and in the iron and steel industry (for those countries with blast furnaces), based on data provided to the OECD Steel Committee and other sources. Where necessary, the quantities of fuels transformed into blast furnace gas have been estimated by the IEA Secretariat based on its blast furnace model.

Australia

Source

Department of Environment and Energy, Canberra.

General notes

- All data refer to the fiscal year (e.g. July 2016 to June 2017 for 2017).
- In the 2013 edition and following, data for Australia were revised back to 2003 due to the adoption of the National Greenhouse and Energy Reporting (NGER) as the main energy consumption data source for the Australian Energy Statistics. As a result, there are breaks in the time series for many data between 2002 and 2003. The revisions have also introduced some methodological issues, including identifying inputs and outputs to certain transformation processes such as gas works plants, electricity plants and CHP plants. Energy industry own use and inputs to the transformation processes are sometimes not reported separately in the correct categories. More detail is given in the notes below.
- In the 2017 edition, the Australian Administration revised data on **coal tar** back to 2010 resulting in breaks in time series between 2009 and 2010.
- In the 2017 edition, the decrease of lignite production and consumption was due to the closure of brown coal fired Hazelwood power plant in early 2017, contributing to a higher consumption of other bituminous coal.
- In the 2016 edition, extensive revisions were made to 2010 to 2013 data for many primary and manufactured products causing breaks in production, trade and consumption between 2009 and 2010. Series which begin in 2010 may be reported in

other flows until 2009. 2014 data were reported on the same basis as 2010 to 2013.

- In the 2015 edition, increases of production and consumption of **other bituminous coal** for 2013 are due to both new mine capacity and improved classification data. In the 2016 edition, these revisions were extended back to 2010. Apparent switching between **sub-bituminous coal** and **other bituminous coal** between 2009 and 2010 suggests that some **other bituminous coal** was reported as **sub-bituminous coal** prior to this, across several flows.
- In the 2013 edition, production data for all **manufactured gases** were revised downwards as part of the new national methodology, leading to significant statistical differences.
- Reclassification of some **coal** types in the 2013 edition were calculated on an energy basis and resulted in a net increase of quantities of primary coal from 2003 to 2011.
- Breaks in the time series for **gas works gas** between 2008 and 2009 are due to a change of survey, while reduced production and consumption between 2006 and 2008 are due to the removal of some **natural gas** inputs.
- Data on **blast furnace gas** for electricity production by autoproducers begins in 1986.
- **Hard coal** data prior to 1978 may include **sub-bituminous coal**.

Supply

- Only **anthracite** exports are reported separately; the remainder that is consumed domestically is included with **other bituminous coal**.
- Export trade in **coke oven coke** between 2005 and 2011 exists, but data are unavailable for reasons of confidentiality.

Transformation

- In 2015 a new plant within the mining sector started its operations increasing the consumption of **coke oven coke**.
- The one company producing **BKB** closed its operation during 2015. As such, production and consumption declined significantly.
- For 2003 to 2012, **Coke oven gas** reported as energy industry own-use in electricity or CHP plants is used for generation purposes, while **natural gas**

used for own-use plant support is reported in the transformation sector.

- **Natural gas** consumed to fuel the distribution of **natural gas** in natural gas networks is reported as transformation for **gas works gas** production until 2005.
- The drop in **BKB** production in 2004 was due to a fire in the main production plant.

Consumption

- In the 2016 edition, revisions for 2010 onwards have increased the quantities of **sub-bituminous coal** and decreased the quantities of **other bituminous coal** being used in the non-metallic minerals industry as more accurate information has become available.
- Consumption in wood and wood products is included in paper, pulp and print from 2001 onwards.

Austria

Source

Bundesanstalt Statistik Österreich, Vienna.

General notes

- Starting with the 2016 edition and following, widespread data revisions were received due to enhanced reporting from 2005 onwards as a consequence of improved Austrian Final Energy Consumption surveys. For some time series, these revisions were extrapolated back to 1990. As a consequence, there may be breaks between 2004 and 2005, and 1989 and 1990.
- In the 2017 edition, revisions concerning the iron and steel industry were received for data since 2005. The revisions impacted the energy sector for **coke oven gas** and **blast furnace gas**.
- In the 2016 edition, revisions concerning the iron and steel industry were received for data since 1990. The following flows were impacted by these revisions: inputs to blast furnaces, the breakdown between transformation and own-use energy support, and calorific values.
- The last **lignite** mine closed in the second quarter of 2004 and **lignite** use for power generation ceased in 2006.

- Since 1996, **gas works gas** data are reported with **natural gas** because it is distributed in the same network. The amount of **gas works gas** is negligible and it is mostly consumed by households.
- “Trockenkohle” is included with **BKB** because of its high calorific value.
- LD gas, which should normally be reported as **other recovered gases**, is reported with **blast furnace gas**.

Belgium

Source

Observatoire de l'Energie, Brussels.

General notes

- In the 2016 Edition, improved data collection has led to some breaks in time series. These revisions include **hard coal** classifications, products and processes in integrated iron and steel manufacture and may be extended further back in future editions.
- Data for **anthracite** prior to 2014 may include a small portion of **other bituminous coal**.
- **Hard coal** data prior to 1978 may include **sub-bituminous coal**.
- **Other bituminous coal** and **sub-bituminous coal** data reported in *from other sources* refer to coal recuperated from coal dumps.

Supply

- Supply-side data are obtained through surveying questionnaires instead of customs data.
- Conventional production of **other bituminous coal** ceased on 31 August 1992.

Transformation

- In 2016, the decrease of **other bituminous coal** inputs to main activity producer electricity plants was due to the permanent closure of Langerlo, Belgium's last coal-fired main activity electricity.
- In 2015, the decrease of **coke oven gas** inputs to autoproducer CHP plants is due to a power plant closure in 2015.
- In 2014 and 2015, **coking coal** inputs to coke ovens decreased due to a coke oven closure in June 2014.

- In 2014, the decrease of **other bituminous coal** inputs to main activity producer electricity plants is due to a power plant closure in 2014.

Consumption

- In the 2018 edition, industrial consumption for the period 2013 through 2015 was revised for **coking coal** and **anthracite**, as more accurate consumption data became available. Data for **coking coal** prior to 2013 may include a small portion of **anthracite**.
- The decrease of **other bituminous coal** and **coke oven coke** in the iron and steel industry in 2002 is due to the closure of several plants.
- The use of **coke oven gas** in chemical and petrochemical activities ceased in 1996.

Canada

Source

Natural Resources Canada, Ottawa.

General notes

- In the 2018 edition, data for Canada were revised back to 2005 following a ten year revision of the Report on Energy Supply and Demand (RES-D), the main set of Canadian annual data. The revision standardizes the methodology used for the IEA data submission and has mainly affected the demand side. Additional details are given under each fuel.
- Due to the extensive revisions of the Report on Energy Supply and Demand (RES-D), significant statistical differences can be observed for several coal products for the period 2005-2015. This issue is under investigation and further improvements are expected in future editions.
- In the 2016 and 2017 edition, extensive revisions for the period 2005 to 2015 were received as more data became available due to improvements in data collection.
- In the 2014 and 2015 editions, some revisions to the 2004 to 2006 data were received in addition to some time series and products for 2007 to 2011. The Canadian administration is planning to further refine its reporting.
- From the 2014 edition, the Canadian administration revised time series back to 2005, using additional data from the Annual Industrial Consumption of

Energy, the Annual Survey of Secondary Distributors, the Report on Energy Supply and Demand and the Natural Resources Canada Office of Energy Efficiency. Breaks in time series also between appear 1989 and 1990, due to changes in methodology, incorporated in 2002.

- Due to a Canadian confidentiality law, it is not possible for the Canadian administration to submit disaggregated series for all of the **coal** types. Between 2002 and 2006, the IEA Secretariat has estimated some of the missing series. The data for 2007 onwards are given directly as reported, however data may be present in non-representative products, and additionally these ad hoc reclassification methodologies contribute significantly to larger than normal statistical differences across products.
- At this point in time, **oil shale and oil sands** data are not submitted, and this energy source is deemed to enter the supply stream as shale oil (**other hydrocarbons**).

Supply

- Due to confidentiality constraints, from 2014 the breakdown of production by type of coal is estimated by the Canadian Administration, while stock changes and statistical differences are estimated since 2001.

Transformation

- Injection of pulverised coal into blast furnaces (**PCI**) occurs, but is not available for confidentiality reasons. Coals consumed in this manner are reported in the iron and steel industry along with other consumption.
- Before 1978, **lignite** inputs to main activity producer heat plants are included in final consumption. Starting in 1979, these inputs are included in main activity producer electricity plants.

Consumption

- Since 2001 consumption of anthracite in non-energy use is estimated by the Canadian Administration. Statistical differences include consumption in iron and steel.
- Due to the unavailability of data, non-energy use of **coke oven coke** and **hard coal** is included with final consumption sectors prior to 1978 and 1980, respectively.

Chile

Source

Energía Abierta, Comisión Nacional de Energía, Ministerio de Energía, Santiago.

General notes

- Data are available starting in 1971.
- **Other bituminous coal** data includes **sub-bituminous coal** for all years, if present.
- In the 2017 edition, data for 2014 and 2015 were revised to replace figures previously estimated by the Secretariat.
- From 1990, consumption in paper and pulp includes forestry and consumption in agriculture is included in non-specified industry. In general, a new methodology has been applied for data since 1990, leading to other breaks in series between 1989 and 1990.

Czech Republic

Source

Czech Statistical Office, Prague.

General notes

- Data are available starting in 1971.
- **Other bituminous coal** data includes **sub-bituminous coal** for all years, if present.
- In the 2018 edition, data for the Czech Republic were revised back to 2010 based on administrative data causing breaks in time series between 2009 and 2010. These revisions impacted mainly industrial consumption for **lignite**, **BKB** and **other re-covered gases**.
- In the 2017 edition, data for the Czech Republic were revised back to 2010 based on administrative data causing breaks in time series between 2009 and 2010. Additionally, due to the new survey in households made by Czech Statistical Office, coal consumption in the residential sector has been revised back to 2010 creating breaks in time series between 2009 and 2010.
- Increased production and consumption of **other re-covered gases** in 2014 is due to improved tracking

of by-products from various transformation processes. Tail gases from the production of carbon black from **coal tar** are reported here, as are off gases from the manufacture and cleaning of syngas from **lignite** for an IGCC plant.

- Coal which had been previously classified as **sub-bituminous coal** until the 2008 edition is now reported under **lignite** for all years.
- Revisions by the Czech administration have resulted in some breaks in series between 2001 and 2002.
- Data for 1990 to 1995 were estimated based on the Czech publication *Energy Economy Year Book*.
- In 1995, town gas production (included in **gas works gas**) ceased.

Supply

- **Other recovered gases** are combustible gases obtained during the production of **gas works gas** and as a result of chemical processes.
- Production *from other sources* of **other bituminous coal** is from coal slurries, and these data are not available for 2017p.
- A portion of **other bituminous coal** reported under *from other sources* for the period 2010-2015 correspond to reclassified **coking coal**.
- Statistical differences for **coking coal** for the period 2010-2015 are partly due to the reclassification of coking coal to **other bituminous coal**.

Consumption

- In the 2015 edition, improved reporting enabled revisions to be made for some primary **coal** consumption flows between 2010 and 2012.
- In the 2014 edition, residential consumption for the period 1990 through 2011 was revised for **other bituminous coal, lignite, coke oven coke** and **BKB**, as more accurate consumption data became available.
- Due to economic restructuring in consumption in the late 1990s (big state enterprises subdividing and/or privatising and the utilisation of new technologies by businesses), there may be breaks in time series in these sectors.

Denmark

Source

Danish Energy Agency, Copenhagen.

General note

- In the 2004 edition, major revisions were made by the Danish administration for the 1990 to 2001 data, which may cause breaks in time series between 1989 and 1990.

Supply

- A large increase of **steam coal** imports in 2003 was related to a drought in Scandinavia. Thermal power plants were operated more intensively to replace hydro-generated electricity that was consumed in the country. Additionally, more coal-generated electricity was exported to other countries in the region. Significant fluctuations in demand are also evident for other years for similar reasons, including 2006 and 2013, but exist to a lesser extent.
- Declines in stocks of steam coal stem from extensive deployment of renewable generation technologies and policy to further reduce Denmark's utilisation of coal-fired power and implement co-firing with renewable fuels as a part of their *Energy Strategy 2050*.

Estonia

Source

Statistics Estonia, Tallinn.

General notes

- Fuels reported as **coke oven coke** and **gas works gas** are the solid and gaseous by-products of **oil shale** liquefaction. Inputs of **oil shale** to “gas works”, “coke ovens” and for coal liquefaction plants, while reported separately, combined, are the inputs for retorting in liquefaction plants.
- In the 2013 edition, data for **oil shale** production for the period 1991 to 1997 were revised to match Estonian GHG National Inventory values. Consumption data remained unchanged.
- Data for Estonia are available starting in 1990. Prior to that, they are included in Former Soviet Union in World Energy Statistics.

Supply

- Indigenous production of **peat products** stopped in 2016.

Finland

Source

Statistics Finland, Helsinki.

General notes

- **Coal tar** used for non-energy purposes or exported is not reported in either production or consumption.
- In the 2015 edition, revisions were received for some consumption flows of **other bituminous coal** and **coke oven coke**, while **other recovered gases** (from ferrochromium manufacture) were reported separately for the first time, with revisions back to 2000. Prior to 2000, off-gases from ferrochromium manufacture are included in **blast furnace gas**, and inputs of **coke oven coke** for ferrochromium manufacture in inputs to blast furnaces instead of non-specified transformation.
- In 2014, a new survey system and a reclassification of the data lead to breaks in the time series between 1999 and 2000 for most products and sectors. The new survey system is more detailed and has better product coverage, especially in electricity, CHP and heat production, as well as in industry.
- Prior to 2008, **peat products** are included with **peat** data.
- A large increase of **steam coal** imports in 2003 is related to a drought in Scandinavia. Thermal power plants were operated more intensively to replace hydro-generated electricity that is consumed in the country. Additionally, more coal-generated electricity was exported to other countries in the region.
- The increase of **other bituminous coal** inputs into main activity producer electricity plants from 1993 to 1994 was due to coal replacing imported electricity and hydro power.
- Production of **gas works gas** ceased in April 1994.
- **Hard coal** data prior to 1978 may include **sub-bituminous coal**.

Transformation

- In the 2017 edition, fuel inputs and heat production from **peat** main activity heat plants have been revised from 2000 as a result of new data access for smaller peat heat plant units.
- The significant increases and decreases of **other bituminous coal** inputs into main activity producer electricity plants from year to year are due

to coal replacing imported electricity and hydro power.

- Likewise, **peat** production is highly dependent upon favourable weather conditions and the pricing of other fuels. The decrease in **peat** and **other bituminous coal** usage in main activity electricity plants in 2008 was due to record electricity generation from hydro plants. A similar circumstance occurred in 2012.
- The first coking plant started operation in 1987, hence imports of **coking coal** and production of **coke oven coke** and **coke oven gas** started in that year.

France

Source

Ministère de la Transition Écologique et Solidaire, Paris.

General notes

- In the 2018 edition, data for France were revised back to 2011 following changes in methodology and procedures used by the energy statistics sub-department (SDSE) within the Ministry for the ecological and inclusive transition. As a result, the revisions, to bring the reporting more in line with the international standards, impacted all fuels. Additional details are given under each fuel.
- In 2018 edition, the calorific value of coking coal has been revised in agreement with Eurostat and the IEA. The revision was made for the period 1990 to 2016.
- In the 2017 edition, the French Administration undertook comprehensive revisions on sectoral coal consumption back to 2011. Starting this edition, new information became available for **anthracite**, **BKB** and **other recovered gases**. Breaks in time series for **coke oven gas** and **blast furnace gas** consumption between 2010 and 2011 are due to a change in the methodology, impacting significantly consumption in the iron and steel sector.
- From 2012, the energy consumption is more detailed due to a more precise national survey.
- Prior to 2011, **other manufactured gases** (oxygen steel furnace gas) are included in **blast furnace gas**.
- For 1989 to 1998, the IEA Secretariat has estimated industry consumption based on *Consommations d'Énergie dans l'Industrie*, SESSI.

- Prior to 1985, consumption of colliery gas is included with the use of **coke oven gas** by autoproducers.
- Hard coal data prior to 1978 may include **sub-bituminous coal**.

Transformation

- In 2016 the company that consumed **blast furnace gas** for electricity and heat generation ceased its activity.

Consumption

- In the 2018 edition, the split of energy consumption between the residential sector and the commerce and public services sector has been revised back to 1990 by the French Administration for **other bituminous coal, lignite, coke oven coke, BKB and patent fuel**.
- **Blast furnace gas** and **coke oven gas** used for energy purposes in blast furnaces prior to 2011 are reported under the iron and steel industry.
- Final consumption in industry is estimated by the secretariat from 1986 to 2001 for some products.

Germany

Source

Federal Ministry for Economic Affairs and Energy, Berlin.

General notes

- Data start in 1960. German data include the new federal states of Germany from 1970 onwards.
- Comprehensive official data are only collected for the aggregate of hard coal. Due to the unavailability of detailed data, the split into **anthracite, coking coal** and **other bituminous coal** is partly estimated by the National Administration.
- In the 2018 edition, more detailed information on the breakdown of **other bituminous coal** and **coking coal** imports became available for 2017p. Prior to 2017, the large amount of **coking coal** imports allocated to *Other OECD* corresponds to Netherlands and therefore may not constitute the country of origin. For more details please refer to the country note of Netherlands.
- In the 2014 edition, significant revisions were submitted for all primary coal types, derived

products and manufactured gases for the period 2003 to 2011 as previous estimations were updated with more accurate information. Revisions primarily affected consumption, including industry and other sectors; but also supply, statistical differences and weighted calorific values.

- Up to 2002, **other bituminous coal** includes **anthracite**.
- The German administration has changed the methodology for reporting heat over time:
 - Starting in 2007, more information is available on main activity heat plants and additional inputs started to be reported for this category. This causes breaks in series between 2006 and 2007.
 - Between 2003 and 2006, autoproducer heat output was provided, but no inputs.
 - Between 2002 and 2003 and between 2003 and 2004, breaks in series occur, due to the implementation of the Energy Statistics Act, collection concerning heat produced in heat plants and district heating plants became more efficient and more complete.
- Between 1998 and 2005, breaks in series may occur for **coke oven gas** and **blast furnace gas**.
- Between 1990 and 1992, breaks in series may occur due to earlier reclassification of several sectors by the German administration; this particularly affects **BKB, lignite** and **coke oven coke**.

Transformation

- Breaks in time series between 2014 and 2015 for **coke oven gas** and **blast furnace gas** are due to a reclassification of main activity producers and autoproducers.
- In 1997, **BKB** inputs to gas works plants stopped.

Consumption

- Consumption of **non-renewable municipal waste** and **other solid biofuels** as a reductant occurs in German blast furnaces, but is not currently quantified. Likewise, **coal tar** is a by-product of coke ovens, but not currently reported.

Greece

Source

Ministry for Environment and Energy, Athens.

Hungary

Source

Hungarian Energy and Public Utility Regulatory Authority, Budapest.

General notes

- Data are available starting in 1965.
- From 1992, the production of **sub-bituminous** coal has been included with **lignite** due to the low quality of the coal. For 1990 to 1999, the use of this domestic coal in main activity producer electricity and CHP plants has also been reclassified to **lignite**.

Transformation

- Autoproducer heat and power plants using **coke oven gas** and **blast furnace gas** were reclassified in 1998 as main activity power plants.

Iceland

Source

National Energy Authority, Reykjavik

General notes

- Iceland was unable to provide data for 2017p. These data have been estimated by the IEA Secretariat.
- The industrial classifications used by the Icelandic administration were changed in 1987.
- Hard coal data prior to 1978 may include sub-bituminous coal
- Prior to 1970, final consumption includes inputs and outputs to heat production.

Consumption

- Final consumption increased in 2000 as a new iron and steel plant came on-line.

Ireland

Sources

- Department of Communications, Energy and Natural Resources, Dublin.

- Sustainable Energy Authority of Ireland, Cork.

General notes

- Due to confidentiality reasons, inputs of **anthracite**, **other bituminous coal** and **peat briquettes** for patent fuel transformation are reported with residential consumption, while production and consumption of **patent fuel** is not reported.
- Prior to 1990, any imports of **BKB**, were included with imports of **peat products**, as is the case for consumption.

Supply

- The country of origin for imports of **other bituminous coal** is known for 2017p, but unavailable for reasons of confidentiality.
- Rainfall in 2012 led to the lowest **peat** harvest since IEA records began in 1960, requiring large stock drawdown and increased use of **biofuels** for electricity generation. In 2013, production targets were met before the end of the year however production continued in order to further build stocks to alleviate the potential impacts of future weather events.
- Low production of **peat** in 1985 was due to a poor “harvest” due to an unusually wet summer.
- Production data for **peat products** (briquettes) are available from 1975.

Transformation

- A reclassification caused a break in the series for **peat** consumption in the energy industry own use in BKB/peat product plants from 1989 to 1990.
- The production of **gas works gas** ceased in 1987 due to fuel switching to **natural gas**.
- **Other bituminous coal** inputs to main activity producer electricity plants increased from 1986 due to three new generating units at Moneypoint coming on-line.

Israel

Source

Israel Central Bureau of Statistics, Jerusalem.

General notes

- Due to confidentiality constraints, imports of **other bituminous coal** have been estimated by the IEA Secretariat for 2017p.

- Data are available starting in 1971.
- The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD and/or the IEA is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Italy

Sources

- Ministry of Economic Development, Rome.
- Terna, Rome.

General notes

- The increase in production of **coke oven gas** in 2012 was the consequence of improvements in scope of reporting. As such, coke oven gas data in prior years should be viewed as under-representing production and consumption, and coke oven efficiencies will likewise appear lower than actual.
- A change in methodology led to breaks in series for industry and transformation between 2003 and 2004.
- Due to a change in the survey system, breaks in series may occur between 1997 and 1998 for final consumption.
- From 1986 onwards, figures from **lignite** are given using the same methodology as in the *Bilancio Energetico Nazionale*.

Supply

- In the 2018 edition, production of **coke oven coke**, **coke oven gas**, **coal tar** and **other recovered gases** was revised back to 2014 due to new available information. The revisions increased efficiencies of coke ovens and blast furnaces and led to breaks between 2013 and 2014.
- **Other bituminous coal** production ceased in 2016 due to the closure of the one coal mine in 2015.

Transformation

- Breaks in the time series between 2014 and 2015 for **coke oven gas**, **blast furnace gas** and **other recovered gases** are due to a reclassification of main activity producers and autoproducers.

- Prior to 2009, **sub-bituminous coal** used in main activity electricity plants was included with **other bituminous coal**.
- For data since 2001, calorific values for imports of **other bituminous coal** and **sub-bituminous coal** are derived from inputs to main activity electricity generation.

Consumption

- In 1991, all industrial activities were reclassified on the basis of ISTAT/NACE 91. This has implied some transfers of activities which may result in some anomalies between 1991 and earlier years.

Japan

Source

The Institute of Energy Economics Japan, Tokyo.

General notes

- From 1990, data are reported on a fiscal year basis (e.g. April 2016 to March 2017 for 2016).
- **Other bituminous coal** includes **sub-bituminous coal**.
- The net calorific values for **coal** and **coal products** have been recalculated by the IEA Secretariat based upon gross values submitted by Japan.
- In the 2018 edition, imports of **other bituminous coal** and **coking coal** –by partner country - have been estimated by the IEA Secretariat for data from 1990 to 2017, based on customs data and total imports by coal type.
- In the 2018 edition, Japan revised their data back to 1990 based on new methodology in all questionnaires.
- Consumption data for commercial/public services may include consumption in small and medium-size industries. The Japanese administration expects that this shortcoming will be corrected in the near future.
- **Hard coal** data prior to 1978 may include **sub-bituminous coal**.

Supply

- Statistical differences for **hard coal** include stock changes since 2001. Large positive differences for

several years since 2004 are partly due to stock build by final consumers.

Transformation

- The inputs of **coke oven coke** to blast furnaces as well as the final consumption of **coke oven coke** in the iron and steel industry have been estimated by the IEA Secretariat since 1990.
- From 1998, inputs of **coke oven gas**, **blast furnace gas** and **other recovered gases** into auto-producer electricity plants include the amount used to produce electricity with TRT technology (Top pressure Recovery Turbines) which was previously included in industry.
- Inputs of manufactured gases (**coke oven gas**, **blast furnace gas** and **other recovered gases**) to main activity electricity and heat plants are calculated based on outputs and using efficiencies of main activity producers from other fuels. For auto-producers, the specific inputs are known, however the specific electricity production by each gas is estimated based on a pro-rata of the total electricity generation from all gas types.
- Coal injected in blast furnaces (PCI) is classified as **coking coal** in order to be consistent with Japanese trade statistics.

Korea

Source

Korea Energy Economics Institute, Ulsan.

General notes

- Data are available from 1971.
- Imports of **anthracite**, **other bituminous coal** and **coking coal** from partner countries have been estimated by the IEA Secretariat for 2017p.
- **Coal tar** production data prior to 2007 are not available at this time.
- Data for 2002 onwards have been reported on a different basis, causing breaks in series between 2001 and 2002, especially for inputs and outputs to electricity generation and consumption in the iron and steel industry. The Korean Administration is planning to revise the historical series as time and resources allow.
- Data for **coal** and **coal products** from 1971 to 2001 are based on information provided by the

Korean administration, as well as information from the *Yearbook of Energy Statistics 2002*, the *Yearbook of Coal Statistics 2001* (both from the Ministry of Commerce, Industry and Energy), and *Statistics of Electric Power in Korea 2001* (from the Korea Electric Power Corporation). During this period, import data by coal type were estimated by the IEA Secretariat, based on statistics of the exporting countries.

- **Hard coal** data prior to 1978 may include **sub-bituminous coal**.

Transformation

- Statistical differences for **manufactured gases** in 2012 are partly the result of classification issues. The national administration is working to improve reporting of coal-derived gases production and consumption.

Consumption

- Data on **blast furnace gas** used for energy purposes in blast furnaces prior to 2007 are reported in the iron and steel industry.
- Consumption of imported **coke oven coke** starting in 2002 is reported under non-specified industry.
- Consumption of **manufactured gases** in the iron and steel industry starting in 2002 includes the consumption in blast furnaces, oxygen steel furnaces and other iron and steel processing plants.

Latvia

Source

Central Statistical Bureau, Riga

General note

- Data for Latvia are available starting in 1990. Prior to that, they are included in Former Soviet Union in the publication *World Energy Statistics*.

Supply

- The increase of distribution losses for peat in 2003 is due to a fire in one of the warehouses.

Consumption

- The fall in the iron and steel industry in 2014 is due to the bankruptcy of the major company in the market.

Luxembourg

Source

STATEC, Institut national de la statistique et des études économiques du Grand-Duché du Luxembourg, Luxembourg.

General notes

- For the 2011 edition, the Luxembourgian administration revised the time series from 2000 for most **coal** and coal products. Time series for **BKB** consumption were revised from 1990.
- Prior to 1978, some **sub-bituminous coal** may be included in **hard coal**.
- Steel production from blast furnaces ceased at the end of 1997.

Mexico

Source

Ministry of Energy (SENER), Mexico City.

General notes

- Data are available starting in 1971. The Mexican administration submitted data directly by questionnaire for the first time with 1992 data. As a result, some breaks in series may occur between 1991 and 1992. For prior years, data are partly estimated based on the publication *Balance Nacional - Energía*.
- In the 2016 edition, the Mexican administration completed a major work on revisions of the time series back to 1990.
- The Mexican administration is currently undertaking major work on revisions of the time series back to 1990. For several products, only revisions back to 2003 were provided in the 2016 edition. Further revisions to historical data are pending.
- Prior to 2003, **other bituminous coal** is either reported as **coking coal** or **sub-bituminous coal**, depending upon usage, while **anthracite** and indigenously produced **lignite** were included with

sub-bituminous coal. Calorific values currently in use may not accurately reflect any of this.

- The time series for **blast furnace gas** and inputs of **coke oven coke** to blast furnaces start in 1991.
- **Hard coal** data prior to 1978 may include **sub-bituminous coal**.

Consumption

- Use of pulverised coal injection in blast furnaces occurs in Mexico, but is not currently reported.
- Oxygen steel furnace gas production and production of other **other recovered gases** occur as by-products of heavy industry, but are not reported.

IEA Estimations

- Trade of **coking coal** and **other bituminous coal** were estimated by the IEA secretariat based on partner data for 2017p. Consumption data were also estimated for these coal types.
- For **coking coal**, amounts reported for consumption in main activity electricity generation and associated imports for the years 2003 to 2016 have been reallocated to other bituminous coal by the IEA Secretariat.
- Imports by country of origin for other **bituminous coal** and **coking coal** are based off partner data and splits provided in earlier cycles.
- **Blast furnace gas** production and consumption have been estimated by the IEA for 1990 to 2015 based on inputs of **coke oven coke** to blast furnaces in a ratio provided by Mexico, as are the proportions of **blast furnace gas** consumed in auto-producer electricity production, energy support for blast furnaces and consumption elsewhere in the iron and steel industry.
- **Coke oven coke** production was estimated by the IEA for some years between 1999 and 2012 based off historical and commodities data, as were inputs of **coking coal** to coke ovens between 1990 and 2012.
- Current Mexican methodology estimates production of **coal tar** and **coke oven gas** using **coke oven coke** production as a guide. This was extended for 1990 to 2001 and for years where **coke oven coke** production was estimated by the IEA.

Netherlands

Source

Statistics Netherlands, The Hague.

General notes

- The Netherlands Central Bureau of Statistics has conducted reviews and revisions of their energy balance three times; in 2005, 2011 and 2015. The 2005 revisions were to improve basic energy statistics, particularly with respect to carbon and CO₂ reporting, while the 2011 revisions were part of a harmonization program with international energy statistics. The 2015 revisions were the result of increased data collection, availability of new source information, and further alignment with international energy definitions. More details are available here: <http://www.cbs.nl>
- Following revisions made in the previous edition to data for 1995 onwards, this edition includes further revisions made by the Dutch Administration for the period 1990 to 1994. These revisions are the result of increased data collection, availability of new source information, and further alignment with international energy.
- In the national statistical system of the Netherlands, use of fuel in manufacturing industries for CHP production is considered to be consumption in transformation. However, in IEA statistics, this own use for heat production (autoproduced heat) is reported under the relevant industry sub-sector, based on estimates provided by the Central Bureau of Statistics.
- International trade into and through the hub ports of Amsterdam and Rotterdam is complicated by the capacity to purchase coal directly at these points. The majority of coal passing through these ports is intended for consumption in European countries other than the Netherlands, which is neither the country of origin or destination, therefore these data have been removed where possible.

Supply

- From 2013 onwards, trade reported by the Central Bureau of Statistics includes **coal** in transit, to align more closely with gross trade data.
- In the 2013 edition, non-specified exports for 2011 were estimated by the Central Bureau of Statistics due to a lack of information from key market players.

- For data prior to 2011, stock changes for primary coal types were estimated by the Dutch administration based on trade and consumption data.
- For 1984 to 1986, production *from other sources* of other bituminous coal represents a stock of “smalls” washed for re-use.

Transformation

- At the end of 2015 three low-efficiency plants running on bituminous coal input closed down. These closures were part of the so-called Agreement on Energy for Sustainable Growth in The Netherlands (www.energieakkoordser.nl/doen/engels.aspx) agreed upon by the Social and Economic Council of the Netherlands (SER) and more than forty representative organisations and stakeholders.

Consumption

- Prior to 1989, non-energy use is included with industry consumption.

New Zealand

Source

Ministry of Business, Innovation and Employment, Wellington.

General notes

- Prior to 1994, data refer to fiscal year (April 1993 to March 1994 for 1993). From 1994, data refer to calendar year.
- **Peat**, although produced in New Zealand, is not used as a fuel, and is used for agricultural purposes only.
- In the 2014 edition, the definition of **hard coal** was aligned with the International Recommendations for Energy Statistics. Prior to this, **hard coal** for New Zealand from 1960 to 1977 had contained **sub-bituminous coal**. The portion of **sub-bituminous coal** production and residential consumption has been estimated by the IEA Secretariat for this period and moved to **brown coal**.
- In the 2011 edition, the New Zealand administration has revised some of the **coal**, natural gas, oil, renewable and electricity time series back to 1990.

Supply

- Breakdown of exports of **coking coal** by country of destination for 2017p has been estimated by the IEA Secretariat, based on partner data.
- The decrease of **other bituminous coal** production in 2015 is due to a temporary shutdown in one of the coal mines at the beginning of 2015 and another one at the end of 2015.
- A detailed breakdown of exports of **coking coal** by country of destination between 2001 and 2011 is estimated by the IEA, based on secondary sources and partner data.

Transformation

- **Sub-bituminous coal** inputs into coke ovens refers to coal that is merged with iron sands and limestone to form the inputs for the multi-hearth-furnaces, kilns and melters that produce direct reduced iron (Glenbrook Steel Site), with off-gases and supplemental and natural gas driving CHP plants. This method, while not the typical iron and steel process, produces similar by-products. The **sub-bituminous coal** inputs are reported under coke oven coke transformation and the resulting off-gases are reported as production of **coke oven gas** and **blast furnace gas**.
- **Blast furnace gas** production and distribution losses prior to 1998 are IEA Secretariat estimates. Portions of this gas will have been used for energy purposes in the multi-hearth furnaces or elsewhere in the plant. Some transformation efficiencies will appear higher than normal due to non-reporting of certain inputs, including some confidential data.

Consumption

- In final consumption, some industry data are reported in non-specified industry for confidentiality reasons.
- In 2014, the increase in consumption of **sub-bituminous coal** in mines included the combustion of some unsold coal fines for safety reasons.
- Prior to 2010, the construction sector is included with commercial/public services.
- Prior to 2009, mining and quarrying is included in agriculture.

Norway

Source

Statistics Norway, Oslo.

General notes

- **Other bituminous coal** includes **lignite**.
- In the 2018 edition, data for Norway were revised back to 2010, following the introduction of a new system for energy balances and energy accounts. Breaks in series may appear between 2009 and 2010 as a result. For more detailed information regarding the methodological changes, please refer to the documentation of statistics production since statistics year 2010 on the Statistics Norway website. At the time of writing, the document was available in Norwegian as “Dokumentasjon av statistikkproduksjonen fra statistikkår 2010 og fremover”.
- Production of **coking coal**, **coke oven coke** and **coke oven gas** ceased in the late 1980s.

Supply

- The decrease of **other bituminous coal** production in 2015 is due to a temporary shutdown in one of the coal mines.
- The decrease of **other bituminous coal** production in 2005 is due to a fire in one of the coal mines; this entailed a break in the production for a large part of the year.

Poland

Source

Central Statistical Office, Warsaw.

General notes

- Other recovered gases which appear in the balances as output from blast furnaces include off-gases from zinc and copper smelting, ceramics kilns and steel production.
- Prior to 2016 data, **other bituminous coal** includes **anthracite**.

Transformation

- In the past two editions, the Central Statistical Office has revised their methodology which accounts for sold heat produced from autoproducer heat plants using **coking coal** and **other bituminous coal**, resulting in lower, but more accurate data for 2007 onwards.

Consumption

- Consumption in agriculture/forestry for BKB, and own use in power stations for lignite are residual flows, so may contain statistical differences and other consumption not reported elsewhere. As a consequence, changes in these time series may not be wholly representative of the activities shown.
- Prior to 2010, own use in coal mines included workers' take home allowance, which should be included in residential consumption.

Portugal

Source

Direcção-Geral de Energia e Geologia, Lisbon.

General note

- **Hard coal** data prior to 1978 may include **sub-bituminous coal**.

Consumption

- Between 1997 and 2001 **gas works gas** was gradually replaced by **natural gas** in the commercial/public service and residential sectors.
- The production of pig iron ceased in the first quarter of 2001, leading to decreases in supply and consumption of **coking coal**, **coke oven coke**, **coke oven gas** and **blast furnace gas** in 2001.

Slovak Republic

Source

Statistical Office of the Slovak Republic, Bratislava.

General notes

- Data are available starting in 1971.
- The Slovak Republic became a separate state in 1993 and harmonised its statistics to EU standards

in 2000. These two facts lead to several breaks in time series between 1992 and 1993, and between 2000 and 2001.

- Data for **anthracite**, **patent fuel** and **coal tar** all begin in 2005. Prior to this, **anthracite** was included with other hard coals, and **patent fuel** and **coal tar** data were not reported.
- Since 2005, data for **coal tar** and **patent fuel** are based solely on trade receipts. Production of **coal tar** which is consumed within the national boundary is not reported. Consumption of **patent fuel** adopts the residual methodology for statistical differences described above.
- Breaks in time series may exist between 2000 and 2001 as the result of the implementation of a new survey system.
- Commercial/public services also includes statistical differences for **other bituminous coal**, **lignite**, **patent fuel** and **coke oven coke** from 1980 onwards and **BKB** from 1989 onwards.

Slovenia

Source

Statistical Office of the Republic of Slovenia, Ljubljana.

General notes

- Data for Slovenia are available starting in 1990. Prior to that, they are included in *Energy Statistics of Non-OECD Countries* in Former Yugoslavia.
- A new energy data collection system was implemented in January 2001, causing some breaks in time series between 1999 and 2000.

Transformation

- In 2015, a main activity electricity plant burning **lignite** ceased its operations.

Spain

Source

Ministerio de Industria, Energía e Turismo, Madrid.

General note

- The calorific values for **sub-bituminous coal** are correct on an as received basis, and comply with

definitions of **sub-bituminous coal** on a moist, but ash free basis.

Supply

- **Lignite** mining ceased in 2008.

Transformation

- In the 2018 edition, a reclassification of plants from autoproducer to main activity has led to breaks between 2015 and 2016.

Sweden

Sources

- Statistics Sweden, Örebro.
- Swedish Energy Agency, Energimyndigheten, Eskilstuna.

General notes

- **Peat products** data may be reported under the category of **peat**, particularly for imports.
- Autoproducer inputs to waste heat production that are sold are reported in the respective final consumption sectors and not in transformation.
- Some mixture of **LNG** with air to form a lower calorie product is reported as **gas works gas** production replacing traditional gas works gas manufacture.

Supply

- **Other bituminous coal** production until 1992 is coal recovered during the quarrying of clay.

Switzerland

Sources

- Swiss Federal Office of Energy (SFOE), Ittigen.
- Carbur, Swiss Organisation for Stockholding of Oil Products, Zurich.

General notes

- From 1999, data on consumption result from a new survey and are not comparable with data for previous years.
- Calorific values for **anthracite**, **other bituminous coal** and **coke oven coke** are taken from a

common default figure. **Lignite** calorific values are also default data, but are based on dried **lignite** fines which have a higher calorific value.

Consumption

- From 1985, industrial consumption of **gas works gas** is reported in non-specified industry to prevent the disclosure of commercially confidential data.
- Allocation of consumption data between certain coal types is estimated by the Swiss administration.

Turkey

Sources

- Ministry of Energy and Natural Resources (Enerji ve Tabii Kaynaklar Bakanlığı), Ankara.
- Petrol İşleri Genel Müdürlüğü, Ankara.

General notes

- In the 2018 edition, revisions were conducted by the Turkish administration back to 1990 impacting the transformation and industrial sector. The revisions in the transformation sector were the result of new data submitted by the Turkish Electricity Transmission Company (TECT).
- In the 2017 edition, historical revisions on **coal tar** data were conducted by the Turkish Administration due to new available information.
- Data from 2012 onwards utilised the latest census data, causing breaks in time series between 2011 and 2012.
- Data from 2008 are provided from the results of an improved questionnaire. Significant changes occur in consumption patterns within the iron and steel industry, coal mining as well as across industry, residential and commercial/public services for **other bituminous coal**.
- Calorific values for fuels consumed in electricity, CHP and heat plants are obtained from data submitted to the Ministry of Energy and Natural Resources (MENR) by the Turkish Electricity Transmission Company, and these values may differ significantly from production and import values provided by MENR, causing imbalances for some years.
- Production of **gas works gas** declined in 1989 due to plant closures; the last plant closed in 1994. Use of **gas coke** and **gas works gas** ceased in 1994.
- Due to government regulations in industry and residential, in particular, there has been a shift

from the use of domestically produced **coal** to imported **coal** and **natural gas**.

Transformation

- In the middle of 2014, most autoproducer plants in Turkey were reclassified as main activity producer due to a change in the legislation. Amongst other things, this brought the reporting of unsold heat and prorated inputs, in line with IEA methodology.

Consumption

- In the 2018 edition, revisions on industrial coal consumption were conducted by the Turkish administration back to 2010 due to new available information.
- Privatisation of state owned coke ovens in recent years results in incomplete information on **coke oven gas** distribution.
- In 2017 edition, consumption of **sub-bituminous coal** in construction has been reclassified by the Turkish Administration as consumption in the non-metallic minerals industry.
- In 2015, a new survey was introduced by the Turkish Administration to collect more detailed industrial consumption data, resulting in breaks in time series between 2014 and 2015.

United Kingdom

Source

Department for Business, Energy & Industrial Strategy, London.

General notes

- Oxygen steel furnace gas data are reported with blast furnace **gas** rather than as **other recovered gases**.
- In the 2017 edition, calorific values of **other bituminous coal** were revised for the period 2002-2015 due to a change in the methodology, impacting all flows.
- Prior to 1994, the consumption of substitute natural gas is included with natural gas while its production is included with gas works gas.

Supply

- Underground production of **other bituminous coal** in 2016 decreased due to the closure of Hatfield, Thoresby and Kellingey mines.

Transformation

- The consumption of **solid biofuels** has increased in 2015, as the largest power station in the UK converted a further unit from **coal** to **biomass** midyear, and the previously converted unit had a full year of operation in 2015 rather than just the last few months of 2014.
- The market decline in use of **other bituminous coal** from 2013 onwards for autoproducer electricity generation was due to a plant being sold to a dedicated main-activity electricity producer.

Consumption

- Consumption data shown for the commercial/public services includes consumption of some of *other non-specified*.

United States

Source

Energy Information Administration, Washington, DC.

General notes

- Since the Energy Information administration (EIA) and the US Department of Commerce do not collect separate data on **patent fuel** exports by country, total exports data of **patent fuel** are included in the exports of **other bituminous coal**.
- End-use energy consumption data for the United States present a break in series with historical data due to a change in methodology in 2014. The break in series occurs between 2011 and 2012 for oil; and between 2001 and 2002 for electricity and natural gas. The new methodology is based on the last historical year of the most recent Annual Energy Outlook (AEO) publication. Changes occur primarily in reported end-use energy consumption in the industrial sector and its subsectors, including the non-manufacturing industries of mining, construction and agriculture. Historical revisions are pending. Due to other changes in reporting methodologies, there are numerous breaks in series for the US data, particularly in 1992, 1999, 2001, 2002 and 2013. Care should be taken when evaluating consumption by sector since inputs of fuel to autoproducers are included in final consumption for some years.
- **Coal tar** as a by-product of coke ovens is not currently reported.
- In 2002, the United States reported “synfuel” production as **patent fuel** for the first time. Prior to

2002, the consumption of this fuel was reported with **other bituminous coal**. Production ceased in 2007 for economic reasons.

- **Hard coal** data prior to 1978 may include **sub-bituminous coal**.

Supply

- *Other sources coal* production represents coal production that does not have a Mine Health and Safety Administration (MSHA) identifier.

2016 COUNTRY SPECIFIC AVERAGE NET CALORIFIC VALUES [kJ/kg]

	Anthracite	Coking coal	Other bituminous coal	Sub-bituminous coal	Lignite / Oil shale and oil sands ¹	Peat	Patent fuels	Coke oven coke	Coal tar	BKB / Peat products ²
Australia	26 700	28 500	25 700	18 478	9 800	-	-	27 000	35 714	21 951
Austria	26 700	28 661	27 559	22 054	9 900	-	31 000	28 876	37 030	19 800
Belgium	28 425	29 250	26 261	-	-	-	30 480	29 308	37 654	20 682
Canada	26 381	25 002	27 302	17 897	14 019	-	-	27 457	-	-
Chile	-	28 638	22 121	-	-	-	-	30 145	38 841	-
Czech Republic	28 064	28 598	26 254	-	12 625	-	-	28 494	35 681	21 453
Denmark	-	-	23 318	-	-	-	-	29 300	-	-
Estonia	-	-	27 150	-	8 346 ¹	11 426	-	28 500	-	-
Finland	27 550	29 300	25 478	-	-	9 950	-	29 300	37 000	-
France	32 322	29 500	26 000	-	17 000	-	32 000	28 000	37 883	16 920
Germany	29 700	29 000	27 051	-	9 004	-	31 400	28 650	-	21 473
Greece	-	-	25 542	-	5 096	-	-	-	-	-
Hungary	-	31 711	26 781	18 920	6 717	-	-	29 880	38 000	19 005
Iceland	28 050	-	-	-	-	-	-	26 670	-	-
Ireland	30 117	-	24 848	-	-	8 922	-	-	-	19 816
	-	-	-	-	-	-	-	-	-	18 548 ²
Israel	-	-	24 875	-	3 970	-	-	-	-	-
Italy	-	30 984	24 985	18 832	10 468	-	-	28 800	35 950	-
Japan	27 246	28 076	24 386	-	-	-	-	29 181	35 393	-
Korea	20 135	28 219	24 660	21 353	-	-	18 631	28 889	37 000	-
Latvia	27 433	-	23 720	-	-	10 050	-	-	-	-
Luxembourg	26 700	-	24 400	-	-	-	-	28 500	-	22 200
Mexico	26 685	29 299	25 875	20 134	11 346	-	-	28 383	37 970	18 000
Netherlands	29 259	28 627	24 969	-	19 999	-	-	28 498	41 876	20 000
New Zealand	-	30 282	25 967	20 299	14 508	-	-	29 500	-	-
Norway	-	-	28 100	-	-	-	-	28 500	-	-
Poland	25 043	29 500	23 039	-	8 116	-	23 188	28 000	37 720	17 503
Portugal	27 875	-	24 743	-	-	-	-	30 427	-	-
Slovak Republic	26 263	29 810	26 336	-	10 993	-	28 000	28 102	33 490	17 245
Slovenia	-	-	27 256	19 376	11 767	-	-	29 985	-	-
Spain	24 078	29 200	23 015	13 520	-	-	-	26 795	38 519	-
Sweden	-	30 000	27 400	-	-	12 552	-	28 080	-	-
Switzerland	25 500	-	25 500	-	23 600	-	-	25 500	-	-
Turkey	-	29 750	26 035	20 908	8 353	-	-	27 000	37 681	-
United Kingdom	-	30 250	25 368	-	-	-	28 310	29 800	35 016	-
United States	29 349	28 350	26 614	19 047	13 945	-	-	28 865	-	-

Source: IEA/OECD Coal Statistics

Data are weighted averages of supply side statistics, on a net as received (NAR) basis.

PART IV

NON-OECD COAL DATA

BRAZIL

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	3.6	2.8	2.9	3.8	3.5	3.0	4.4	3.8	-2.5	1.2
Imports	5.3	11.3	14.0	14.8	15.2	17.3	21.2	19.5	7.9	2.1
Exports	-	-	-	-	-0.0	-	-	-	-	-
Stock changes	-0.4	-0.2	0.0	0.1	-0.1	0.4	-0.3	-0.6		
Primary supply	8.5	13.8	16.9	18.6	18.6	20.7	25.3	22.7	5.0	1.9
Statistical differences	0.2	0.1	-0.1	0.2	-0.0	0.0	-0.0	-0.0		
Total transformation	-4.0	-6.7	-8.0	-9.3	-9.3	-9.2	-13.3	-12.5	5.2	2.4
Electricity and heat gen.	-1.3	-2.1	-2.5	-4.6	-4.1	-4.5	-8.9	-8.6	5.4	5.5
<i>Main activity producers</i> ²	-1.0	-1.4	-1.9	-3.3	-2.6	-2.5	-6.1	-5.6	3.6	5.4
<i>Autoproducers</i>	-0.3	-0.7	-0.6	-1.3	-1.5	-2.0	-2.8	-3.0	10.3	5.6
Gas works	-	-	-	-	-	-	-	-	-	-
Coal transformation ³	-2.8	-4.5	-5.5	-4.7	-5.2	-4.7	-4.4	-3.9	5.1	-0.6
<i>BKB plants</i>	-	-	-	-	-	-	-	-	-	-
<i>Blast furnaces</i>	-2.2	-3.4	-4.6	-4.2	-4.9	-4.9	-4.9	-4.4	4.5	1.0
<i>Coke ovens</i>	-0.6	-1.1	-1.0	-0.6	-0.3	0.2	0.5	0.6	7.3	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	-	-	-
Other transformation ⁴	-	-	-	-	-	-	-	-	-	-
Energy ind. own use	-0.4	-0.8	-0.8	-0.8	-0.8	-0.7	-0.5	-0.5	6.8	-2.0
Losses	-1.3	-1.2	-1.7	-0.5	-0.5	-0.3	-0.4	-0.3		
Final consumption ⁵	3.0	5.2	6.4	8.2	7.9	10.5	11.0	9.5	5.9	2.3
Industry ⁶	2.8	5.1	6.3	8.0	7.7	10.3	10.8	9.3	6.3	2.4
<i>Iron and steel</i>	2.1	3.5	4.8	6.5	5.9	7.8	7.8	7.0	5.0	2.7
<i>Chemical</i>	0.0	0.1	0.2	0.1	0.1	0.2	0.2	0.2	47.6	1.3
<i>Non-metallic minerals</i>	0.4	0.9	0.6	0.3	0.2	0.1	0.3	0.2	7.2	-5.3
<i>Paper, pulp and print</i>	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	8.3	-2.0
<i>Other industry</i> ⁷	0.1	0.4	0.6	1.0	1.3	2.0	2.4	1.8	14.5	5.8
Transport ⁸	0.0	0.0	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
<i>Comm. and pub. services</i>	-	-	-	-	-	-	-	-	-	-
<i>Residential</i>	-	-	-	-	-	-	-	-	-	-
<i>Other sectors</i> ⁹	-	-	-	-	-	-	-	-	-	-
Non-energy use	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	-0.9	1.1
Electricity gen. - TWh	3.4	4.8	5.5	11.0	10.7	11.3	27.5	25.7	3.3	6.7

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

BRAZIL

Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	3547	10146	14833	13699	17590	20351	20273	19502	20971
Coking coal	3503	9801	10695	9396	13647	10960	10304	10698	11566
Australia	164	1291	5247	3501	4627	3834	4660	4949	5220
Canada	600	1108	1382	1944	1574	1985	1090	990	638
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	15	-	-	-	-	-	-	-	-
Poland	-	1249	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	2724	5219	4066	3523	7303	5141	4549	4759	5516
Other OECD	-	-	-	128	-	-	-	-	-
China, People's Rep.	-	-	-	-	3	-	-	-	-
Colombia	-	254	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	670	-	300	61	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	30	-	5	-	192
<i>Other FSU</i>	x	x	-	-	49	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	10	-	-	-	-	-	-	-
Steam coal⁵	44	345	4138	4303	3943	9391	9969	8804	9405
Australia	-	158	18	32	34	152	83	166	202
Canada	-	98	2	-	134	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	5	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	5	-	-	-	-	-	-	-
United States	11	79	-	660	68	1407	327	104	210
Other OECD	-	-	-	644	39	-	26	-	-
China, People's Rep.	-	-	585	366	6	5	5	6	97
Colombia	-	-	149	426	1601	5051	6157	5249	5331
Indonesia	-	-	468	211	-	-	33	-	65
South Africa	-	-	1919	249	895	998	991	668	803
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	514	387	1043	1724	2022	1704
<i>Other FSU</i>	x	x	-	226	166	237	-	129	-
Venezuela	33	-	997	450	608	225	427	247	78
Viet Nam	-	-	-	429	-	-	-	-	-
Non-specified/other	-	-	-	96	5	273	196	213	915
Lignite	-	-	-	-	-	-	-	-	-

1. In these tables coal used for PCI and for blending has been classified by the IEA as steam coal. Accordingly, trade data reported here may differ from those reported in Part III where this coal may be shown as coking coal to be consistent with data reported by importing countries and with industry terminology and practice.

2. Earliest year for which split by coal type is available.

3. Total coal does not include peat or oil shale and oil sands.

4. For years prior to 1990.

5. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

BULGARIA

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	7.4	7.7	7.6	6.1	6.0	7.1	8.4	7.3	0.4	-0.2
Imports	6.1	5.0	3.5	3.4	3.7	2.5	1.1	0.8	-1.9	-6.7
Exports	-	-0.1	-0.0	-0.2	-0.0	-0.1	-0.0	-0.0	-	-9.1
Stock changes	-0.1	0.1	-0.2	-0.2	0.3	0.4	0.0	0.0		
Primary supply	13.4	12.7	10.9	9.1	9.9	9.9	9.4	8.1	-0.5	-1.7
Statistical differences	-0.0	-0.1	-0.3	-0.0	0.1	0.1	-0.0	-0.0		
Total transformation	-8.3	-10.1	-8.8	-7.7	-8.6	-9.3	-8.8	-7.6	2.0	-1.1
Electricity and heat gen.	-7.7	-10.2	-8.1	-7.0	-8.2	-9.2	-8.7	-7.5	2.9	-1.2
<i>Main activity producers</i> ²	-7.4	-9.4	-7.3	-6.8	-8.0	-9.2	-8.7	-7.5	2.5	-0.9
<i>Autoproducers</i>	-0.2	-0.7	-0.8	-0.2	-0.2	-	-	-	11.6	-
Gas works	-	-	-	-	-	-	-	-	-	-
Coal transformation ³	-0.6	0.0	-0.7	-0.6	-0.4	-0.0	-0.1	-0.1	-	-
<i>BKB plants</i>	0.0	-0.0	-0.0	-0.0	0.1	-0.0	-0.1	-0.1	-	4.8
<i>Blast furnaces</i>	-0.5	-0.0	-0.5	-0.4	-0.4	-	-	-	-21.1	-
<i>Coke ovens</i>	-0.2	0.1	-0.2	-0.3	-0.1	-	-	-	-	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	-	-	-
Other transformation ⁴	-	-	-	-	-	0.0	-	-	-	-
Energy ind. own use	-	-0.2	-0.2	-0.4	-0.2	-0.0	-0.0	-0.0	-	-18.6
Losses	-0.0	-0.0	-	-	-	-0.0	-0.0	-		
Final consumption ⁵	5.1	2.3	1.6	1.1	1.1	0.7	0.6	0.6	-7.6	-5.3
Industry ⁶	3.6	1.2	0.9	0.7	0.7	0.3	0.3	0.2	-10.2	-6.0
<i>Iron and steel</i>	0.5	0.8	0.6	0.3	0.3	-	-	-	3.6	-
<i>Chemical</i>	-	0.2	0.1	0.2	0.1	0.1	0.1	0.1	-	-0.3
<i>Non-metallic minerals</i>	-	0.1	0.1	0.1	0.2	0.2	0.1	0.1	-	-0.5
<i>Paper, pulp and print</i>	-	-	-	-	-	-	0.0	0.0	-	-
<i>Other industry</i> ⁷	3.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	-23.7	-12.4
Transport ⁸	-	-	0.0	-	-	-	-	-	-	-
Other	1.5	1.1	0.7	0.3	0.3	0.3	0.2	0.2	-3.1	-5.7
<i>Comm. and pub. services</i>	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-
<i>Residential</i>	1.2	1.0	0.7	0.3	0.3	0.3	0.2	0.2	-2.2	-5.7
<i>Other sectors</i> ⁹	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-11.9	-6.7
Non-energy use	-	-	-	-	-	0.1	0.1	0.1	-	-
Electricity gen. - TWh	17.1	21.2	17.6	17.2	18.6	22.6	22.5	19.4	2.1	-0.3

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

BULGARIA

Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	6201	5790	1184	1744	2939	1371	1061	762	895
Coking coal	1921	1100	536	10	-	-	-	-	-
Australia	-	-	-	1	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	140	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	44	298	8	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	1921	1056	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	98	1	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Steam coal⁵	4280	4690	648	1734	2939	1369	1061	762	895
Australia	-	-	-	66	-	-	-	-	-
Canada	-	-	-	100	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	38	-	-	-	-	-
Other OECD	-	-	-	-	44	-	-	1	3
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	285	-	-	41	49	89	66
Former Soviet Union ⁴	4280	4690	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	363	858	251	692	844	610	586
<i>Other FSU</i>	x	x	-	623	2599	598	138	62	240
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	33	30	-	-
Non-specified/other	-	-	-	49	45	5	-	-	-
Lignite	-	-	-	-	-	2	-	-	-

1. In these tables coal used for PCI and for blending has been classified by the IEA as steam coal. Accordingly, trade data reported here may differ from those reported in Part III where this coal may be shown as coking coal to be consistent with data reported by importing countries and with industry terminology and practice.

2. Earliest year for which split by coal type is available.

3. Total coal does not include peat or oil shale and oil sands.

4. For years prior to 1990.

5. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

PEOPLE'S REPUBLIC OF CHINA

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	443.9	740.6	962.3	1019.3	1752.9	2460.7	2689.6	2455.6	5.3	4.7
Imports	1.5	1.5	1.2	2.1	21.3	141.1	155.4	194.4	-0.0	20.6
Exports	-6.0	-17.3	-35.0	-65.1	-78.9	-20.8	-13.7	-17.3	11.1	0.0
Stock changes	7.1	33.1	-2.7	-6.7	24.3	-23.3	21.0	104.8		
Primary supply	446.5	757.9	925.8	949.6	1719.6	2557.7	2852.3	2737.4	5.4	5.1
Statistical differences	-25.0	-49.2	22.5	17.6	38.1	-60.3	-16.4	54.7		
Total transformation	-111.9	-242.5	-396.1	-524.6	-933.9	-1379.9	-1684.5	-1718.3	8.0	7.8
Electricity and heat gen.	-88.7	-209.4	-347.9	-471.0	-809.9	-1183.9	-1437.1	-1466.8	9.0	7.8
<i>Main activity producers</i> ²	-88.2	-208.5	-346.2	-468.5	-800.1	-1156.8	-1392.7	-1417.4	9.0	7.7
<i>Autoproducers</i>	-0.5	-1.0	-1.6	-2.5	-9.8	-27.1	-44.4	-49.4	7.0	16.3
Gas works	-0.5	-1.6	-0.6	-2.2	-3.3	-1.7	-6.6	-10.2	12.0	7.4
Coal transformation ³	-22.7	-31.5	-47.6	-51.4	-120.7	-192.5	-235.7	-233.1	3.3	8.0
<i>BKB plants</i>	-	-	-	-	-	-	-	-	-	-
<i>Blast furnaces</i>	-14.0	-22.2	-35.5	-34.9	-93.7	-138.4	-148.3	-149.3	4.7	7.6
<i>Coke ovens</i>	-8.7	-9.3	-12.0	-16.1	-23.6	-48.4	-81.6	-79.9	0.7	8.6
<i>Patent fuel plants</i>	-	-	-0.1	-0.4	-3.4	-5.7	-5.7	-4.0	-	-
Other transformation ⁴	-	-	-	-	-	-1.7	-5.2	-8.2	-	-
Energy ind. own use	-4.5	-21.2	-39.6	-50.4	-55.2	-107.9	-80.0	-60.2	16.7	4.1
Losses	-	-	-	-0.1	-	-	-	-	-	-
Final consumption ⁵	305.1	444.9	512.5	392.1	768.7	1009.7	1071.3	1013.7	3.8	3.2
Industry ⁶	188.4	244.1	342.7	269.4	598.3	825.9	853.5	790.3	2.6	4.6
<i>Iron and steel</i>	47.4	32.7	63.4	67.8	131.5	233.3	274.7	262.9	-3.6	8.3
<i>Chemical</i>	42.1	31.6	60.4	40.5	93.2	116.8	144.7	144.7	-2.8	6.0
<i>Non-metallic minerals</i>	32.5	70.4	95.7	73.8	173.5	224.3	233.4	219.9	8.0	4.5
<i>Paper, pulp and print</i>	5.5	10.0	14.0	10.5	17.6	23.0	12.6	11.7	6.2	0.6
<i>Other industry</i> ⁷	60.9	99.4	109.2	76.7	182.5	228.4	188.0	151.1	5.0	1.6
Transport ⁸	10.6	9.4	4.2	0.7	0.0	0.0	0.0	0.0	-1.2	-19.9
Other	106.1	163.9	145.9	104.1	138.7	141.2	152.2	152.1	4.4	-0.3
<i>Comm. and pub. services</i>	3.2	13.3	12.7	11.9	20.4	23.8	28.8	28.5	15.1	3.0
<i>Residential</i>	81.1	117.0	100.2	66.5	77.8	72.1	70.3	70.6	3.7	-1.9
<i>Other sectors</i> ⁹	21.8	33.6	33.1	25.8	40.5	45.3	53.1	53.0	4.4	1.8
Non-energy use	-	27.5	19.7	17.9	31.7	42.6	65.6	71.2	-	3.7
Electricity gen. - TWh	159.4	441.3	743.3	1060.4	1980.3	3239.7	4109.0	4241.8	10.7	9.1

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

PEOPLE'S REPUBLIC OF CHINA

Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	2440	2003	2119	26173	163065	291586	204132	255604	271104
Coking coal	-	900	547	7195	47082	62440	47999	59307	69899
Australia	-	600	547	4422	24152	31279	25704	26819	30979
Canada	-	300	-	1239	4018	7204	5711	5189	4253
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	2754	2090	115	-	2817
Other OECD	-	-	-	179	138	500	277	533	247
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	23	105	-	-	-
Indonesia	-	-	-	-	767	657	231	574	714
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	61	1804	5760	3228	2620	4620
<i>Other FSU</i>	x	x	-	-	-	38	-	10	-
Venezuela	-	-	-	-	39	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	1294	13387	14807	12733	23562	26269
Steam coal⁵	2440	1103	1572	18978	115983	229146	156133	196297	201205
Australia	-	-	1034	2307	15158	63227	45208	43723	49079
Canada	-	-	-	-	710	994	-	-	1018
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	12	1132	1696	-	-	353
Other OECD	-	-	-	796	26	150	-	4	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	3756	1	-	-	-
Indonesia	-	-	141	2260	56295	105698	73531	103226	108289
South Africa	-	-	325	-	4183	5759	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	72	791	6801	19632	12569	16227	23453
<i>Other FSU</i>	x	x	-	-	1	15	10	10	101
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	11469	18065	6831	719	487	255
Non-specified/other	2440	1103	-	1343	9856	25143	24096	32620	18657
Lignite	-	-	-	-	-	-	-	-	-

1. In these tables coal used for PCI and for blending has been classified by the IEA as steam coal. Accordingly, trade data reported here may differ from those reported in Part III where this coal may be shown as coking coal to be consistent with data reported by importing countries and with industry terminology and practice.

2. Earliest year for which split by coal type is available.

3. Total coal does not include peat or oil shale and oil sands.

4. For years prior to 1990.

5. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

PEOPLE'S REPUBLIC OF CHINA

Coking coal exports by destination
(thousand tonnes)

	1978 ¹	1990	2000	2005	2010	2014	2015	2016	2017p
World	300	4000	6470	5260	1139	797	969	1203	2229
OECD	300	1302	5989	4984	932	625	863	971	1371
Austria	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-	-
Finland	-	-	-	-	-	-	-	-	-
France	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	-	-
Italy	-	-	-	-	-	-	-	-	-
Japan	300	1301	3631	3279	345	121	70	230	733
Korea	-	-	2358	1627	587	504	793	741	447
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	-	1	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
Portugal	-	-	-	-	-	-	-	-	-
Spain	-	-	-	78	-	-	-	-	114
Sweden	-	-	-	-	-	-	-	-	-
Turkey	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	77
United States	-	-	-	-	-	-	-	-	-
Other OECD ²	-	-	-	-	-	-	-	-	-
Non-OECD	-	2698	481	276	207	172	104	232	858
Brazil	-	100	-	-	-	-	-	-	20
Bulgaria	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Hong Kong, China	-	-	21	-	-	58	-	-	-
India	-	-	360	266	-	-	-	-	172
Morocco	-	-	-	-	-	-	-	-	-
Romania	-	400	-	-	-	-	-	-	-
Russian Federation	-	-	-	-	-	-	-	-	90
Chinese Taipei	-	-	-	-	-	-	-	72	383
Ukraine	-	-	-	-	-	-	-	-	-
Other Africa	-	-	-	-	-	-	-	-	47
Other Asia	-	2198	100	10	207	77	66	160	146
Other Eastern Europe	-	-	-	-	-	-	-	-	-
Other FSU	-	-	-	-	-	-	-	-	-
Other non-OECD Americas	-	-	-	-	-	-	-	-	-
Other Middle East	-	-	-	-	-	37	38	-	-
Non-specified/other	-	-	-	-	-	-	2	-	-

1. Earliest year for which split by coal type is available.

2. Australia, Chile, Estonia, Iceland, Ireland, Latvia, Luxembourg, New Zealand, Slovak Republic, Slovenia and Switzerland.

PEOPLE'S REPUBLIC OF CHINA

Steam coal¹ exports by destination
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	2820	13280	48578	66413	20169	6401	4228	7448	5816
OECD	534	6879	33172	37207	14584	4503	3009	5210	5273
Austria	-	-	-	-	-	-	-	-	-
Belgium	-	292	109	297	114	-	-	-	-
Canada	-	-	114	70	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	57	-	-	-	-	-	-	-
Finland	-	100	-	-	-	-	-	-	-
France	-	1776	452	8	-	-	10	-	-
Germany	21	8	-	79	-	-	16	-	-
Greece	-	-	228	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Israel	-	-	-	2	-	-	-	-	-
Italy	-	310	383	-	-	-	-	-	-
Japan	513	3258	12585	15947	6877	2170	1790	2408	2413
Korea	-	838	18760	18481	7389	2330	1092	2802	2860
Mexico	-	-	2	8	-	-	7	-	-
Netherlands	-	152	146	148	-	-	31	-	-
Norway	-	4	36	24	6	-	-	-	-
Poland	-	-	-	-	-	-	2	-	-
Portugal	-	-	-	-	-	-	-	-	-
Spain	-	-	199	184	-	-	9	-	-
Sweden	-	8	-	-	-	-	-	-	-
Turkey	-	-	43	1736	189	-	11	-	-
United Kingdom	-	69	107	163	-	-	23	-	-
United States	-	-	8	60	9	3	14	-	-
Other OECD ³	-	7	-	-	-	-	4	-	-
Non-OECD	2286	6401	15406	29162	5585	515	1151	2238	543
Brazil	-	-	585	293	-	-	-	-	-
Bulgaria	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Hong Kong, China	-	1708	1963	993	395	1	-	-	-
India	-	-	1562	3492	-	-	-	1	-
Morocco	-	-	36	138	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-
Russian Federation	-	-	-	3	-	-	-	-	-
Chinese Taipei	-	-	9076	20992	4989	466	130	1001	382
Ukraine	-	-	-	-	-	-	-	-	-
Other Africa	-	-	-	-	2	-	-	-	-
Other Asia	2286	4693	2182	3186	199	46	1021	1226	160
Other Eastern Europe	-	-	-	65	-	-	-	-	-
Other FSU	-	-	2	-	-	-	-	-	-
Other non-OECD Americas	-	-	-	-	-	-	-	-	-
Other Middle East	-	-	-	-	-	2	-	10	1
Non-specified/other	-	-	-	44	-	1383	68	-	-

1. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. Australia, Chile, Estonia, Iceland, Ireland, Latvia, Luxembourg, New Zealand, Slovak Republic, Slovenia and Switzerland.

COLOMBIA

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	3.9	19.8	23.8	35.5	54.8	69.0	79.4	84.0	17.8	5.7
Imports	-	-	-	-	0.0	-	-	-	-	-
Exports	-1.4	-12.6	-17.1	-33.0	-49.8	-64.4	-68.9	-78.6	24.9	7.3
Stock changes	0.1	-2.8	-1.6	1.3	-1.2	-	-3.3	1.9		
Primary supply	2.6	4.4	5.1	3.8	3.9	4.6	7.2	7.3	5.6	2.0
Statistical differences	1.0	0.3	0.1	0.8	0.1	-0.2	-0.9	-0.8		
Total transformation	-1.1	-1.9	-2.0	-1.0	-1.2	-2.1	-2.7	-2.7	5.7	1.5
Electricity and heat gen.	-0.7	-1.5	-1.7	-0.8	-1.0	-1.6	-2.3	-2.2	8.2	1.6
<i>Main activity producers</i> ²	-0.4	-1.0	-1.2	-0.7	-0.8	-1.4	-2.0	-2.0	9.5	2.8
<i>Autoproducers</i>	-0.3	-0.5	-0.5	-0.1	-0.2	-0.2	-0.3	-0.3	6.2	-2.1
Gas works	-	-	-	-	-	-	-	-	-	-
Coal transformation ³	-0.4	-0.4	-0.2	-0.2	-0.2	-0.5	-0.5	-0.5	-0.4	0.9
<i>BKB plants</i>	-	-	-	-	-	-	-	-	-	-
<i>Blast furnaces</i>	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.4	-3.5
<i>Coke ovens</i>	-0.3	-0.2	-0.1	-0.1	-0.1	-0.4	-0.4	-0.4	-0.8	2.3
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	-	-	-
Other transformation ⁴	-	-	-	-	-	-	-	-	-	-
Energy ind. own use	-0.5	-0.5	-0.5	-0.3	-0.3	-0.0	-0.0	-0.0	0.8	-10.5
Losses	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.0	-0.0		
Final consumption ⁵	1.9	2.3	2.7	3.2	2.4	2.2	3.5	3.8	1.8	1.9
Industry ⁶	1.7	2.1	2.5	3.1	2.4	2.1	3.4	3.7	2.3	2.2
<i>Iron and steel</i>	0.1	0.1	0.6	0.6	0.5	1.0	1.0	1.0	0.3	8.1
<i>Chemical</i>	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	-1.9	4.2
<i>Non-metallic minerals</i>	0.9	1.2	0.9	1.2	0.9	0.6	1.3	1.4	2.9	0.6
<i>Paper, pulp and print</i>	0.2	0.3	0.4	0.5	0.4	0.2	0.4	0.4	2.8	1.7
<i>Other industry</i> ⁷	0.3	0.4	0.5	0.6	0.5	0.3	0.6	0.6	2.0	1.5
Transport ⁸	0.0	0.0	0.0	0.0	0.0	0.0	-	-	-	-
Other	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	-2.6	-2.5
<i>Comm. and pub. services</i>	-	-	-	-	-	-	-	-	-	-
<i>Residential</i>	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	-2.6	-2.5
<i>Other sectors</i> ⁹	-	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-	-
Electricity gen. - TWh	1.6	3.7	4.3	2.2	2.5	4.1	7.1	6.2	8.7	2.0

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

COLOMBIA

Steam coal¹ exports by destination
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	50	13377	33565	53609	65141	79752	71370	82120	83167
OECD	-	12623	32284	50231	54404	72303	65423	69601	71919
Austria	-	-	-	-	-	-	-	-	-
Belgium	-	170	153	499	165	-	-	-	-
Canada	-	-	1590	2086	1731	1515	1594	1389	1732
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	2077	819	1225	1358	1248	535	411	158
Finland	-	334	-	-	411	-	-	-	-
France	-	2033	2832	2181	1966	694	706	1077	1833
Germany	-	351	899	2873	180	890	762	166	665
Greece	-	-	-	-	152	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Israel	-	548	773	4620	3619	7938	5452	4546	3922
Italy	-	290	1694	2442	1645	1205	2482	3374	2609
Japan	-	35	-	-	487	-	19	2324	-
Korea	-	-	-	-	1115	-	-	1706	2938
Mexico	-	-	-	-	854	354	225	2038	6833
Netherlands	-	1634	6822	5581	10419	14878	16318	16333	9105
Norway	-	-	-	-	317	-	-	-	-
Poland	-	-	-	-	194	88	143	172	357
Portugal	-	390	2544	2467	1398	4197	4997	4503	4793
Spain	-	404	908	1946	2616	6068	5474	4047	5707
Sweden	-	108	83	-	-	-	-	-	-
Turkey	-	-	-	2525	2738	9300	10275	15182	17031
United Kingdom	-	2136	4950	2576	5417	9274	3824	598	329
United States	-	1305	6412	17260	12973	6977	6919	6993	5040
Other OECD ³	-	808	1805	1950	4649	7677	5698	4742	8867
Non-OECD	50	702	1159	3051	10458	7449	5947	12519	11248
Brazil	-	-	149	279	1312	3904	3337	4007	4502
Bulgaria	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	3725	-	-	325	80
Hong Kong, China	-	600	-	-	-	-	-	-	-
India	-	-	-	-	289	-	-	2644	495
Morocco	-	29	-	-	-	-	21	188	187
Romania	-	-	69	-	-	-	-	-	-
Russian Federation	-	-	-	7	-	-	-	-	-
Chinese Taipei	-	-	-	-	2099	-	-	-	494
Ukraine	-	-	-	-	-	-	-	-	-
Other Africa	-	-	-	-	72	-	-	55	54
Other Asia	-	-	-	-	201	-	-	329	2192
Other Eastern Europe	-	-	146	121	412	210	134	278	72
Other FSU	-	-	-	-	-	-	-	-	-
Other non-OECD Americas	50	73	795	2644	2348	3335	2455	4534	3172
Other Middle East	-	-	-	-	-	-	-	159	-
Non-specified/other	-	52	122	327	279	-	-	-	-

1. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. Australia, Chile, Estonia, Iceland, Ireland, Latvia, Luxembourg, New Zealand, Slovak Republic, Slovenia and Switzerland.

HONG KONG (CHINA)

	Coal balance ¹ (Mtce)								Average annual percent change	
	1980	1990	1995	2000	2005	2010	2015	2016	80-90	90-16
Production	-	-	-	-	-	-	-	-	-	-
Imports	0.0	7.9	8.0	5.3	9.5	9.1	9.8	9.8	98.2	0.9
Exports	-	-	-	-	-	-	-	-	-	-
Stock changes	-	-	-	-	-	-	-	-	-	-
Primary supply	0.0	7.9	8.0	5.3	9.5	9.1	9.8	9.8	98.2	0.9
Statistical differences	-	0.8	0.5	0.7	-	-	-	-	-	-
Total transformation	-0.0	-8.7	-8.6	-6.1	-8.8	-7.7	-8.0	-8.0	122.2	-0.3
Electricity and heat gen.	-	-8.7	-8.6	-6.1	-8.8	-7.7	-8.0	-8.0	-	-0.3
<i>Main activity producers</i> ²	-	-8.7	-8.6	-6.1	-8.8	-7.7	-8.0	-8.0	-	-0.3
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-	-
Gas works	-	-	-	-	-	-	-	-	-	-
Coal transformation ³	-0.0	-0.0	-0.0	-	-	-	-	-	-	-
<i>BKB plants</i>	-	-	-	-	-	-	-	-	-	-
<i>Blast furnaces</i>	-0.0	-0.0	-0.0	-	-	-	-	-	-	-
<i>Coke ovens</i>	-	-	-	-	-	-	-	-	-	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	-	-	-
Other transformation ⁴	-	-	-	-	-	-	-	-	-	-
Energy ind. own use	-	-	-	-	-	-	-	-	-	-
Losses	-	-	-	-	-	-	-	-	-	-
Final consumption ⁵	0.0	0.0	0.0	-	0.8	1.3	1.8	1.8	-	34.9
Industry ⁶	0.0	0.0	0.0	-	0.8	1.3	1.8	1.8	-	34.9
<i>Iron and steel</i>	0.0	0.0	0.0	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-	-
<i>Other industry</i> ⁷	0.0	-	-	-	0.8	1.3	1.8	1.8	-	-
Transport ⁸	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
<i>Comm. and pub. services</i>	-	-	-	-	-	-	-	-	-	-
<i>Residential</i>	-	-	-	-	-	-	-	-	-	-
<i>Other sectors</i> ⁹	-	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-	-
Electricity gen. - TWh	-	28.4	27.2	18.9	27.0	23.8	24.8	24.8	-	-0.5

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

HONG KONG (CHINA)

Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	8	8928	6058	10823	10324	13789	11184	11161	10503
Coking coal	-	-	43	-	-	-	-	-	-
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	43	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Steam coal⁵	8	8928	6015	10823	10324	13789	11184	11161	10503
Australia	-	3003	276	-	441	528	246	231	369
Canada	-	-	-	-	-	77	154	77	376
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	108	-	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	8	1708	2265	938	395	-	-	-	-
Colombia	-	234	-	-	-	-	-	-	-
Indonesia	-	659	2846	9825	9303	12610	9849	9634	8242
South Africa	-	3216	567	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	61	60	135	574	935	1219	1516
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	50	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-

1. In these tables coal used for PCI and for blending has been classified by the IEA as steam coal. Accordingly, trade data reported here may differ from those reported in Part III where this coal may be shown as coking coal to be consistent with data reported by importing countries and with industry terminology and practice.

2. Earliest year for which split by coal type is available.

3. Total coal does not include peat or oil shale and oil sands.

4. For years prior to 1990.

5. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

INDIA

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	68.3	133.3	168.3	186.6	233.3	304.1	376.5	387.4	6.9	4.2
Imports	0.5	6.0	12.5	21.1	37.2	100.8	171.5	157.5	27.4	13.4
Exports	-0.1	-0.1	-0.4	-0.8	-1.2	-1.7	-1.0	-0.7	-0.9	9.7
Stock changes	-5.5	-6.8	-4.1	1.5	-6.1	-4.5	-4.5	-2.0		
Primary supply	63.3	132.4	176.1	208.5	263.2	398.6	542.4	542.2	7.7	5.6
Statistical differences	0.4	-0.5	-1.6	-2.1	-2.8	-5.0	-14.1	-9.0		
Total transformation	-27.2	-75.1	-120.2	-157.5	-195.8	-267.7	-385.7	-389.6	10.7	6.5
Electricity and heat gen.	-22.9	-69.1	-111.4	-147.4	-182.3	-253.2	-362.5	-364.4	11.7	6.6
<i>Main activity producers</i> ²	-21.6	-64.5	-104.4	-136.2	-166.1	-220.7	-317.2	-311.6	11.6	6.2
<i>Autoproducers</i>	-1.3	-4.6	-6.9	-11.2	-16.2	-32.6	-45.3	-52.8	13.4	9.8
Gas works	-	-	-	-0.0	-0.0	-0.0	-0.0	-0.0	-	-
Coal transformation ³	-4.3	-6.0	-8.9	-10.1	-13.5	-14.4	-23.2	-25.3	3.4	5.7
<i>BKB plants</i>	-0.1	-0.3	-0.3	-0.2	-0.2	-0.3	-0.1	-0.1	7.9	-4.2
<i>Blast furnaces</i>	-5.1	-5.2	-5.7	-8.4	-8.4	-11.5	-17.2	-19.1	0.1	5.1
<i>Coke ovens</i>	0.9	-0.6	-2.9	-1.4	-5.0	-2.7	-5.9	-6.1	-	9.6
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	-	-	-
Other transformation ⁴	-	-	-	-	-	-	-	-	-	-
Energy ind. own use	-0.8	-2.2	-2.2	-1.5	-1.7	-1.5	-2.1	-2.3	9.8	0.3
Losses	-	-	-	-	-	-	-	-	-	-
Final consumption ⁵	35.7	54.6	52.1	47.4	62.9	124.4	140.4	141.2	4.3	3.7
Industry ⁶	19.2	37.7	37.4	36.8	51.4	107.1	124.4	124.6	7.0	4.7
<i>Iron and steel</i>	8.1	11.8	15.0	13.7	21.5	43.5	65.5	68.8	3.8	7.0
<i>Chemical</i>	1.7	3.6	4.5	3.6	2.5	2.9	2.0	2.1	7.7	-2.1
<i>Non-metallic minerals</i>	4.5	8.7	9.8	13.4	13.4	16.7	21.9	22.3	6.8	3.7
<i>Paper, pulp and print</i>	1.2	1.8	2.3	1.9	1.9	2.5	0.9	0.9	4.0	-2.6
<i>Other industry</i> ⁷	3.6	11.7	5.8	4.2	12.0	41.5	34.2	30.6	12.4	3.8
Transport ⁸	7.1	3.1	0.2	-	-	-	-	-	-7.8	-
Other	9.4	13.8	14.5	10.5	11.5	17.3	16.0	16.6	3.9	0.7
<i>Comm. and pub. services</i>	4.0	4.8	5.0	3.7	3.6	4.5	5.9	6.1	1.7	1.0
<i>Residential</i>	2.9	3.9	3.8	3.6	3.3	3.7	3.7	3.7	3.0	-0.2
<i>Other sectors</i> ⁹	2.5	5.1	5.7	3.3	4.6	9.1	6.4	6.8	7.5	1.1
Non-energy use	-	-	-	-	-	-	-	-	-	-
Electricity gen. - TWh	61.5	191.6	296.3	390.2	478.5	658.0	1032.1	1104.8	12.0	7.0

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

INDIA

Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	220	5100	16565	38586	115717	237592	212105	193642	208272
Coking coal	220	5000	8372	16892	34424	51663	47445	47041	47003
Australia	20	4665	7824	13973	30730	40822	41451	39341	38479
Canada	200	-	-	-	-	1711	1639	2697	2822
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	284	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	11	837	2299	3188	3458	2583	3361
Other OECD	-	51	63	92	1073	997	816	443	419
China, People's Rep.	-	-	474	603	-	-	-	-	162
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	1365	70	-	-	-	-
South Africa	-	-	-	-	226	-	16	104	25
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	22	6	62	2	238	192
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	20	4883	63	1635	1543
Steam coal⁵	-	100	8193	21694	81293	185929	164660	146601	161269
Australia	-	100	2748	1438	2227	6517	5272	4778	3209
Canada	-	-	-	-	-	-	-	-	95
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	1	3	2	2	2
United States	-	-	-	86	773	1012	2208	2431	6838
Other OECD	-	-	-	-	-	1364	637	1411	508
China, People's Rep.	-	-	1610	3152	2	-	3	1	-
Colombia	-	-	-	-	260	-	-	2541	535
Indonesia	-	-	2256	13889	53677	142473	120628	96364	106969
South Africa	-	-	1507	3044	24030	32842	32961	36111	39445
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	72	33	220	1689	2909	2921	3484
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	29	-	-	-
Viet Nam	-	-	-	-	57	-	40	41	184
Non-specified/other	-	-	-	52	46	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-

1. In these tables coal used for PCI and for blending has been classified by the IEA as steam coal. Accordingly, trade data reported here may differ from those reported in Part III where this coal may be shown as coking coal to be consistent with data reported by importing countries and with industry terminology and practice.

2. Earliest year for which split by coal type is available.

3. Total coal does not include peat or oil shale and oil sands.

4. For years prior to 1990.

5. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

INDONESIA

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	0.2	8.4	34.1	64.9	140.3	266.2	350.1	355.5	42.2	15.5
Imports	0.0	0.6	-	0.1	0.1	0.1	2.9	3.8	32.6	7.2
Exports	-0.1	-3.9	-26.1	-47.9	-108.8	-220.7	-294.4	-297.4	45.1	18.1
Stock changes	0.0	-	1.0	-	-	-	-	-	-	-
Primary supply	0.2	5.1	9.0	17.2	31.6	45.5	58.6	61.9	36.5	10.1
Statistical differences	-0.0	1.5	0.4	1.5	-0.5	-7.1	0.0	0.0		
Total transformation	-0.0	-3.3	-4.9	-12.0	-19.2	-26.9	-44.9	-48.3	71.3	10.8
Electricity and heat gen.	-	-3.3	-4.9	-12.0	-19.2	-26.9	-44.9	-48.3	-	10.8
<i>Main activity producers</i> ²	-	-3.3	-4.9	-9.9	-12.7	-18.0	-31.4	-32.4	-	9.2
<i>Autoproducers</i>	-	-	-	-2.1	-6.5	-8.9	-13.5	-15.9	-	-
Gas works	-	-	-	-	-	-	-	-	-	-
Coal transformation ³	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-	-
<i>BKB plants</i>	-	-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-	-
<i>Blast furnaces</i>	-0.0	-0.0	-	-	-	-	-	-	-	-
<i>Coke ovens</i>	-	-	-	-	-	-	-	-	-	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	-	-	-
Other transformation ⁴	-	-	-	-	-	-	-	-	-	-
Energy ind. own use	-0.1	-	-	-	-	-	-	-	-	-
Losses	-	-	-	-	-	-	-	-	-	-
Final consumption ⁵	0.1	3.2	4.5	6.6	11.9	11.4	13.7	13.6	38.0	5.7
Industry ⁶	0.1	3.2	4.5	6.6	11.9	11.4	13.7	13.6	40.4	5.7
<i>Iron and steel</i>	0.0	0.0	-	0.0	0.2	0.3	0.4	0.3	-	11.0
<i>Chemical</i>	0.1	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	1.7	3.9	4.7	4.6	6.8	-	-
<i>Paper, pulp and print</i>	-	-	-	0.6	0.9	1.3	2.8	2.7	-	-
<i>Other industry</i> ⁷	0.0	3.2	4.5	4.4	7.0	5.0	6.0	3.8	58.3	0.6
Transport ⁸	0.0	-	-	-	-	-	-	-	-	-
Other	-	-	0.0	0.0	0.0	0.0	-	-	-	-
<i>Comm. and pub. services</i>	-	-	-	-	-	-	-	-	-	-
<i>Residential</i>	-	-	0.0	0.0	0.0	0.0	-	-	-	-
<i>Other sectors</i> ⁹	-	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-	-
Electricity gen. - TWh	-	9.8	14.4	34.0	51.8	68.4	130.5	135.4	-	10.6

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

INDONESIA

Steam coal¹ exports by destination
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	32	4574	54480	118396	265000	408183	365723	369576	388737
OECD	-	961	27791	45977	94212	80796	75759	76120	79875
Austria	-	-	-	-	-	-	-	-	-
Belgium	-	6	-	6	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-	-
Finland	-	-	-	-	-	-	-	-	-
France	-	-	-	306	-	-	-	50	102
Germany	-	38	105	109	-	-	-	-	-
Greece	-	-	133	80	36	-	-	23	-
Hungary	-	-	-	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	-	-
Italy	-	-	1637	2422	6835	3518	3106	1686	892
Japan	-	663	13101	19511	35746	35584	32413	33037	31428
Korea	-	33	4825	12885	43102	35607	34005	35019	41019
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	-	133	2700	1076	2804	-	83	-	302
Norway	-	-	-	-	-	-	-	-	-
Poland	-	-	7	-	-	-	-	-	-
Portugal	-	-	70	119	-	-	-	-	-
Spain	-	-	2793	3146	2616	4071	4503	4944	3736
Sweden	-	-	-	-	-	-	-	-	-
Turkey	-	-	-	-	46	-	253	161	87
United Kingdom	-	-	-	1772	165	-	-	-	-
United States	-	-	627	1884	1583	1312	732	561	663
Other OECD ³	-	88	1793	2661	1279	704	664	639	1646
Non-OECD	32	3613	26689	58073	170724	327387	289956	293456	308862
Brazil	-	-	468	146	-	-	33	-	-
Bulgaria	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	105	142	1008	57430	100248	72716	98964	112860
Hong Kong, China	-	660	2816	9826	8725	12582	9685	9446	8468
India	-	110	3373	11657	44990	135380	124037	100486	99011
Morocco	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-
Russian Federation	-	-	-	-	-	-	-	-	-
Chinese Taipei	-	546	11786	19132	21280	27241	24320	24484	17587
Ukraine	-	-	-	-	-	-	-	77	-
Other Africa	-	-	-	155	158	147	104	-	50
Other Asia	32	2192	8032	16004	37194	51190	58761	59689	70630
Other Eastern Europe	-	-	-	65	770	33	-	-	-
Other FSU	-	-	-	53	-	-	-	-	-
Other non-OECD Americas	-	-	72	15	76	-	-	-	-
Other Middle East	-	-	-	12	101	566	300	310	256
Non-specified/other	-	-	-	14346	64	-	8	-	-

1. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. Australia, Chile, Estonia, Iceland, Ireland, Latvia, Luxembourg, New Zealand, Slovak Republic, Slovenia and Switzerland.

KAZAKHSTAN

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	x	82.9	53.1	48.8	54.7	69.4	67.3	64.6	-	-1.0
Imports	x	6.8	1.5	1.0	1.4	0.8	0.8	0.7	-	-8.2
Exports	x	-32.6	-13.3	-21.8	-15.6	-19.7	-19.5	-16.2	-	-2.7
Stock changes	x	-	-	0.3	0.2	-1.2	0.3	1.4		
Primary supply	x	57.1	41.3	28.2	40.7	49.3	48.9	50.5	-	-0.5
Statistical differences	x	-	-	1.6	-0.0	2.9	-0.0	-0.4		
Total transformation	x	-34.5	-24.3	-23.5	-28.2	-28.4	-30.6	-31.9	-	-0.3
Electricity and heat gen.	x	-34.4	-23.9	-20.9	-25.8	-25.7	-26.8	-27.7	-	-0.8
<i>Main activity producers</i> ²	x	-34.4	-23.9	-20.9	-25.8	-25.7	-26.8	-27.7	-	-0.8
<i>Autoproducers</i>	x	-	-	-	-	-	-	-	-	-
Gas works	x	-	-	-	-	-	-	-	-	-
Coal transformation ³	x	-0.1	-0.3	-2.6	-2.4	-2.6	-3.9	-4.2	-	14.8
<i>BKB plants</i>	x	-	-	-	-	-	-	-	-	-
<i>Blast furnaces</i>	x	-	-	-0.9	-0.9	-1.1	-1.1	-1.3	-	-
<i>Coke ovens</i>	x	-0.1	-0.3	-1.7	-1.5	-1.5	-2.8	-2.9	-	13.2
<i>Patent fuel plants</i>	x	-	-	0.0	0.0	-	-	-	-	-
Other transformation ⁴	x	-	-	-	-	-	-	-	-	-
Energy ind. own use	x	-	-0.4	-0.7	-0.7	-1.2	-0.7	-0.8	-	-
Losses	x	-	-	-0.1	-1.3	-1.3	-2.5	-3.6		
Final consumption ⁵	x	22.5	16.7	5.5	10.5	21.4	15.1	13.8	-	-1.9
Industry ⁶	x	22.5	16.7	4.5	9.6	15.6	11.1	11.6	-	-2.5
<i>Iron and steel</i>	x	1.2	2.3	1.3	1.4	4.6	3.4	5.2	-	5.7
<i>Chemical</i>	x	-	-	-	-	0.0	0.0	0.0	-	-
<i>Non-metallic minerals</i>	x	-	-	-	-	-	0.0	0.0	-	-
<i>Paper, pulp and print</i>	x	-	-	-	-	-	0.0	0.0	-	-
<i>Other industry</i> ⁷	x	21.3	14.4	3.2	8.2	10.9	7.6	6.4	-	-4.5
Transport ⁸	x	-	-	-	-	-	0.1	-	-	-
Other	x	-	-	0.0	0.0	5.8	4.0	2.2	-	-
<i>Comm. and pub. services</i>	x	-	-	-	-	1.1	1.1	0.8	-	-
<i>Residential</i>	x	-	-	0.0	0.0	1.7	2.8	1.3	-	-
<i>Other sectors</i> ⁹	x	-	-	-	-	3.1	0.2	0.2	-	-
Non-energy use	x	-	-	1.0	0.9	-	-	-	-	-
Electricity gen. - TWh	x	62.1	48.0	35.6	50.1	66.7	76.2	70.6	-	0.5

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

KAZAKHSTAN

Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	x	3277	668	31	237	15	14	24	142
Coking coal	x	-	-	-	-	-	-	-	-
Australia	x	-	-	-	-	-	-	-	-
Canada	x	-	-	-	-	-	-	-	-
Czech Republic	x	-	-	-	-	-	-	-	-
Germany	x	-	-	-	-	-	-	-	-
Poland	x	-	-	-	-	-	-	-	-
United Kingdom	x	-	-	-	-	-	-	-	-
United States	x	-	-	-	-	-	-	-	-
Other OECD	x	-	-	-	-	-	-	-	-
China, People's Rep.	x	-	-	-	-	-	-	-	-
Colombia	x	-	-	-	-	-	-	-	-
Indonesia	x	-	-	-	-	-	-	-	-
South Africa	x	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	x	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	x	-	-	-	-	-	-	-	-
Viet Nam	x	-	-	-	-	-	-	-	-
Non-specified/other	x	-	-	-	-	-	-	-	-
Steam coal⁵	x	3277	668	31	234	15	14	24	142
Australia	x	-	-	-	-	-	-	-	-
Canada	x	-	-	-	-	-	-	-	-
Czech Republic	x	-	-	-	-	-	-	-	-
Germany	x	-	-	-	-	-	-	-	-
Poland	x	-	-	-	-	-	-	-	-
United Kingdom	x	-	-	-	-	-	-	-	-
United States	x	-	-	-	-	-	-	-	-
Other OECD	x	-	-	-	-	-	-	-	-
China, People's Rep.	x	-	2	-	-	-	-	-	-
Colombia	x	-	-	-	-	-	-	-	-
Indonesia	x	-	-	-	-	-	-	-	-
South Africa	x	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	x	3277	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	480	31	234	15	12	24	142
<i>Other FSU</i>	x	x	-	-	-	-	2	-	-
Venezuela	x	-	-	-	-	-	-	-	-
Viet Nam	x	-	-	-	-	-	-	-	-
Non-specified/other	x	-	186	-	-	-	-	-	-
Lignite	x	-	-	-	3	-	-	-	-

1. In these tables coal used for PCI and for blending has been classified by the IEA as steam coal. Accordingly, trade data reported here may differ from those reported in Part III where this coal may be shown as coking coal to be consistent with data reported by importing countries and with industry terminology and practice.

2. Earliest year for which split by coal type is available.

3. Total coal does not include peat or oil shale and oil sands.

4. For years prior to 1990.

5. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

KAZAKHSTAN

Steam coal¹ exports by destination
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	x	53210	25300	21308	29078	26570	27398	22662	23782
OECD	x	-	-	116	298	3317	3902	2993	868
Austria	x	-	-	-	-	-	-	-	-
Belgium	x	-	-	-	-	-	-	312	-
Canada	x	-	-	-	-	-	-	-	-
Czech Republic	x	-	-	-	-	-	-	-	-
Denmark	x	-	-	-	-	-	-	-	-
Finland	x	-	-	-	49	2826	3280	2062	126
France	x	-	-	-	-	-	-	-	-
Germany	x	-	-	-	2	-	-	-	31
Greece	x	-	-	-	-	123	-	-	-
Hungary	x	-	-	39	9	-	-	-	-
Israel	x	-	-	-	-	-	-	-	-
Italy	x	-	-	4	-	121	2	-	519
Japan	x	-	-	-	-	-	409	69	-
Korea	x	-	-	-	-	-	-	-	-
Mexico	x	-	-	-	-	-	-	-	-
Netherlands	x	-	-	-	-	-	-	-	-
Norway	x	-	-	-	-	-	-	-	-
Poland	x	-	-	73	238	18	-	5	89
Portugal	x	-	-	-	-	-	-	-	-
Spain	x	-	-	-	-	-	-	-	-
Sweden	x	-	-	-	-	-	-	-	-
Turkey	x	-	-	-	-	-	-	11	-
United Kingdom	x	-	-	-	-	157	192	237	103
United States	x	-	-	-	-	-	-	-	-
Other OECD ³	x	-	-	-	-	72	19	297	-
Non-OECD	x	53210	25300	21192	28780	23253	23496	19666	22914
Brazil	x	-	-	-	-	-	-	-	-
Bulgaria	x	-	-	-	-	-	-	-	-
China, People's Rep.	x	-	-	-	-	-	2	18	-
Hong Kong, China	x	-	-	-	-	-	-	-	-
India	x	-	-	-	-	-	-	-	-
Morocco	x	-	-	-	-	-	-	-	-
Romania	x	-	-	-	-	29	25	-	-
Russian Federation	x	53210	24080	21192	28780	22016	21226	18602	21678
Chinese Taipei	x	-	-	-	-	-	-	-	-
Ukraine	x	-	1220	-	-	3	671	1	-
Other Africa	x	-	-	-	-	-	-	-	-
Other Asia	x	-	-	-	-	-	-	-	-
Other Eastern Europe	x	-	-	-	-	13	-	38	-
Other FSU	x	-	-	-	-	1192	1572	1007	1236
Other non-OECD Americas	x	-	-	-	-	-	-	-	-
Other Middle East	x	-	-	-	-	-	-	-	-
Non-specified/other	x	-	-	-	-	-	-	3	-

1. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. Australia, Chile, Estonia, Iceland, Ireland, Latvia, Luxembourg, New Zealand, Slovak Republic, Slovenia and Switzerland.

PEOPLE'S DEMOCRATIC REPUBLIC OF KOREA

	Coal balance ¹ (Mtce)								Average annual percent change	
	1980	1990	1995	2000	2005	2010	2015	2016	80-90	90-16
Production	36.3	38.0	25.4	24.2	28.4	20.7	24.1	27.3	0.5	-1.3
Imports	0.7	2.8	1.3	0.2	0.2	0.3	1.0	1.3	14.5	-2.9
Exports	-0.1	-0.4	-0.4	-0.3	-2.6	-4.2	-18.1	-20.6	17.5	15.9
Stock changes	-	-	-	-	-	-	-	-	-	-
Primary supply	37.0	40.4	26.3	24.0	26.0	16.8	7.0	8.0	0.9	-6.0
Statistical differences	-	-	-	-	-	-	-0.0	-0.0		
Total transformation	-7.8	-8.6	-4.8	-3.8	-4.1	-2.6	-1.0	-1.1	1.0	-7.6
Electricity and heat gen.	-5.0	-5.3	-3.9	-3.8	-4.0	-2.5	-0.9	-1.0	0.6	-6.2
Main activity producers ²	-5.0	-5.3	-3.9	-3.8	-4.0	-2.5	-0.9	-1.0	0.6	-6.2
Autoproducers	-	-	-	-	-	-	-	-	-	-
Gas works	-	-	-	-	-	-	-	-	-	-
Coal transformation ³	-2.8	-3.3	-0.9	-0.1	-0.1	-0.1	-0.1	-0.1	1.8	-12.6
BKB plants	-	-	-	-	-	-	-	-	-	-
Blast furnaces	-1.6	-1.8	-0.6	-0.1	-0.1	-0.1	-0.1	-0.1	1.7	-10.6
Coke ovens	-1.2	-1.5	-0.3	-	-	-	-	-	1.8	-
Patent fuel plants	-	-	-	-	-	-	-	-	-	-
Other transformation ⁴	-	-	-	-	-	-	-	-	-	-
Energy ind. own use	-	-	-	-	-	-	-	-	-	-
Losses	-	-	-	-	-	-	-	-	-	-
Final consumption⁵	29.2	31.8	21.6	20.2	22.0	14.2	6.0	6.9	0.8	-5.7
Industry ⁶	23.2	25.8	16.6	15.3	16.8	10.7	4.6	5.2	1.1	-6.0
Iron and steel	1.6	1.9	0.4	0.1	0.1	0.1	0.1	0.1	1.7	-11.0
Chemical	-	-	-	-	-	-	-	-	-	-
Non-metallic minerals	-	-	-	-	-	-	-	-	-	-
Paper, pulp and print	-	-	-	-	-	-	-	-	-	-
Other industry ⁷	21.6	23.9	16.2	15.2	16.7	10.6	4.5	5.1	1.0	-5.8
Transport ⁸	-	-	-	-	-	-	-	-	-	-
Other	6.0	5.9	5.0	4.9	5.2	3.5	1.5	1.6	-0.2	-4.8
Comm. and pub. services	-	-	-	-	-	-	-	-	-	-
Residential	-	-	-	-	-	-	-	-	-	-
Other sectors ⁹	6.0	5.9	5.0	4.9	5.2	3.5	1.5	1.6	-0.2	-4.8
Non-energy use	-	-	-	-	-	-	-	-	-	-
Electricity gen. - TWh	10.2	11.1	8.5	8.4	8.9	7.7	2.9	3.2	0.9	-4.7

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

MALAYSIA

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	-	0.1	0.1	0.3	0.7	2.2	2.3	2.0	-	12.3
Imports	0.1	2.0	2.3	2.8	9.4	18.7	22.9	24.5	39.0	10.0
Exports	-	-0.0	-0.1	-0.0	-0.1	-0.1	-0.2	-0.0	-	-2.3
Stock changes	-	-0.2	-0.0	0.2	-0.3	0.1	0.0	0.3		
Primary supply	0.1	1.9	2.3	3.3	9.8	20.9	25.0	26.9	38.3	10.6
Statistical differences	-	-0.0	0.1	0.3	-0.0	0.3	-0.2	0.1		
Total transformation	-	-1.2	-1.4	-2.1	-7.9	-18.5	-22.3	-24.4	-	12.4
Electricity and heat gen.	-	-1.2	-1.4	-2.1	-7.9	-18.5	-22.3	-24.4	-	12.4
<i>Main activity producers</i> ²	-	-1.2	-1.4	-2.1	-7.9	-18.5	-22.3	-24.4	-	12.4
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-	-
Gas works	-	-	-	-	-	-	-	-	-	-
Coal transformation ³	-	-	-	-	-	-	-	-	-	-
<i>BKB plants</i>	-	-	-	-	-	-	-	-	-	-
<i>Blast furnaces</i>	-	-	-	-	-	-	-	-	-	-
<i>Coke ovens</i>	-	-	-	-	-	-	-	-	-	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	-	-	-
Other transformation ⁴	-	-	-	-	-	-	-	-	-	-
Energy ind. own use	-	-	-	-	-	-	-	-	-	-
Losses	-	-	-	-	-	-	-	-	-	-
Final consumption ⁵	0.1	0.7	1.0	1.4	1.9	2.6	2.5	2.5	25.5	4.9
Industry ⁶	0.1	0.7	1.0	1.4	1.9	2.6	2.5	2.5	25.5	4.9
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-	-
<i>Other industry</i> ⁷	0.1	0.7	1.0	1.4	1.9	2.6	2.5	2.5	25.5	4.9
Transport ⁸	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
<i>Comm. and pub. services</i>	-	-	-	-	-	-	-	-	-	-
<i>Residential</i>	-	-	-	-	-	-	-	-	-	-
<i>Other sectors</i> ⁹	-	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-	-
Electricity gen. - TWh	-	2.9	3.5	7.7	20.0	42.8	63.5	69.2	-	12.9

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

MALAYSIA

Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	33	972	802	12337	26131	21738	25461	27238	31479
Coking coal	-	-	-	-	-	-	-	-	-
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Steam coal⁵	33	972	802	12337	26131	21738	25461	27238	31479
Australia	33	697	210	1270	3149	6003	6080	6757	6272
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	-	-	-	66	169	1	14	-	-
China, People's Rep.	-	-	236	58	74	4	15	17	8
Colombia	-	-	-	-	1	-	-	-	-
Indonesia	-	275	144	10739	19984	12621	15977	16373	21182
South Africa	-	-	200	-	2754	1610	995	998	774
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	1499	2332	2995	3059
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	12	125	-	-	48	98	184
Non-specified/other	-	-	-	79	-	-	-	-	-
Lignite	-	-	-	-	-	-	-	-	-

1. In these tables coal used for PCI and for blending has been classified by the IEA as steam coal. Accordingly, trade data reported here may differ from those reported in Part III where this coal may be shown as coking coal to be consistent with data reported by importing countries and with industry terminology and practice.

2. Earliest year for which split by coal type is available.

3. Total coal does not include peat or oil shale and oil sands.

4. For years prior to 1990.

5. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

MONGOLIA

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	..	3.8	3.1	2.6	5.2	21.7	18.8	27.9	-	8.0
Imports	..	0.0	0.1	0.0	-	-	0.0	0.0	-	-
Exports	..	-0.2	-0.0	-	-2.0	-16.2	-14.1	-23.0	-	19.2
Stock changes	..	-0.0	-0.0	-0.0	0.1	-1.4	-0.2	0.3		
Primary supply	..	3.6	3.2	2.6	3.2	4.2	4.5	5.2	-	1.5
Statistical differences	..	-	-	-	0.0	0.0	0.4	0.2		
Total transformation	..	-2.1	-2.2	-2.2	-2.6	-3.0	-4.0	-4.0	-	2.4
Electricity and heat gen.	..	-2.1	-2.2	-2.2	-2.6	-3.0	-3.9	-4.0	-	2.4
<i>Main activity producers</i> ²	..	-2.1	-2.2	-2.2	-2.6	-3.0	-3.9	-4.0	-	2.4
<i>Autoproducers</i>	..	-	-	-	-	-	-	-	-	-
Gas works	..	-	-	-	-	-	-	-	-	-
Coal transformation ³	..	-	-	-	-	-0.0	-0.0	-0.0	-	-
<i>BKB plants</i>	..	-	-	-	-	-	-	-	-	-
<i>Blast furnaces</i>	..	-	-	-	-	-	-	-	-	-
<i>Coke ovens</i>	..	-	-	-	-	-0.0	-0.0	-0.0	-	-
<i>Patent fuel plants</i>	..	-	-	-	-	-	-	-	-	-
Other transformation ⁴	..	-	-	-	-	-	-	-	-	-
Energy ind. own use	..	-	-	-	-	-0.0	-0.0	-0.0	-	-
Losses	..	-	-	-	-0.0	-0.1	-0.1	-0.2		
Final consumption ⁵	..	1.4	1.0	0.4	0.6	1.0	0.8	1.2	-	-0.6
Industry ⁶	..	0.8	0.6	0.1	0.1	0.3	0.1	0.2	-	-5.6
<i>Iron and steel</i>	..	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	..	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	..	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	..	-	-	-	-	-	-	-	-	-
<i>Other industry</i> ⁷	..	0.8	0.6	0.1	0.1	0.3	0.1	0.2	-	-5.6
Transport ⁸	..	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-	-3.1
Other	..	0.6	0.3	0.3	0.5	0.7	0.6	1.0	-	2.1
<i>Comm. and pub. services</i>	..	0.0	0.0	0.1	-	0.0	-	-	-	-
<i>Residential</i>	..	0.3	0.1	0.1	0.4	0.5	0.4	0.6	-	2.9
<i>Other sectors</i> ⁹	..	0.3	0.2	0.1	0.1	0.2	0.2	0.4	-	1.3
Non-energy use	..	-	-	-	-	-	-	-	-	-
Electricity gen. - TWh	..	3.1	2.5	2.9	3.3	4.1	5.1	5.3	-	2.1

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

MONGOLIA

Coking coal exports by destination
(thousand tonnes)

	1978 ¹	1990	2000	2005	2010	2014	2015	2016	2017p
World	..	-	-	-	16050	7716	12509	20424	25730
OECD	..	-	-	-	147	-	-	-	33
Austria	..	-	-	-	-	-	-	-	-
Belgium	..	-	-	-	-	-	-	-	-
Canada	..	-	-	-	-	-	-	-	-
Czech Republic	..	-	-	-	-	-	-	-	-
Denmark	..	-	-	-	-	-	-	-	-
Finland	..	-	-	-	-	-	-	-	-
France	..	-	-	-	-	-	-	-	-
Germany	..	-	-	-	-	-	-	-	-
Greece	..	-	-	-	-	-	-	-	-
Hungary	..	-	-	-	-	-	-	-	-
Israel	..	-	-	-	-	-	-	-	-
Italy	..	-	-	-	-	-	-	-	-
Japan	..	-	-	-	-	-	-	-	33
Korea	..	-	-	-	-	-	-	-	-
Mexico	..	-	-	-	-	-	-	-	-
Netherlands	..	-	-	-	-	-	-	-	-
Norway	..	-	-	-	-	-	-	-	-
Poland	..	-	-	-	-	-	-	-	-
Portugal	..	-	-	-	-	-	-	-	-
Spain	..	-	-	-	-	-	-	-	-
Sweden	..	-	-	-	-	-	-	-	-
Turkey	..	-	-	-	-	-	-	-	-
United Kingdom	..	-	-	-	147	-	-	-	-
United States	..	-	-	-	-	-	-	-	-
Other OECD ²	..	-	-	-	-	-	-	-	-
Non-OECD	..	-	-	-	15903	7716	12509	20424	25697
Brazil	..	-	-	-	-	-	-	-	-
Bulgaria	..	-	-	-	-	-	-	-	-
China, People's Rep.	..	-	-	-	15898	7716	12509	20424	25697
Hong Kong, China	..	-	-	-	-	-	-	-	-
India	..	-	-	-	-	-	-	-	-
Morocco	..	-	-	-	-	-	-	-	-
Romania	..	-	-	-	-	-	-	-	-
Russian Federation	..	-	-	-	5	-	-	-	-
Chinese Taipei	..	-	-	-	-	-	-	-	-
Ukraine	..	-	-	-	-	-	-	-	-
Other Africa	..	-	-	-	-	-	-	-	-
Other Asia	..	-	-	-	-	-	-	-	-
Other Eastern Europe	..	-	-	-	-	-	-	-	-
Other FSU	..	-	-	-	-	-	-	-	-
Other non-OECD Americas	..	-	-	-	-	-	-	-	-
Other Middle East	..	-	-	-	-	-	-	-	-
Non-specified/other	..	-	-	-	-	-	-	-	-

1. Earliest year for which split by coal type is available.

2. Australia, Chile, Estonia, Iceland, Ireland, Latvia, Luxembourg, New Zealand, Slovak Republic, Slovenia and Switzerland.

MOZAMBIQUE

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	0.2	0.0	0.0	0.0	0.0	0.0	6.2	5.6	-15.2	21.7
Imports	0.2	0.0	0.0	-	-	-	-	-	-20.6	-
Exports	-0.1	-	-	-0.0	-0.0	-0.0	-4.5	-8.3	-	-
Stock changes	-	-	-	-	-	-	-0.9	2.7	-	-
Primary supply	0.2	0.0	0.0	-	-	0.0	0.7	0.0	-14.8	-4.6
Statistical differences	-	-	-	-	-	-	-0.7	-	-	-
Total transformation	-0.0	-0.0	-	-	-	-	-	-	-	-
Electricity and heat gen.	-0.0	-0.0	-	-	-	-	-	-	-	-
<i>Main activity producers</i> ²	-0.0	-0.0	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-	-
Gas works	-	-	-	-	-	-	-	-	-	-
Coal transformation ³	-	-	-	-	-	-	-	-	-	-
<i>BKB plants</i>	-	-	-	-	-	-	-	-	-	-
<i>Blast furnaces</i>	-	-	-	-	-	-	-	-	-	-
<i>Coke ovens</i>	-	-	-	-	-	-	-	-	-	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	-	-	-
Other transformation ⁴	-	-	-	-	-	-	-	-	-	-
Energy ind. own use	-	-	-	-	-	-0.0	-0.0	-0.0	-	-
Losses	-	-	-	-	-	-	-	-	-	-
Final consumption ⁵	0.2	0.0	0.0	-	-	0.0	-	-	-18.3	-
Industry ⁶	0.2	0.0	0.0	-	-	0.0	-	-	-18.3	-
<i>Iron and steel</i>	-	-	-	-	-	-	-	-	-	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	-	-	-	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-	-
<i>Other industry</i> ⁷	0.2	0.0	0.0	-	-	0.0	-	-	-18.3	-
Transport ⁸	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
<i>Comm. and pub. services</i>	-	-	-	-	-	-	-	-	-	-
<i>Residential</i>	-	-	-	-	-	-	-	-	-	-
<i>Other sectors</i> ⁹	-	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-	-
Electricity gen. - TWh	0.1	0.1	-	-	-	-	-	-	-2.5	-

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

MOZAMBIQUE

Coking coal exports by destination
(thousand tonnes)

	1978 ¹	1990	2000	2005	2010	2014	2015	2016	2017p
World	-	-	-	-	-	3633	4060	3863	6953
OECD	-	-	-	-	-	1470	1644	1608	3578
Austria	-	-	-	-	-	24	51	-	11
Belgium	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-	-
Finland	-	-	-	-	-	-	-	-	-
France	-	-	-	-	-	119	77	-	-
Germany	-	-	-	-	-	-	-	166	544
Greece	-	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	-	-
Italy	-	-	-	-	-	-	-	-	-
Japan	-	-	-	-	-	169	254	843	369
Korea	-	-	-	-	-	197	77	229	625
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	-	-	-	-	-	505	1072	145	1454
Norway	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	13	-	-	220
Portugal	-	-	-	-	-	-	-	-	-
Spain	-	-	-	-	-	21	-	-	-
Sweden	-	-	-	-	-	-	-	-	-
Turkey	-	-	-	-	-	77	-	-	99
United Kingdom	-	-	-	-	-	214	93	101	-
United States	-	-	-	-	-	-	-	-	-
Other OECD ²	-	-	-	-	-	131	20	124	256
Non-OECD	-	-	-	-	-	1564	1635	1635	1635
Brazil	-	-	-	-	-	-	-	-	-
Bulgaria	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Hong Kong, China	-	-	-	-	-	-	-	-	-
India	-	-	-	-	-	1564	1635	1635	1635
Morocco	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-
Russian Federation	-	-	-	-	-	-	-	-	-
Chinese Taipei	-	-	-	-	-	-	-	-	-
Ukraine	-	-	-	-	-	-	-	-	-
Other Africa	-	-	-	-	-	-	-	-	-
Other Asia	-	-	-	-	-	-	-	-	-
Other Eastern Europe	-	-	-	-	-	-	-	-	-
Other FSU	-	-	-	-	-	-	-	-	-
Other non-OECD Americas	-	-	-	-	-	-	-	-	-
Other Middle East	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	599	781	620	1740

1. Earliest year for which split by coal type is available.

2. Australia, Chile, Estonia, Iceland, Ireland, Latvia, Luxembourg, New Zealand, Slovak Republic, Slovenia and Switzerland.

PHILIPPINES

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	0.2	0.9	1.0	1.0	2.2	5.0	5.6	8.5	14.2	8.9
Imports	0.5	1.3	1.8	6.4	6.2	9.1	14.5	16.8	9.6	10.5
Exports	-	-	-	-	-	-3.1	-2.3	-5.2	-	-
Stock changes	-0.0	-	-	-	-	-0.1	0.3	0.3	-	-
Primary supply	0.7	2.2	2.7	7.4	8.3	10.9	18.1	20.4	11.6	9.0
Statistical differences	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.4	-0.4		
Total transformation	-0.2	-0.9	-1.3	-6.0	-6.5	-8.0	-14.4	-16.0	14.9	11.6
Electricity and heat gen.	-0.1	-0.7	-1.1	-5.9	-6.4	-7.9	-14.3	-15.8	26.4	12.6
<i>Main activity producers</i> ²	-0.1	-0.7	-1.1	-5.9	-6.4	-7.9	-14.3	-15.8	26.4	12.6
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-	-
Gas works	-	-	-	-	-	-	-	-	-	-
Coal transformation ³	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	1.7	0.2
<i>BKB plants</i>	-	-	-	-	-	-	-	-	-	-
<i>Blast furnaces</i>	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	1.7	0.2
<i>Coke ovens</i>	-	-	-	-	-	-	-	-	-	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	-	-	-
Other transformation ⁴	-	-	-	-	-	-	-	-	-	-
Energy ind. own use	-	-	-	-	-	-	-	-	-	-
Losses	-	-	-	-	-	-	-	-	-	-
Final consumption ⁵	0.3	0.9	1.2	1.1	1.6	2.7	3.3	4.1	10.9	6.1
Industry ⁶	0.3	0.9	1.2	1.1	1.6	2.7	3.3	4.1	11.1	6.1
<i>Iron and steel</i>	0.2	0.1	0.1	0.1	0.1	0.2	0.4	0.5	-2.0	4.8
<i>Chemical</i>	-	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-	-4.5
<i>Non-metallic minerals</i>	0.1	0.7	1.0	1.0	1.5	2.3	2.5	2.9	18.7	6.0
<i>Paper, pulp and print</i>	-	-	-	-	0.0	0.1	0.1	0.1	-	-
<i>Other industry</i> ⁷	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.5	-	10.8
Transport ⁸	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
<i>Comm. and pub. services</i>	-	-	-	-	-	-	-	-	-	-
<i>Residential</i>	-	-	-	-	-	-	-	-	-	-
<i>Other sectors</i> ⁹	-	-	-	-	-	-	-	-	-	-
Non-energy use	0.0	-	-	-	-	-	-	-	-	-
Electricity gen. - TWh	0.2	1.9	2.1	16.7	15.3	23.3	36.7	43.3	26.7	12.7

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

PHILIPPINES

Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	20	1364	7245	7766	11181	14890	17041	19944	20971
Coking coal	-	-	-	-	-	-	-	-	-
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Steam coal⁵	20	1364	7245	7766	11181	14890	17029	19694	20843
Australia	20	550	1911	646	68	-	892	1379	1666
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	1	-	-	-	-	-	-	-
Other OECD	-	14	-	-	1	-	-	-	-
China, People's Rep.	-	358	1798	1332	1	-	22	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	238	3536	5193	11111	14688	15819	18016	18895
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	202	108	190	200
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	203	-	583	-	-	148	109	82
Non-specified/other	-	-	-	12	-	-	40	-	-
Lignite	-	-	-	-	-	-	12	250	128

1. In these tables coal used for PCI and for blending has been classified by the IEA as steam coal. Accordingly, trade data reported here may differ from those reported in Part III where this coal may be shown as coking coal to be consistent with data reported by importing countries and with industry terminology and practice.

2. Earliest year for which split by coal type is available.

3. Total coal does not include peat or oil shale and oil sands.

4. For years prior to 1990.

5. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

ROMANIA

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	11.6	12.4	11.3	8.0	8.3	8.4	6.7	6.1	0.7	-2.7
Imports	6.4	6.4	4.4	2.7	4.2	1.8	1.5	1.5	0.1	-5.5
Exports	-	-	-0.3	-0.0	-0.0	-0.1	-0.1	-0.0	-	-
Stock changes	-	-0.3	0.1	-0.1	0.1	-0.2	0.2	0.0	-	-
Primary supply	17.9	18.5	15.4	10.6	12.5	9.9	8.4	7.6	0.3	-3.4
Statistical differences	-0.3	-0.1	-0.3	-0.1	0.3	0.1	0.2	0.1		
Total transformation	-9.6	-13.8	-12.9	-9.2	-10.6	-8.9	-7.4	-6.7	3.7	-2.8
Electricity and heat gen.	-6.7	-11.3	-10.9	-8.0	-9.1	-8.4	-7.1	-6.3	5.3	-2.2
<i>Main activity producers</i> ²	-6.7	-9.2	-10.7	-7.7	-8.5	-7.7	-6.8	-6.2	3.2	-1.5
<i>Autoproducers</i>	-	-2.0	-0.2	-0.3	-0.6	-0.6	-0.3	-0.1	-	-9.7
Gas works	-	-	-	-	-	-	-	-	-	-
Coal transformation ³	-2.9	-2.6	-1.9	-1.2	-1.5	-0.5	-0.4	-0.4	-1.2	-7.1
<i>BKB plants</i>	-0.5	-0.2	-	-	-	-	-	-	-6.9	-
<i>Blast furnaces</i>	-2.6	-2.1	-1.4	-0.9	-1.3	-0.5	-0.4	-0.4	-2.2	-6.4
<i>Coke ovens</i>	-0.1	-0.3	-0.5	-0.4	-0.2	-0.0	-	-	9.3	-
<i>Patent fuel plants</i>	0.4	0.1	-	-	-	-	-	-	-9.5	-
Other transformation ⁴	-	-	-	-	-	-	-	-	-	-
Energy ind. own use	-	-	-0.1	-0.2	-0.4	-0.1	-0.1	-0.1	-	-
Losses	-	-0.2	-0.2	-0.0	-0.1	-0.0	-0.0	-0.0		
Final consumption ⁵	8.1	4.3	1.9	1.1	1.7	1.0	1.0	0.9	-6.1	-5.8
Industry ⁶	4.9	3.0	1.8	1.0	1.6	1.0	0.9	0.8	-4.9	-4.8
<i>Iron and steel</i>	3.8	2.3	1.7	0.8	1.4	0.7	0.7	0.7	-4.8	-4.7
<i>Chemical</i>	-	0.2	0.0	0.2	0.2	0.2	0.1	0.0	-	-6.1
<i>Non-metallic minerals</i>	-	0.1	0.0	0.0	0.1	0.1	0.1	0.1	-	0.5
<i>Paper, pulp and print</i>	-	-	0.0	0.0	-	-	-	-	-	-
<i>Other industry</i> ⁷	1.1	0.4	0.1	0.0	0.0	0.0	0.0	0.0	-10.9	-10.8
Transport ⁸	-	0.0	0.0	-	-	-	-	-	-	-
Other	3.2	1.3	0.1	0.1	0.0	0.0	0.1	0.1	-8.4	-9.6
<i>Comm. and pub. services</i>	-	-	-	0.0	0.0	0.0	0.0	0.0	-	-
<i>Residential</i>	0.5	0.9	0.1	0.1	0.0	0.0	0.1	0.1	5.2	-8.8
<i>Other sectors</i> ⁹	2.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	-16.4	-12.6
Non-energy use	-	-	0.0	-	-	-	0.0	0.0	-	-
Electricity gen. - TWh	21.2	18.5	20.8	19.3	22.1	20.7	18.2	16.0	-1.4	-0.6

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

ROMANIA

Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	4669	4981	2522	2980	1150	1084	1143	1011	865
Coking coal	3600	3600	2370	1577	233	21	14	10	-
Australia	675	1200	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	12	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	100	62	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	673	1188	678	547	233	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	400	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	3	-	-	-
Former Soviet Union ⁴	2252	700	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	1630	1030	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	4	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	14	14	10	-
Steam coal⁵	1069	1381	152	1140	764	675	775	788	865
Australia	-	33	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	9	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	16	-	-	-	36	67	52	21
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	11	-	230	-	-	18	-	-
Other OECD	-	-	-	-	-	4	4	4	6
China, People's Rep.	-	-	-	-	-	2	1	-	-
Colombia	-	-	69	-	16	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	37	108	90	110	81
Former Soviet Union ⁴	1069	1321	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	32	832	448	365	571	600	700
<i>Other FSU</i>	x	x	-	78	194	159	23	2	26
Venezuela	-	-	51	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	69	1	1	11	31
Lignite	-	-	-	263	153	388	354	213	-

1. In these tables coal used for PCI and for blending has been classified by the IEA as steam coal. Accordingly, trade data reported here may differ from those reported in Part III where this coal may be shown as coking coal to be consistent with data reported by importing countries and with industry terminology and practice.

2. Earliest year for which split by coal type is available.

3. Total coal does not include peat or oil shale and oil sands.

4. For years prior to 1990.

5. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

RUSSIAN FEDERATION

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	x	274.8	186.7	183.6	224.9	237.7 e	286.1 e	298.8	-	0.3
Imports	x	50.1	20.0	22.0	19.5	21.9 e	20.4	20.0	-	-3.5
Exports	x	-57.7	-26.8	-36.4	-79.7	-122.8	-142.5	-155.8	-	3.9
Stock changes	x	5.8	4.7	2.2	-3.9	8.2 e	2.4 e	-1.2		
Primary supply	x	273.0	184.6	171.4	160.8	144.9	166.4	161.8	-	-2.0
Statistical differences	x	5.9	5.6	-4.1	-3.8	6.9	-4.8	-7.5		
Total transformation	x	-181.8	-145.4	-139.3 e	-137.3 e	-128.3 e	-141.7 e	-134.8	-	-1.1
Electricity and heat gen.	x	-149.9	-115.6	-114.1	-109.8	-101.2	-92.3 e	-86.9	-	-2.1
<i>Main activity producers</i> ²	x	-124.2	-88.1	-80.6	-74.6	-71.3	-68.5 e	-64.7	-	-2.5
<i>Autoproducers</i>	x	-25.7	-27.5	-33.5	-35.2	-29.9	-23.9 e	-22.2	-	-0.6
Gas works	x	-	-	-	-	-	-	-	-	-
Coal transformation ³	x	-31.9	-29.8	-25.1 e	-27.5 e	-27.1 e	-49.3 e	-47.9	-	1.6
<i>BKB plants</i>	x	-1.5	-0.6	-0.0	-0.0	-0.0	-0.0	-0.0	-	-20.9
<i>Blast furnaces</i>	x	-19.4	-18.9	-15.3 e	-16.7 e	-20.3 e	-33.6 e	-34.4	-	2.2
<i>Coke ovens</i>	x	-10.9	-10.3	-9.8	-10.8	-6.8 e	-15.7	-13.5	-	0.8
<i>Patent fuel plants</i>	x	-	-	-	-	0.0	-	-	-	-
Other transformation ⁴	x	-	-	-	-	-	-	-	-	-
Energy ind. own use	x	-0.8	-0.7	-0.8	-0.8	-3.2	-2.8 e	-2.9	-	5.2
Losses	x	-18.3	-9.4	-1.6	-	-	-	-		
Final consumption ⁵	x	78.2	34.7	25.7	18.9	20.4	17.1	16.6	-	-5.8
Industry ⁶	x	20.8	17.5	10.4	9.8	14.1	11.8	11.8	-	-2.2
<i>Iron and steel</i>	x	15.1	13.0	6.6 e	7.6 e	11.6 e	9.7	9.9	-	-1.6
<i>Chemical</i>	x	0.6	0.5	0.1	0.0	0.3	0.2	0.2	-	-3.8
<i>Non-metallic minerals</i>	x	0.5	0.9	0.8	1.0	1.6	1.4	1.3	-	3.9
<i>Paper, pulp and print</i>	x	-	-	-	0.0	0.1	0.0	0.0	-	-
<i>Other industry</i> ⁷	x	4.6	3.1	2.9	1.2	0.5	0.5	0.4	-	-9.1
Transport ⁸	x	0.0	0.0	-	-	-	-	-	-	-
Other	x	57.4	17.2	14.2	8.1	5.9	5.1	4.5	-	-9.3
<i>Comm. and pub. services</i>	x	29.4	1.2	0.6	3.8	3.5	2.0 e	1.8	-	-10.3
<i>Residential</i>	x	17.0	11.7	12.8	4.0	2.2	3.0 e	2.7	-	-6.9
<i>Other sectors</i> ⁹	x	11.0	4.3	0.9	0.2	0.1	0.1 e	0.1	-	-16.8
Non-energy use	x	-	-	1.1	1.0	0.4	0.3	0.3	-	-
Electricity gen. - TWh	x	157.0	160.5	175.6	165.5	166.1	158.6	171.4	-	0.3

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

RUSSIAN FEDERATION

Coking coal exports by destination
(thousand tonnes)

	1978 ¹	1990	2000	2005	2010	2014	2015	2016	2017p
World	x	31573	6704	9981	16338	21082	18480	21743	22755
OECD	x	10503	1504	4189	7534	6873	8083	9728	8969
Austria	x	608	-	31	-	-	-	-	2
Belgium	x	-	-	-	315	49	35	72	13
Canada	x	-	-	-	-	-	-	-	-
Czech Republic	x	1532	-	-	-	-	2	-	14
Denmark	x	-	-	-	7	33	84	68	119
Finland	x	463	91	94	59	125	355	144	41
France	x	-	-	-	143	34	42	127	58
Germany	x	177	-	157	793	67	144	361	293
Greece	x	-	-	-	31	-	-	16	-
Hungary	x	480	132	219	47	-	-	9	74
Israel	x	-	-	-	42	-	47	117	53
Italy	x	131	-	234	414	103	114	92	37
Japan	x	5482	462	2454	2094	1983	2451	3038	2947
Korea	x	1200	-	626	1258	2374	3219	4293	3893
Mexico	x	-	-	-	-	-	-	4	-
Netherlands	x	-	-	223	494	212	448	450	442
Norway	x	-	-	-	-	-	-	-	-
Poland	x	-	736	-	98	193	47	52	73
Portugal	x	-	-	-	-	-	-	-	-
Spain	x	-	72	-	-	27	52	89	196
Sweden	x	-	-	-	19	14	1	20	13
Turkey	x	337	-	35	107	906	612	461	491
United Kingdom	x	93	11	-	512	448	132	188	133
United States	x	-	-	-	-	-	-	-	-
Other OECD ²	x	-	-	116	1101	305	298	127	77
Non-OECD	x	21070	5200	5792	8804	14129	10397	12015	13774
Brazil	x	-	-	-	77	87	9	94	224
Bulgaria	x	156	174	72	23	1	16	-	-
China, People's Rep.	x	-	-	-	2528	5327	3780	2757	5238
Hong Kong, China	x	-	-	-	-	75	20	7	16
India	x	-	-	-	9	21	36	238	205
Morocco	x	-	-	-	47	51	17	62	52
Romania	x	500	1525	729	13	163	246	191	237
Russian Federation	x	-	-	-	-	-	-	-	-
Chinese Taipei	x	-	1337	160	116	509	366	120	363
Ukraine	x	19964	2164	4606	5579	6725	4927	7218	6159
Other Africa	x	150	-	16	-	-	-	-	-
Other Asia	x	300	-	7	93	197	510	878	809
Other Eastern Europe	x	-	-	48	-	59	133	96	71
Other FSU	x	-	-	1	319	885	337	354	397
Other non-OECD Americas	x	-	-	-	-	18	-	-	3
Other Middle East	x	-	-	153	-	11	-	-	-
Non-specified/other	x	-	-	-	-	80	-	-	12

1. Earliest year for which split by coal type is available.

2. Australia, Chile, Estonia, Iceland, Ireland, Latvia, Luxembourg, New Zealand, Slovak Republic, Slovenia and Switzerland.

RUSSIAN FEDERATION

Steam coal¹ exports by destination
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	x	24478	29738	76020	114244	132018	133390	144093	158263
OECD	x	10225	25771	56879	88045	91013	92221	96541	104929
Austria	x	-	-	9	60	-	10	9	12
Belgium	x	234	788	2739	4452	2209	2204	1227	825
Canada	x	-	-	453	286	-	63	94	75
Czech Republic	x	-	-	117	431	49	99	90	81
Denmark	x	1142	1295	827	1287	1225	776	1238	954
Finland	x	1905	2449	4790	3988	3436	2143	1782	1935
France	x	777	282	367	2404	1117	1281	2719	2998
Germany	x	157	928	7333	6875	4604	6283	8160	9445
Greece	x	324	320	125	412	64	266	188	246
Hungary	x	-	87	132	407	1	3	1	4
Israel	x	-	-	-	962	2477	2155	2374	2951
Italy	x	609	1092	799	1109	1338	2106	1769	2261
Japan	x	2845	7041	8119	11839	12674	13378	15505	14478
Korea	x	-	2565	2446	9970	13781	15958	20312	19220
Mexico	x	-	-	-	-	-	-	137	1
Netherlands	x	32	209	1400	8773	7415	9749	8746	10391
Norway	x	97	13	-	173	87	84	29	47
Poland	x	-	14	2042	9610	6247	4608	5217	7568
Portugal	x	54	-	-	45	-	-	-	219
Spain	x	285	1340	3657	698	1519	3423	2374	3876
Sweden	x	573	271	453	871	288	413	387	354
Turkey	x	530	5063	6509	12079	7711	9146	11016	13218
United Kingdom	x	499	480	12412	10360	23579	16735	10953	12035
United States	x	-	-	52	-	43	-	54	-
Other OECD ³	x	162	1534	2098	954	1149	1338	2160	1735
Non-OECD	x	14253	3967	18845	26130	40800	41074	47462	53154
Brazil	x	-	-	538	379	153	324	1058	966
Bulgaria	x	-	364	1765	888	484	965	644	734
China, People's Rep.	x	-	72	1002	10197	20183	12543	13173	17375
Hong Kong, China	x	-	61	-	10	338	733	938	1172
India	x	-	36	49	314	1616	2990	2961	3253
Morocco	x	-	-	56	1448	1351	1579	2577	3164
Romania	x	-	5	806	476	97	344	273	932
Russian Federation	x	-	-	-	-	-	-	-	-
Chinese Taipei	x	-	-	1286	1519	4994	6151	7506	8405
Ukraine	x	6722	2175	2235	9042	3087	4080	2708	3116
Other Africa	x	-	-	-	61	113	244	497	261
Other Asia	x	-	-	30	98	2589	5210	9299	7243
Other Eastern Europe	x	-	-	8828	46	918	446	1356	1088
Other FSU	x	7531	1254	2204	1311	4477	5344	4462	5433
Other non-OECD Americas	x	-	-	-	-	39	113	-	5
Other Middle East	x	-	-	46	341	361	8	10	7
Non-specified/other	x	-	-	296	69	205	95	90	180

1. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. Australia, Chile, Estonia, Iceland, Ireland, Latvia, Luxembourg, New Zealand, Slovak Republic, Slovenia and Switzerland.

SERBIA

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	x	14.5	12.6	11.9	10.7	10.3	10.3	10.3	-	-1.3
Imports	x	-	0.1	0.4	1.0	1.1	0.9	0.9	-	-
Exports	x	-	-0.1	-0.0	-0.1	-0.1	-0.0	-0.0	-	-
Stock changes	x	-	-	-	-0.1	-0.2	-0.1	0.1		
Primary supply	x	14.5	12.6	12.3	11.5	11.2	11.1	11.3	-	-1.0
Statistical differences	x	-0.0	-0.0	-0.1	0.1	-0.1	-0.1	-0.1		
Total transformation	x	-13.2	-11.9	-10.5	-10.2	-9.7	-10.1	-10.1	-	-1.0
Electricity and heat gen.	x	-12.9	-11.7	-10.3	-9.9	-9.3	-9.8	-9.7	-	-1.1
<i>Main activity producers</i> ²	x	-12.9	-11.7	-10.3	-9.6	-9.1	-9.6	-9.5	-	-1.2
<i>Autoproducers</i>	x	-	-	-	-0.3	-0.3	-0.2	-0.2	-	-
Gas works	x	-	-	-	-	-	-	-	-	-
Coal transformation ³	x	-0.3	-0.1	-0.2	-0.3	-0.4	-0.3	-0.4	-	1.0
<i>BKB plants</i>	x	-0.3	-0.1	-0.2	-0.2	-0.1	-0.0	-0.1	-	-6.4
<i>Blast furnaces</i>	x	-	-	-	-0.2	-0.3	-0.2	-0.3	-	-
<i>Coke ovens</i>	x	-	-	-	-	-	-	-	-	-
<i>Patent fuel plants</i>	x	-	-	-	-	-	-	-	-	-
Other transformation ⁴	x	-	-	-	-	-	-	-	-	-
Energy ind. own use	x	-	-	-	-	-	-	-	-	-
Losses	x	-	-	-	-0.0	-0.1	-0.1	-0.1		
Final consumption ⁵	x	1.4	0.7	1.8	1.4	1.3	0.8	1.0	-	-1.0
Industry ⁶	x	0.5	0.3	1.0	0.6	0.6	0.5	0.6	-	0.5
<i>Iron and steel</i>	x	0.1	0.0	0.3	0.4	0.3	0.1	0.2	-	5.0
<i>Chemical</i>	x	-	-	-	0.0	0.0	0.0	0.1	-	-
<i>Non-metallic minerals</i>	x	-	-	-	0.1	0.2	0.1	0.2	-	-
<i>Paper, pulp and print</i>	x	-	-	-	-	0.0	0.0	0.0	-	-
<i>Other industry</i> ⁷	x	0.5	0.3	0.7	0.1	0.1	0.2	0.1	-	-6.4
Transport ⁸	x	-	-	-	0.0	-	-	-	-	-
Other	x	0.8	0.4	0.8	0.8	0.6	0.3	0.4	-	-2.7
<i>Comm. and pub. services</i>	x	-	-	-	0.1	0.3	0.1	0.1	-	-
<i>Residential</i>	x	0.7	0.4	0.6	0.6	0.3	0.2	0.3	-	-2.9
<i>Other sectors</i> ⁹	x	0.1	0.1	0.2	-	0.0	-	-	-	-
Non-energy use	x	-	-	-	-	0.0	0.0	0.0	-	-
Electricity gen. - TWh	x	28.3	21.7	21.4	23.4	25.1	27.2	27.3	-	-0.1

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

SOUTH AFRICA

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	95.4	143.1	168.6	181.3	197.7	205.6	206.5	206.5	4.1	1.4
Imports	-	-	0.4	1.2	2.0	2.2	0.5	0.6	-	-
Exports	-27.2	-48.0	-57.6	-67.0	-68.3	-64.3	-72.5	-66.9	5.8	1.3
Stock changes	-	-	0.2	1.3	-	-	-	-	-	-
Primary supply	68.1	95.1	111.6	116.8	131.3	143.6	134.6	140.2	3.4	1.5
Statistical differences	3.6	6.7	-3.4	-0.0	2.4	-1.0	3.0	-1.1		
Total transformation	-44.7	-78.3	-85.7	-94.1	-93.4	-104.5	-98.2	-100.1	5.8	0.9
Electricity and heat gen.	-35.0	-51.7	-60.2	-68.3	-75.9	-87.5	-82.8	-85.0	4.0	1.9
<i>Main activity producers</i> ²	-32.1	-48.6	-56.6	-64.4	-72.1	-84.0	-78.9	-80.7	4.2	2.0
<i>Autoproducers</i>	-2.9	-3.2	-3.5	-4.0	-3.7	-3.5	-4.0	-4.3	0.9	1.2
Gas works	-2.8	-3.2	-3.7	-3.3	-7.3	-6.9	-5.9	-5.6	1.4	2.2
Coal transformation ³	-3.8	-3.3	-2.0	-1.2	-2.0	-2.6	-2.2	-2.1	-1.4	-1.8
<i>BKB plants</i>	-	-	-	-	-	-	-	-	-	-
<i>Blast furnaces</i>	-2.5	-1.7	-1.0	-0.7	-0.8	-1.3	-1.1	-1.1	-3.8	-1.8
<i>Coke ovens</i>	-1.3	-1.6	-1.0	-0.6	-1.1	-1.3	-1.1	-1.0	2.0	-1.8
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	-	-	-
Other transformation ⁴	-3.1	-20.1	-19.9	-21.2	-8.3	-7.4	-7.4	-7.4	20.6	-3.8
Energy ind. own use	-0.0	-0.0	-	-0.0	-13.4	-14.6	-14.9	-15.0	-	31.2
Losses	-	-	-	-	-	-	-	-	-	-
Final consumption ⁵	27.0	23.4	22.4	22.8	26.9	23.5	24.4	23.9	-1.4	0.1
Industry ⁶	20.7	15.8	11.6	13.0	18.1	16.8	14.2	14.3	-2.7	-0.4
<i>Iron and steel</i>	10.1	9.0	6.0	5.8	6.1	5.5	4.0	4.0	-1.1	-3.1
<i>Chemical</i>	0.1	0.1	1.5	1.5	1.4	1.4	1.2	1.1	0.3	11.1
<i>Non-metallic minerals</i>	2.2	2.0	1.7	1.3	2.0	1.7	1.6	1.8	-1.2	-0.3
<i>Paper, pulp and print</i>	-	-	0.0	0.1	0.1	0.1	0.1	0.1	-	-
<i>Other industry</i> ⁷	8.3	4.7	2.4	4.3	8.5	8.1	7.3	7.3	-5.5	1.7
Transport ⁸	1.8	0.1	0.0	-	-	0.0	-	-	-28.0	-
Other	3.3	3.5	4.1	2.2	6.8	4.8	8.4	7.4	0.5	3.0
<i>Comm. and pub. services</i>	1.1	1.3	1.4	0.7	2.3	1.4	2.6	2.3	1.8	2.2
<i>Residential</i>	2.1	2.1	2.4	1.4	4.5	2.8	5.2	4.6	-0.1	3.0
<i>Other sectors</i> ⁹	0.1	0.0	0.3	0.1	0.0	0.6	0.6	0.6	-6.0	10.0
Non-energy use	1.2	4.0	6.8	7.5	2.0	1.9	1.8	2.2	13.1	-2.3
Electricity gen. - TWh	97.9	155.9	173.2	193.4	229.1	241.9	228.4	226.5	4.8	1.4

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

SOUTH AFRICA

Steam coal¹ exports by destination
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	12689	45867	67001	70917	65562	68246	75411	68905	69812
OECD	12689	36477	54371	60360	23056	20501	19391	14283	18915
Austria	-	6	-	-	-	-	-	-	-
Belgium	606	4365	2504	1757	527	-	93	-	-
Canada	-	-	46	-	-	-	571	50	53
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	868	-	1721	2070	906	-	326	433	323
Finland	-	-	-	-	-	-	-	-	-
France	6643	863	5872	5340	1323	838	386	650	611
Germany	1108	4512	3979	8812	1149	304	179	205	-
Greece	-	1017	269	75	70	-	40	-	-
Hungary	-	-	-	-	-	-	-	-	-
Israel	-	2583	5523	5329	2826	2504	2558	1003	1166
Italy	960	4884	4173	4939	3236	1516	3883	2799	833
Japan	157	1427	1661	155	420	145	150	-	312
Korea	1861	5733	2385	139	1956	305	318	2739	8329
Mexico	-	-	41	-	1368	-	-	137	-
Netherlands	309	1304	7564	6527	2723	9296	2643	2997	1945
Norway	-	-	-	-	5	-	-	-	-
Poland	-	-	265	-	-	-	-	-	-
Portugal	3	2112	2112	1926	321	155	332	160	163
Spain	114	4667	8403	8642	2724	1555	2401	1092	2785
Sweden	-	-	-	-	-	-	-	-	-
Turkey	-	1252	2547	1324	2080	3668	4548	1571	1866
United Kingdom	26	356	4503	12144	744	151	299	117	-
United States	-	-	50	135	-	-	504	250	405
Other OECD ³	34	1396	753	1046	678	64	160	80	124
Non-OECD	-	9085	12283	10050	42506	47685	55749	54562	50768
Brazil	-	-	1919	673	1122	1015	912	784	793
Bulgaria	-	-	107	-	-	-	-	85	101
China, People's Rep.	-	-	522	-	4226	3261	-	54	-
Hong Kong, China	-	3217	486	-	162	-	-	-	-
India	-	-	3636	3587	23440	30579	34084	33557	28934
Morocco	-	-	1978	2993	810	935	4175	2005	600
Romania	-	-	-	-	189	43	32	146	-
Russian Federation	-	-	-	-	-	-	32	-	-
Chinese Taipei	-	5685	2488	522	2566	1344	1245	683	2539
Ukraine	-	-	-	61	-	566	587	203	736
Other Africa	-	-	356	970	2067	2248	5833	5863	5557
Other Asia	-	183	201	244	4727	5031	6548	8444	9919
Other Eastern Europe	-	-	-	367	-	135	-	34	-
Other FSU	-	-	-	-	-	-	-	-	-
Other non-OECD Americas	-	-	554	397	1203	331	212	350	59
Other Middle East	-	-	36	236	1994	2197	2089	2354	1530
Non-specified/other	-	305	347	507	-	60	271	60	129

1. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. Australia, Chile, Estonia, Iceland, Ireland, Latvia, Luxembourg, New Zealand, Slovak Republic, Slovenia and Switzerland.

CHINESE TAIPEI

	Coal balance ¹ (Mtce)								Average annual percent change	
	1980	1990	1995	2000	2005	2010	2015	2016	80-90	90-16
Production	2.3	0.4	0.2	0.1	-	-	-	-	-15.6	-
Imports	4.5	17.5	27.2	41.4	55.2	58.0	57.5	58.0	14.7	4.7
Exports	-0.0	-0.0	-	-0.0	-0.0	-0.1	-	-0.0	-	-
Stock changes	-1.2	-1.7	-2.6	1.2	-0.7	0.1	-0.8	0.1		
Primary supply	5.5	16.2	24.7	42.7	54.5	58.1	56.7	58.1	11.3	5.0
Statistical differences	0.0	-0.1	-0.8	-1.7	-0.4	-1.1	-0.6	-0.4		
Total transformation	-2.4	-10.2	-17.5	-32.8	-44.4	-45.0	-42.7	-43.7	15.6	5.7
Electricity and heat gen.	-2.2	-8.4	-15.5	-29.8	-41.4	-41.8	-37.3	-38.4	14.3	6.0
<i>Main activity producers</i> ²	-2.2	-7.3	-12.6	-22.7	-31.5	-32.1	-28.2	-29.6	12.6	5.5
<i>Autoproducers</i>	-	-1.2	-2.9	-7.1	-9.9	-9.7	-9.1	-8.9	-	8.2
Gas works	-	-	-	-	-	-	-	-	-	-
Coal transformation ³	-0.2	-1.8	-1.9	-3.0	-3.0	-3.2	-5.4	-5.2	25.9	4.2
<i>BKB plants</i>	-	-	-	-	-	-	-	-	-	-
<i>Blast furnaces</i>	-	-1.6	-1.8	-2.7	-2.9	-3.2	-4.2	-4.2	-	3.9
<i>Coke ovens</i>	-0.2	-0.2	-0.1	-0.2	-0.1	-0.0	-1.2	-1.0	2.4	5.8
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	-	-	-
Other transformation ⁴	-	-	-	-	-	-	-	-	-	-
Energy ind. own use	-0.0	-0.7	-0.8	-1.1	-1.1	-1.3	-1.6	-1.7	37.5	3.3
Losses	-	-0.0	-0.0	-0.0	-0.1	-0.1	-0.2	-0.1		
Final consumption ⁵	3.1	5.1	5.7	7.1	8.5	10.6	11.5	12.2	5.0	3.4
Industry ⁶	3.0	4.9	5.4	6.8	8.2	10.2	11.1	11.8	5.0	3.4
<i>Iron and steel</i>	1.2	1.0	1.1	1.8	1.8	2.2	2.1	2.2	-1.8	2.9
<i>Chemical</i>	0.2	1.0	1.4	2.7	3.4	5.1	5.9	6.2	16.1	7.4
<i>Non-metallic minerals</i>	1.2	2.5	2.4	2.0	2.3	2.0	1.9	2.0	7.4	-1.0
<i>Paper, pulp and print</i>	0.1	0.3	0.4	0.3	0.4	0.4	0.5	0.6	11.4	3.0
<i>Other industry</i> ⁷	0.2	0.1	0.2	0.2	0.3	0.6	0.7	0.9	-8.8	9.6
Transport ⁸	0.0	-	-	-	-	-	-	-	-	-
Other	0.1	0.0	-	0.0	-	-	-	-	-23.3	-
<i>Comm. and pub. services</i>	-	-	-	-	-	-	-	-	-	-
<i>Residential</i>	0.0	-	-	-	-	-	-	-	-	-
<i>Other sectors</i> ⁹	0.1	0.0	-	0.0	-	-	-	-	-22.5	-
Non-energy use	-	0.2	0.3	0.2	0.3	0.4	0.4	0.4	-	2.2
Electricity gen. - TWh	6.0	24.5	51.0	88.3	123.9	125.3	119.1	121.9	15.2	6.4

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

CHINESE TAIPEI

Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	1386	18468	45503	60370	63951	65781	64759	65627	67591
Coking coal	1386	4237	6093	5211	8490	6870	6405	6581	6599
Australia	918	2749	3524	4778	7390	6128	5731	5698	5073
Canada	263	1050	1232	136	831	742	674	883	1526
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	205	438	-	47	227	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	3	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	112	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	1337	-	42	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	17	-	-	-	-	-
Non-specified/other	-	-	-	118	-	-	-	-	-
Steam coal⁵	-	14231	39410	55159	55461	58911	58354	59046	60992
Australia	-	3800	12474	15342	21441	18769	20730	24912	21892
Canada	-	-	-	261	-	511	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	3677	514	-	-	-	-	-	1138
Other OECD	-	-	1290	21	9	-	-	-	-
China, People's Rep.	-	529	8371	18942	4181	586	380	1046	543
Colombia	-	-	-	-	2099	-	-	82	951
Indonesia	-	625	13740	18430	23361	30738	28035	24423	21822
South Africa	-	5600	2873	329	2748	1822	1479	1151	3718
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	1226	1530	5638	6880	7064	10422
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	78	133	50	27	26	57	47
Non-specified/other	-	-	70	475	42	820	824	311	459
Lignite	-	-	-	-	-	-	-	-	-

1. In these tables coal used for PCI and for blending has been classified by the IEA as steam coal. Accordingly, trade data reported here may differ from those reported in Part III where this coal may be shown as coking coal to be consistent with data reported by importing countries and with industry terminology and practice.

2. Earliest year for which split by coal type is available.

3. Total coal does not include peat or oil shale and oil sands.

4. For years prior to 1990.

5. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

THAILAND

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	0.6	5.1	7.6	7.3	8.6	7.6	5.5	6.2	24.2	0.7
Imports	0.1	0.3	2.2	3.7	7.7	15.3	21.6	20.4	13.2	17.7
Exports	-0.0	-	-	-	-	-0.0	-0.0	-0.0	-	-
Stock changes	-	0.0	0.0	-0.1	0.1	0.5	-3.0	-4.5		
Primary supply	0.7	5.5	9.8	11.0	16.4	23.4	24.1	22.0	23.3	5.5
Statistical differences	-0.0	0.1	0.4	0.1	0.2	-0.3	0.1	-0.0		
Total transformation	-0.5	-3.7	-5.1	-6.0	-7.0	-9.9	-12.5	-13.4	21.8	5.1
Electricity and heat gen.	-0.5	-3.6	-5.0	-5.9	-6.9	-9.9	-12.5	-13.3	21.7	5.1
<i>Main activity producers</i> ²	-0.5	-3.6	-5.0	-5.2	-6.1	-9.2	-10.4	-11.2	21.7	4.4
<i>Autoproducers</i>	-	-	-	-0.7	-0.8	-0.7	-2.1	-2.1	-	-
Gas works	-	-	-	-	-	-	-	-	-	-
Coal transformation ³	-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-	-
<i>BKB plants</i>	-	-	-	-	-	-	-	-	-	-
<i>Blast furnaces</i>	-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-	-
<i>Coke ovens</i>	-	-	-	-	-	-	-	-	-	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	-	-	-
Other transformation ⁴	-	-	-	-	-	-	-	-	-	-
Energy ind. own use	-	-	-	-	-	-	-	-	-	-
Losses	-	-	-	-	-	-	-	-	-	-
Final consumption ⁵	0.1	1.9	5.2	5.1	9.6	13.2	11.7	8.7	30.2	6.1
Industry ⁶	0.1	1.9	5.2	5.1	9.6	13.2	11.7	8.7	30.2	6.1
<i>Iron and steel</i>	-	0.0	0.1	0.0	0.0	0.2	0.1	0.0	-	0.8
<i>Chemical</i>	-	-	-	-	-	-	0.0	0.0	-	-
<i>Non-metallic minerals</i>	0.0	1.2	3.8	4.0	7.7	10.9	9.8	7.3	94.7	7.2
<i>Paper, pulp and print</i>	-	-	-	-	-	-	0.0	0.0	-	-
<i>Other industry</i> ⁷	0.1	0.6	1.3	1.0	1.9	2.0	1.7	1.3	16.9	2.9
Transport ⁸	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
<i>Comm. and pub. services</i>	-	-	-	-	-	-	-	-	-	-
<i>Residential</i>	-	-	-	-	-	-	-	-	-	-
<i>Other sectors</i> ⁹	-	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-	-
Electricity gen. - TWh	1.4	11.1	14.8	17.8	20.5	30.0	34.6	36.9	22.9	4.7

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

THAILAND

Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	52	250	2558	7989	16758	21243	23964	22581	23555
Coking coal	-	-	-	-	-	-	-	-	31
Australia	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Colombia	-	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	31
South Africa	-	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	-	-	-
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	-	-	-	-	-	-
Steam coal⁵	52	250	2558	7989	16758	21243	23964	22581	23344
Australia	52	-	136	-	2488	3866	3650	3837	3753
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	1	4	2	2	4
United States	-	-	-	-	-	1	-	2	111
Other OECD	-	-	-	1	3	8	1	7	8
China, People's Rep.	-	125	66	20	9	7	34	49	-
Colombia	-	-	-	-	144	-	-	163	172
Indonesia	-	125	2356	6344	12491	16741	19609	17665	17184
South Africa	-	-	-	-	436	-	-	-	85
Former Soviet Union ⁴	-	-	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	-	-	-	-	147	518	1456
<i>Other FSU</i>	x	x	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	460	150	290	86	61	157
Non-specified/other	-	-	-	1164	1036	326	435	277	414
Lignite	-	-	-	-	-	-	-	-	180

1. In these tables coal used for PCI and for blending has been classified by the IEA as steam coal. Accordingly, trade data reported here may differ from those reported in Part III where this coal may be shown as coking coal to be consistent with data reported by importing countries and with industry terminology and practice.

2. Earliest year for which split by coal type is available.

3. Total coal does not include peat or oil shale and oil sands.

4. For years prior to 1990.

5. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

UKRAINE

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	x	124.0	61.1	51.9	49.5	48.2	29.0	32.7	-	-5.0
Imports	x	15.1	13.5	5.8	6.5	11.1	14.1	15.2	-	0.0
Exports	x	-21.3	-1.8	-2.6	-2.7	-6.9	-0.7	-0.7	-	-12.3
Stock changes	x	0.8	-	-	-0.0	2.2	0.7	-0.8		
Primary supply	x	118.7	72.9	55.1	53.3	54.6	43.0	46.4	-	-3.6
Statistical differences	x	-4.3	-0.8	-0.3	-0.6	-0.0	-0.0	-0.1		
Total transformation	x	-72.5	-50.4	-37.8	-33.8	-39.8	-32.2	-35.2	-	-2.7
Electricity and heat gen.	x	-50.7	-33.1	-20.8	-20.3	-29.0	-23.5	-26.1	-	-2.5
<i>Main activity producers</i> ²	x	-48.9	-31.7	-19.8	-17.9	-27.3	-22.3	-24.5	-	-2.6
<i>Autoproducers</i>	x	-1.8	-1.4	-1.1	-2.4	-1.7	-1.2	-1.5	-	-0.6
Gas works	x	-	-	-	-	-0.1	-0.0	-0.0	-	-
Coal transformation ³	x	-21.8	-17.3	-17.0	-13.5	-10.6	-8.3	-8.9	-	-3.4
<i>BKB plants</i>	x	2.9	0.7	0.3	0.1	-0.0	-0.0	-0.0	-	-
<i>Blast furnaces</i>	x	-12.6	-6.4	-6.4	-5.2	-6.0	-5.0	-5.2	-	-3.3
<i>Coke ovens</i>	x	-12.4	-11.3	-10.7	-7.1	-4.6	-3.3	-3.6	-	-4.6
<i>Patent fuel plants</i>	x	0.4	-0.3	-0.1	-1.2	-	-0.0	-	-	-
Other transformation ⁴	x	-	-	-	-0.1	-0.1	-0.3	-0.2	-	-
Energy ind. own use	x	-5.3	-3.5	-2.7	-3.0	-2.6	-1.3	-1.4	-	-5.0
Losses	x	-	-	-	-0.0	-0.8	-0.6	-0.7		
Final consumption ⁵	x	36.6	18.2	14.2	15.8	11.4	9.0	9.0	-	-5.2
Industry ⁶	x	25.7	11.3	10.4	11.9	9.7	7.9	7.7	-	-4.5
<i>Iron and steel</i>	x	15.6	8.4	8.1	10.2	8.5	7.0	6.7	-	-3.2
<i>Chemical</i>	x	0.3	-	-	0.0	0.0	0.0	0.0	-	-16.0
<i>Non-metallic minerals</i>	x	0.0	0.0	0.0	0.2	0.9	0.7	0.8	-	12.6
<i>Paper, pulp and print</i>	x	-	-	-	0.0	0.0	-	0.0	-	-
<i>Other industry</i> ⁷	x	9.8	2.9	2.3	1.6	0.3	0.2	0.2	-	-14.4
Transport ⁸	x	0.1	-	-	0.1	0.0	0.0	0.0	-	-8.8
Other	x	10.8	6.9	3.8	2.0	1.0	0.5	0.6	-	-10.4
<i>Comm. and pub. services</i>	x	-	-	-	-	0.3	0.1	0.2	-	-
<i>Residential</i>	x	7.9	6.4	3.7	0.6	0.7	0.4	0.4	-	-10.9
<i>Other sectors</i> ⁹	x	2.9	0.5	0.1	1.4	0.0	0.0	0.0	-	-19.4
Non-energy use	x	-	-	-	1.8	0.7	0.5	0.7	-	-
Electricity gen. - TWh	x	114.0	70.2	51.5	50.0	69.8	56.1	61.2	-	-2.4

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

UKRAINE

Total coal imports by origin¹
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
Total coal³	x	26754	6606	7303	12181	14695	14598	15648	19778
Coking coal	x	19964	2759	6902	7777	9706	5748	8109	12360
Australia	x	-	-	-	-	593	952	725	543
Canada	x	-	-	-	-	412	587	842	908
Czech Republic	x	-	-	-	-	-	-	-	18
Germany	x	-	-	-	-	-	-	-	-
Poland	x	-	595	31	-	101	140	346	278
United Kingdom	x	-	-	-	-	-	-	-	-
United States	x	-	-	167	2151	1561	2070	1296	2115
Other OECD	x	-	-	-	-	-	-	-	-
China, People's Rep.	x	-	-	-	-	-	-	-	-
Colombia	x	-	-	-	-	-	-	-	-
Indonesia	x	-	-	-	-	-	-	-	77
South Africa	x	-	-	-	-	-	-	-	-
Former Soviet Union ⁴	x	19964	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	2164	6704	5579	6382	1999	4349	8033
<i>Other FSU</i>	x	x	-	-	-	657	-	551	388
Venezuela	x	-	-	-	-	-	-	-	-
Viet Nam	x	-	-	-	-	-	-	-	-
Non-specified/other	x	-	-	-	47	-	-	-	-
Steam coal⁵	x	6722	3847	401	4404	4989	8850	7539	7418
Australia	x	-	-	-	-	90	-	-	-
Canada	x	-	-	-	-	9	298	-	-
Czech Republic	x	-	-	-	-	-	-	-	-
Germany	x	-	-	-	-	-	-	-	-
Poland	x	-	452	-	33	18	90	165	166
United Kingdom	x	-	-	-	-	-	-	-	-
United States	x	-	-	-	-	426	735	514	1293
Other OECD	x	-	-	-	-	-	31	-	-
China, People's Rep.	x	-	-	-	-	-	-	-	-
Colombia	x	-	-	-	-	61	-	-	-
Indonesia	x	-	-	-	-	-	-	-	-
South Africa	x	-	-	11	-	299	928	771	714
Former Soviet Union ⁴	x	6722	x	x	x	x	x	x	x
<i>Russian Federation</i>	x	x	2175	390	4371	4086	5927	6088	5224
<i>Other FSU</i>	x	x	1220	-	-	-	832	-	21
Venezuela	x	-	-	-	-	-	-	-	-
Viet Nam	x	-	-	-	-	-	-	-	-
Non-specified/other	x	-	-	-	-	-	9	1	-
Lignite	x	68	-	-	-	-	-	-	-

1. In these tables coal used for PCI and for blending has been classified by the IEA as steam coal. Accordingly, trade data reported here may differ from those reported in Part III where this coal may be shown as coking coal to be consistent with data reported by importing countries and with industry terminology and practice.

2. Earliest year for which split by coal type is available.

3. Total coal does not include peat or oil shale and oil sands.

4. For years prior to 1990.

5. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

UKRAINE

Coking coal exports by destination
(thousand tonnes)

	1978 ¹	1990	2000	2005	2010	2014	2015	2016	2017p
World	x	8114	200	509	162	1448	494	336	560
OECD	x	-	-	229	113	1142	413	253	247
Austria	x	-	-	-	-	-	-	-	-
Belgium	x	-	-	-	-	-	-	-	-
Canada	x	-	-	-	-	-	-	-	-
Czech Republic	x	-	-	-	-	-	-	-	-
Denmark	x	-	-	-	-	-	-	-	-
Finland	x	-	-	-	-	-	-	-	-
France	x	-	-	-	-	-	-	-	-
Germany	x	-	-	-	-	-	-	-	-
Greece	x	-	-	-	-	6	-	-	-
Hungary	x	-	-	-	-	-	-	-	-
Israel	x	-	-	-	-	-	-	-	-
Italy	x	-	-	-	-	-	-	-	-
Japan	x	-	-	-	-	-	-	-	-
Korea	x	-	-	-	-	-	-	-	-
Mexico	x	-	-	-	-	-	-	-	-
Netherlands	x	-	-	-	-	-	-	-	-
Norway	x	-	-	-	-	-	-	-	-
Poland	x	-	-	-	-	1	-	-	6
Portugal	x	-	-	-	-	72	-	-	-
Spain	x	-	-	-	-	5	-	-	-
Sweden	x	-	-	-	-	-	-	-	-
Turkey	x	-	-	-	100	726	65	-	8
United Kingdom	x	-	-	-	13	71	-	-	-
United States	x	-	-	-	-	-	-	-	-
Other OECD ²	x	-	-	229	-	261	348	253	233
Non-OECD	x	8114	200	280	49	305	79	83	313
Brazil	x	-	-	-	49	-	-	-	-
Bulgaria	x	-	-	-	-	10	11	-	-
China, People's Rep.	x	-	-	-	-	-	-	-	-
Hong Kong, China	x	-	-	-	-	-	-	-	-
India	x	-	-	-	-	-	-	-	-
Morocco	x	-	-	-	-	52	33	-	-
Romania	x	-	-	-	-	45	6	-	-
Russian Federation	x	8114	200	280	-	176	23	82	313
Chinese Taipei	x	-	-	-	-	-	-	-	-
Ukraine	x	-	-	-	-	-	-	-	-
Other Africa	x	-	-	-	-	2	-	-	-
Other Asia	x	-	-	-	-	3	-	-	-
Other Eastern Europe	x	-	-	-	-	17	6	-	-
Other FSU	x	-	-	-	-	-	-	1	-
Other non-OECD Americas	x	-	-	-	-	-	-	-	-
Other Middle East	x	-	-	-	-	-	-	-	-
Non-specified/other	x	-	-	-	-	1	2	-	-

1. Earliest year for which split by coal type is available.

2. Australia, Chile, Estonia, Iceland, Ireland, Latvia, Luxembourg, New Zealand, Slovak Republic, Slovenia and Switzerland.

UKRAINE

Steam coal¹ exports by destination
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	x	16577	2297	3157	5918	5628	-	184	76
OECD	x	-	845	552	2951	2838	-	156	55
Austria	x	-	-	13	1	-	-	-	-
Belgium	x	-	63	11	598	174	-	-	-
Canada	x	-	-	154	181	110	-	-	-
Czech Republic	x	-	-	7	-	1	-	-	-
Denmark	x	-	-	-	-	-	-	-	-
Finland	x	-	-	-	-	-	-	-	-
France	x	-	-	-	36	155	-	-	-
Germany	x	-	-	5	12	10	-	-	-
Greece	x	-	-	2	30	87	-	-	-
Hungary	x	-	-	-	2	-	-	-	-
Israel	x	-	-	-	-	-	-	-	-
Italy	x	-	83	13	230	112	-	-	24
Japan	x	-	-	52	-	-	-	-	-
Korea	x	-	-	-	-	23	-	-	-
Mexico	x	-	-	-	-	8	-	-	-
Netherlands	x	-	-	82	-	36	-	-	-
Norway	x	-	-	-	-	-	-	-	-
Poland	x	-	-	8	399	234	-	23	6
Portugal	x	-	-	5	4	12	-	-	-
Spain	x	-	52	10	313	328	-	-	-
Sweden	x	-	-	5	3	-	-	-	-
Turkey	x	-	647	40	1083	1008	-	125	24
United Kingdom	x	-	-	-	-	260	-	-	-
United States	x	-	-	79	38	49	-	-	-
Other OECD ³	x	-	-	66	21	231	-	8	1
Non-OECD	x	16577	1452	2605	2967	2788	-	28	20
Brazil	x	-	-	16	166	39	-	-	-
Bulgaria	x	-	-	2315	2592	617	-	-	-
China, People's Rep.	x	-	-	-	-	-	-	-	-
Hong Kong, China	x	-	-	-	-	-	-	-	-
India	x	-	-	-	-	261	-	-	-
Morocco	x	-	-	-	-	672	-	-	-
Romania	x	-	-	192	194	181	-	4	-
Russian Federation	x	16577	1452	10	15	453	-	-	-
Chinese Taipei	x	-	-	-	-	-	-	-	-
Ukraine	x	-	-	-	-	-	-	-	-
Other Africa	x	-	-	-	-	224	-	-	-
Other Asia	x	-	-	-	-	47	-	-	-
Other Eastern Europe	x	-	-	-	-	133	-	13	4
Other FSU	x	-	-	72	-	160	-	11	16
Other non-OECD Americas	x	-	-	-	-	-	-	-	-
Other Middle East	x	-	-	-	-	1	-	-	-
Non-specified/other	x	-	-	-	-	2	-	-	1

1. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. Australia, Chile, Estonia, Iceland, Ireland, Latvia, Luxembourg, New Zealand, Slovak Republic, Slovenia and Switzerland.

BOLIVARIAN REPUBLIC OF VENEZUELA

	Coal balance ¹ (Mtce)								Average annual percent change	
	1980	1990	1995	2000	2005	2010	2015	2016	80-90	90-16
Production	0.0	2.3	4.2	8.2	7.5	2.8	0.9	0.8	48.5	-4.0
Imports	0.2	0.3	-	-	-	-	-	-	4.9	-
Exports	-	-1.9	-4.4	-8.3	-7.4	-2.6	-0.7	-0.6	-	-4.3
Stock changes	-	-	0.2	0.2	-	-	-	-	-	-
Primary supply	0.2	0.7	0.0	0.2	0.1	0.3	0.2	0.2	11.4	-5.0
Statistical differences	-	-	-	-	-0.0	-	-	-	-	-
Total transformation	-0.1	-0.2	-	-	-	-	-	-	6.1	-
Electricity and heat gen.	-	-	-	-	-	-	-	-	-	-
<i>Main activity producers</i> ²	-	-	-	-	-	-	-	-	-	-
<i>Autoproducers</i>	-	-	-	-	-	-	-	-	-	-
Gas works	-	-	-	-	-	-	-	-	-	-
Coal transformation ³	-0.1	-0.2	-	-	-	-	-	-	6.1	-
<i>BKB plants</i>	-	-	-	-	-	-	-	-	-	-
<i>Blast furnaces</i>	-0.1	-0.1	-	-	-	-	-	-	5.4	-
<i>Coke ovens</i>	-	-0.0	-	-	-	-	-	-	-	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	-	-	-
Other transformation ⁴	-	-	-	-	-	-	-	-	-	-
Energy ind. own use	-	-	-	-	-	-	-	-	-	-
Losses	-	-	-	-	-	-	-	-	-	-
Final consumption ⁵	0.1	0.5	0.0	0.2	0.1	0.3	0.2	0.2	13.9	-4.0
Industry ⁶	0.1	0.5	0.0	0.2	0.1	0.3	0.2	0.2	13.9	-4.0
<i>Iron and steel</i>	0.1	0.2	-	-	-	-	-	-	5.4	-
<i>Chemical</i>	-	-	-	-	-	-	-	-	-	-
<i>Non-metallic minerals</i>	0.0	0.3	0.0	0.2	0.1	0.3	0.2	0.2	23.0	-2.6
<i>Paper, pulp and print</i>	-	-	-	-	-	-	-	-	-	-
<i>Other industry</i> ⁷	-	-	-	-	-	-	-	-	-	-
Transport ⁸	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
<i>Comm. and pub. services</i>	-	-	-	-	-	-	-	-	-	-
<i>Residential</i>	-	-	-	-	-	-	-	-	-	-
<i>Other sectors</i> ⁹	-	-	-	-	-	-	-	-	-	-
Non-energy use	-	-	-	-	-	-	-	-	-	-
Electricity gen. - TWh	-	-	-	-	-	-	-	-	-	-

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

BOLIVARIAN REPUBLIC OF VENEZUELA

Steam coal¹ exports by destination
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	33	1834	7722	7141	3889	930	643	580	312
OECD	-	1746	7227	6374	2413	678	255	123	202
Austria	-	-	-	-	3	-	-	-	-
Belgium	-	1	-	135	52	-	-	44	-
Canada	-	33	589	583	93	32	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-	-
Finland	-	148	-	-	-	-	-	-	-
France	-	560	441	441	227	-	-	-	-
Germany	-	-	476	-	86	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Israel	-	-	71	-	-	-	-	-	-
Italy	-	140	1067	391	210	132	88	36	-
Japan	-	-	-	-	-	-	-	-	-
Korea	-	-	-	-	-	-	-	-	-
Mexico	-	-	112	-	-	-	-	-	-
Netherlands	-	19	766	452	408	91	-	-	115
Norway	-	5	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
Portugal	-	-	-	-	-	-	-	-	-
Spain	-	53	378	88	55	-	100	-	-
Sweden	-	375	180	49	112	-	-	-	-
Turkey	-	-	35	48	299	-	-	-	-
United Kingdom	-	169	218	-	43	-	-	-	-
United States	-	238	2726	4139	825	360	67	-	-
Other OECD ³	-	5	168	48	-	63	-	43	87
Non-OECD	33	88	495	709	1476	252	386	457	110
Brazil	33	-	79	460	972	96	170	248	44
Bulgaria	-	-	-	-	-	-	-	-	-
China, People's Rep.	-	-	-	-	-	-	-	-	-
Hong Kong, China	-	-	-	-	-	-	-	-	-
India	-	-	-	-	-	4	-	-	-
Morocco	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	4	-	-	-
Russian Federation	-	-	-	-	-	-	-	-	-
Chinese Taipei	-	-	-	-	-	-	-	-	-
Ukraine	-	-	-	-	-	-	-	-	-
Other Africa	-	-	-	-	-	-	-	-	-
Other Asia	-	-	-	-	-	-	-	-	-
Other Eastern Europe	-	-	-	-	-	-	-	-	-
Other FSU	-	-	-	-	-	-	-	-	-
Other non-OECD Americas	-	88	416	249	504	148	216	209	66
Other Middle East	-	-	-	-	-	-	-	-	-
Non-specified/other	-	-	-	58	-	-	2	-	-

1. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. Australia, Chile, Estonia, Iceland, Ireland, Latvia, Luxembourg, New Zealand, Slovak Republic, Slovenia and Switzerland.

VIET NAM

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	4.2	3.7	6.7	9.3	27.1	35.9	33.2	30.8	-1.1	8.5
Imports	0.0	0.0	0.0	-	0.5	0.8	5.5	10.4	-	28.8
Exports	-0.5	-0.6	-2.3	-2.6	-14.4	-15.9	-1.6	-1.2	2.1	2.4
Stock changes	-0.4	0.1	0.3	-0.4	-1.5	0.1	-1.5	-0.5		
Primary supply	3.2	3.2	4.7	6.2	11.8	20.9	35.6	39.5	-0.2	10.2
Statistical differences	-	-	-	-	-	0.0	-	-		
Total transformation	-1.1	-1.3	-1.0	-1.6	-4.3	-6.9	-18.9	-18.9	1.6	10.9
Electricity and heat gen.	-1.1	-1.3	-1.0	-1.6	-4.3	-6.9	-18.9	-18.9	1.6	10.9
<i>Main activity producers</i> ²	-1.1	-1.3	-1.0	-1.6	-3.8	-6.7	-18.2	-18.1	1.6	10.8
<i>Autoproducers</i>	-	-	-	-	-0.4	-0.2	-0.7	-0.7	-	-
Gas works	-	-	-	-	-	-	-	-	-	-
Coal transformation ³	-0.0	-0.0	-0.0	-	-	-	-	-	-	-
<i>BKB plants</i>	-	-	-	-	-	-	-	-	-	-
<i>Blast furnaces</i>	-0.0	-0.0	-0.0	-	-	-	-	-	-	-
<i>Coke ovens</i>	-	-	-	-	-	-	-	-	-	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	-	-	-
Other transformation ⁴	-	-	-	-	-	-	-	-	-	-
Energy ind. own use	-	-	-	-	-	-	-	-	-	-
Losses	-	-	-	-	-	-	-	-	-	-
Final consumption ⁵	2.2	1.9	3.7	4.6	7.5	14.0	16.8	20.6	-1.3	9.6
Industry ⁶	1.3	1.5	2.8	3.3	5.7	11.8	14.7	18.4	0.9	10.2
<i>Iron and steel</i>	0.0	0.0	0.0	-	-	0.5	0.6	0.7	-	18.8
<i>Chemical</i>	-	-	-	-	-	0.3	0.3	0.3	-	-
<i>Non-metallic minerals</i>	-	-	-	-	-	6.5	7.7	8.2	-	-
<i>Paper, pulp and print</i>	-	-	-	-	-	0.5	0.5	0.6	-	-
<i>Other industry</i> ⁷	1.3	1.5	2.8	3.3	5.7	4.0	5.5	8.6	0.9	7.1
Transport ⁸	0.1	0.0	0.0	-	-	-	-	-	-13.9	-
Other	0.7	0.4	0.9	1.3	1.9	2.3	2.1	2.3	-5.6	6.7
<i>Comm. and pub. services</i>	-	0.0	0.2	0.4	0.5	0.5	0.5	0.6	-	12.3
<i>Residential</i>	0.5	0.3	0.6	0.8	1.4	1.7	1.6	1.7	-4.8	6.9
<i>Other sectors</i> ⁹	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	-9.6	-4.8
Non-energy use	-	-	-	-	-	-	-	-	-	-
Electricity gen. - TWh	1.4	2.0	2.0	3.1	12.2	19.7	53.7	53.7	3.5	13.5

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

VIET NAM

Steam coal¹ exports by destination
(thousand tonnes)

	1978 ²	1990	2000	2005	2010	2014	2015	2016	2017p
World	1430	745	3526	17987	19747	7265	1748	1243	2225
OECD	-	450	3203	6062	3401	1552	721	514	1164
Austria	-	-	-	-	-	-	-	-	-
Belgium	-	-	240	192	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-	-
Finland	-	-	-	-	-	-	-	-	-
France	-	-	100	155	52	-	-	-	-
Germany	-	-	52	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	-	-
Italy	-	-	-	-	-	-	-	-	-
Japan	-	150	2227	4848	1604	620	456	461	954
Korea	-	300	516	854	1745	932	265	53	210
Mexico	-	-	-	-	-	-	-	-	-
Netherlands	-	-	20	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
Portugal	-	-	-	-	-	-	-	-	-
Spain	-	-	-	13	-	-	-	-	-
Sweden	-	-	-	-	-	-	-	-	-
Turkey	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	48	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-
Other OECD ³	-	-	-	-	-	-	-	-	-
Non-OECD	-	295	323	11925	15946	5157	853	729	846
Brazil	-	-	88	388	-	-	-	-	-
Bulgaria	-	-	-	-	-	23	-	-	-
China, People's Rep.	-	100	27	10532	15626	4767	519	406	17
Hong Kong, China	-	-	-	-	-	-	-	-	-
India	-	-	-	-	57	-	29	36	169
Morocco	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-
Russian Federation	-	-	-	-	-	-	-	-	-
Chinese Taipei	-	-	52	118	35	18	15	48	62
Ukraine	-	-	-	-	-	-	-	-	-
Other Africa	-	-	-	-	-	-	-	-	-
Other Asia	-	195	156	887	228	349	290	239	598
Other Eastern Europe	-	-	-	-	-	-	-	-	-
Other FSU	-	-	-	-	-	-	-	-	-
Other non-OECD Americas	-	-	-	-	-	-	-	-	-
Other Middle East	-	-	-	-	-	-	-	-	-
Non-specified/other	1430	-	-	-	400	556	174	-	215

1. Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

2. Earliest year for which split by coal type is available.

3. Australia, Chile, Estonia, Iceland, Ireland, Latvia, Luxembourg, New Zealand, Slovak Republic, Slovenia and Switzerland.

AFRICA

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	99.9	149.9	174.7	187.0	202.5	209.8	219.0	216.0	4.1	1.4
Imports	1.5	4.1	4.5	8.2	10.3	9.5	10.5	11.0	10.1	3.9
Exports	-27.8	-48.4	-58.3	-68.0	-69.4	-65.3	-77.9	-76.1	5.7	1.8
Stock changes	0.1	0.1	0.8	1.3	0.1	-0.0	-1.4	3.8		
Primary supply	73.9	105.7	121.7	128.4	143.5	154.0	150.2	154.6	3.6	1.5
Statistical differences	3.7	6.5	-3.6	0.1	2.5	-1.2	2.1	-1.3		
Total transformation	-46.7	-83.9	-92.5	-101.7	-103.1	-112.4	-110.2	-111.7	6.0	1.1
Electricity and heat gen.	-36.2	-56.0	-65.9	-74.5	-84.0	-94.8	-94.4	-96.2	4.5	2.1
<i>Main activity producers</i> ²	-33.3	-52.7	-62.2	-70.2	-79.8	-90.7	-89.7	-91.1	4.7	2.1
<i>Autoproducers</i>	-2.9	-3.3	-3.7	-4.3	-4.2	-4.1	-4.7	-5.1	1.2	1.7
Gas works	-2.8	-3.2	-3.7	-3.3	-7.3	-7.0	-5.9	-5.6	1.5	2.2
Coal transformation ³	-4.6	-4.6	-3.0	-2.7	-3.5	-3.2	-2.6	-2.4	-0.2	-2.4
<i>BKB plants</i>	-	-	-	-0.0	-0.0	-0.0	0.0	-0.0	-	-
<i>Blast furnaces</i>	-3.0	-2.6	-1.8	-1.6	-1.8	-1.8	-1.4	-1.3	-1.6	-2.6
<i>Coke ovens</i>	-1.6	-2.0	-1.2	-1.0	-1.7	-1.4	-1.2	-1.1	2.0	-2.2
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	-	-	-
Other transformation ⁴	-3.1	-20.1	-19.9	-21.2	-8.3	-7.4	-7.4	-7.4	20.6	-3.8
Energy ind. own use	-0.1	-0.1	-0.0	-0.0	-13.5	-14.6	-14.9	-15.0	1.0	23.1
Losses	-0.0	-0.1	-0.1	-0.1	-0.2	-0.1	-0.0	-		
Final consumption ⁵	30.7	28.1	25.5	26.6	29.3	25.7	27.1	26.7	-0.9	-0.2
Industry ⁶	23.5	19.6	13.9	15.9	20.1	18.4	16.7	17.0	-1.8	-0.5
<i>Iron and steel</i>	10.7	10.6	7.4	6.9	7.2	6.0	4.4	4.4	-0.1	-3.3
<i>Chemical</i>	0.1	0.1	1.5	1.5	1.4	1.6	1.2	1.1	-5.8	11.1
<i>Non-metallic minerals</i>	2.5	2.2	1.8	1.5	2.3	2.4	3.0	3.3	-1.6	1.6
<i>Paper, pulp and print</i>	-	-	0.0	0.1	0.1	0.1	0.1	0.1	-	-
<i>Other industry</i> ⁷	10.2	6.8	3.1	5.9	9.1	8.4	8.1	8.1	-4.0	0.7
Transport ⁸	2.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	-18.4	-14.5
Other	4.0	4.3	4.7	3.2	7.1	5.4	8.5	7.5	0.7	2.2
<i>Comm. and pub. services</i>	1.3	1.6	1.7	1.0	2.4	1.6	2.6	2.3	2.0	1.5
<i>Residential</i>	2.3	2.3	2.4	1.5	4.5	2.8	5.2	4.6	-0.1	2.7
<i>Other sectors</i> ⁹	0.4	0.4	0.7	0.7	0.3	1.0	0.7	0.6	0.8	1.7
Non-energy use	1.2	4.0	6.8	7.5	2.0	1.9	1.8	2.2	13.1	-2.3
Electricity gen. - TWh	100.4	164.7	186.3	208.7	249.6	259.3	255.9	253.5	5.1	1.7

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

NON-OECD ASIA EXCLUDING CHINA

	Coal balance ¹ (Mtce)								Average annual percent change	
	1980	1990	1995	2000	2005	2010	2015	2016	80-90	90-16
Production	115.5	195.5	248.7	298.9	449.7	667.7	823.3	857.7	5.4	5.9
Imports	7.2	32.1	49.0	77.7	120.4	208.8	309.4	304.9	16.1	9.0
Exports	-0.8	-5.3	-29.3	-51.8	-129.3	-262.4	-331.8	-348.0	21.3	17.4
Stock changes	-7.1	-8.1	-5.4	2.5	-8.4	-5.2	-9.4	-6.1		
Primary supply	114.9	214.1	263.0	327.3	432.4	609.0	791.5	808.4	6.4	5.2
Statistical differences	0.2	0.5	-1.8	-2.3	-3.6	-13.5	-14.7	-9.5		
Total transformation	-39.3	-107.1	-159.2	-224.8	-292.6	-389.6	-552.4	-570.3	10.6	6.6
Electricity and heat gen.	-31.8	-95.1	-146.7	-210.9	-275.5	-371.4	-523.6	-539.5	11.6	6.9
<i>Main activity producers</i> ²	-30.5	-89.3	-136.8	-189.7	-241.6	-319.3	-452.8	-459.1	11.4	6.5
<i>Autoproducers</i>	-1.3	-5.7	-9.8	-21.2	-33.8	-52.0	-70.8	-80.4	16.0	10.7
Gas works	-	-	-	-0.0	-0.0	-0.0	-0.0	-0.0	-	-
Coal transformation ³	-7.5	-12.0	-12.5	-13.9	-17.1	-18.2	-28.8	-30.8	4.8	3.7
<i>BKB plants</i>	-0.1	-0.3	-0.3	-0.2	-0.2	-0.3	-0.1	-0.1	7.9	-4.0
<i>Blast furnaces</i>	-6.9	-9.2	-8.7	-11.7	-11.7	-15.1	-21.7	-23.7	3.0	3.7
<i>Coke ovens</i>	-0.5	-2.6	-3.6	-1.9	-5.2	-2.8	-7.0	-7.1	17.7	4.0
<i>Patent fuel plants</i>	0.0	0.0	-	-	-	-	-	-	-	-
Other transformation ⁴	-	-	-	-	-	-	-	-	-	-
Energy ind. own use	-0.9	-2.9	-3.0	-2.6	-2.8	-2.8	-3.8	-4.0	12.0	1.3
Losses	-	-0.0	-0.0	-0.0	-0.1	-0.2	-0.3	-0.3		
Final consumption ⁵	74.9	104.6	99.0	97.5	133.3	202.9	220.3	224.2	3.4	3.0
Industry ⁶	51.3	80.4	77.7	80.2	113.8	178.6	199.2	201.8	4.6	3.6
<i>Iron and steel</i>	11.2	15.3	17.1	16.1	24.0	47.1	69.1	72.6	3.2	6.2
<i>Chemical</i>	2.0	4.6	5.9	6.3	5.9	8.3	8.3	8.6	8.8	2.4
<i>Non-metallic minerals</i>	6.9	15.4	19.3	24.2	34.3	49.8	58.8	59.0	8.3	5.3
<i>Paper, pulp and print</i>	1.3	2.1	2.6	2.8	3.3	4.8	4.9	4.9	4.7	3.3
<i>Other industry</i> ⁷	29.9	43.0	32.7	30.9	46.4	68.6	58.1	56.7	3.7	1.1
Transport ⁸	7.2	3.2	0.2	0.0	0.0	0.0	0.0	0.0	-7.7	-17.1
Other	16.4	20.8	20.8	17.0	19.1	23.8	20.7	22.0	2.4	0.2
<i>Comm. and pub. services</i>	4.0	4.8	5.3	4.2	4.1	5.0	6.5	6.7	1.8	1.3
<i>Residential</i>	3.4	4.5	4.5	4.6	5.1	6.0	5.7	5.9	2.8	1.1
<i>Other sectors</i> ⁹	8.9	11.5	11.0	8.3	9.9	12.8	8.5	9.3	2.6	-0.8
Non-energy use	0.0	0.2	0.3	0.2	0.3	0.4	0.4	0.4	42.7	2.2
Electricity gen. - TWh	80.7	258.1	395.5	569.5	735.7	981.2	1490.2	1592.4	12.3	7.3

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

EUROPEAN UNION - 28

	Coal balance ¹								Average annual percent change	
	1980	1990	1995	2000	2005	2010	2015	2016	80-90	90-16
Production	..	528.0	399.7	306.6	280.3	235.8	207.6	188.9	-	-3.9
Imports	..	176.2	166.0	188.0	219.2	194.4	215.1	192.7	-	0.3
Exports	..	-61.7	-54.1	-47.8	-40.3	-35.3	-56.0	-54.6	-	-0.5
Stock changes	..	6.7	9.8	12.0	-4.8	9.5	8.9	17.5		
Primary supply	..	649.3	521.4	458.8	454.4	404.4	375.5	344.5	-	-2.4
Statistical differences	..	-11.4	-2.4	0.4	0.4	-2.0	-0.6	-1.6		
Total transformation	..	-449.1	-395.6	-372.8	-379.3	-332.7	-314.1	-283.4	-	-1.8
Electricity and heat gen.	..	-409.2	-357.8	-336.8	-347.8	-302.8	-282.3	-252.2	-	-1.8
<i>Main activity producers</i> ²	..	-356.6	-326.2	-317.0	-329.2	-287.7	-270.1	-239.9	-	-1.5
<i>Autoproducers</i>	..	-52.6	-31.7	-19.8	-18.6	-15.0	-12.2	-12.3	-	-5.4
Gas works	..	2.4	0.5	0.1	-0.2	-0.4	-0.4	-0.4	-	-
Coal transformation ³	..	-42.1	-37.6	-35.3	-30.3	-28.2	-29.3	-29.0	-	-1.4
<i>BKB plants</i>	..	-1.7	-1.2	-0.2	-0.1	0.1	-0.5	-0.6	-	-4.2
<i>Blast furnaces</i>	..	-33.2	-29.3	-29.2	-27.0	-24.5	-25.7	-25.4	-	-1.0
<i>Coke ovens</i>	..	-7.9	-7.3	-6.1	-3.2	-3.9	-3.1	-3.0	-	-3.7
<i>Patent fuel plants</i>	..	0.8	0.2	0.2	0.0	0.1	-0.0	0.0	-	-15.8
Other transformation ⁴	..	-0.3	-0.6	-0.7	-0.9	-1.3	-2.1	-1.9	-	7.9
Energy ind. own use	..	-15.3	-13.8	-11.9	-11.0	-9.7	-8.8	-8.3	-	-2.3
Losses	..	-1.4	-1.5	-1.1	-1.7	-1.6	-1.7	-1.9		
Final consumption ⁵	..	171.9	108.1	73.4	62.7	58.3	50.2	49.2	-	-4.7
Industry ⁶	..	96.8	69.6	52.8	42.9	34.3	31.5	30.2	-	-4.4
<i>Iron and steel</i>	..	39.3	31.6	25.1	23.0	17.1	15.0	14.4	-	-3.8
<i>Chemical</i>	..	11.1	7.6	4.4	3.9	4.0	4.6	4.3	-	-3.6
<i>Non-metallic minerals</i>	..	17.9	14.0	11.2	8.2	7.5	6.6	6.3	-	-3.9
<i>Paper, pulp and print</i>	..	3.8	3.1	2.3	2.1	1.6	1.5	1.5	-	-3.6
<i>Other industry</i> ⁷	..	24.6	13.3	9.9	5.7	4.1	3.7	3.7	-	-7.0
Transport ⁸	..	0.3	0.0	0.0	0.0	0.0	0.0	0.0	-	-10.5
Other	..	72.4	36.9	18.8	17.5	21.7	16.2	16.4	-	-5.5
<i>Comm. and pub. services</i>	..	19.6	6.3	2.6	1.7	2.3	1.5	1.3	-	-9.9
<i>Residential</i>	..	48.1	27.1	14.3	14.1	17.4	13.2	13.6	-	-4.8
<i>Other sectors</i> ⁹	..	4.7	3.6	2.0	1.7	2.0	1.5	1.6	-	-4.1
Non-energy use	..	2.5	1.5	1.8	2.3	2.2	2.5	2.6	-	0.1
Electricity gen. - TWh	..	1050.3	972.1	967.8	996.1	863.6	826.4	735.8	-	-1.4

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

NON-OECD AMERICAS

	Coal balance ¹ (Mtce)								Average annual percent change	
	1980	1990	1995	2000	2005	2010	2015	2016	80-90	90-16
Production	7.8	25.2	31.3	47.7	66.0	75.0	85.0	88.9	12.4	5.0
Imports	6.8	13.2	15.9	17.1	19.4	21.9	27.3	25.5	6.9	2.5
Exports	-1.4	-14.6	-21.5	-41.6	-57.5	-67.2	-69.9	-79.4	26.7	6.7
Stock changes	-0.2	-3.1	-1.4	1.7	-1.1	0.5	-3.4	1.5		
Primary supply	13.0	20.7	24.2	24.9	26.8	30.3	39.0	36.5	4.8	2.2
Statistical differences	1.2	0.4	0.1	1.1	-0.1	-0.2	-0.8	-0.6		
Total transformation	-6.3	-9.8	-11.2	-11.2	-12.6	-13.8	-20.2	-19.5	4.6	2.7
Electricity and heat gen.	-2.5	-4.1	-5.3	-6.5	-7.2	-8.8	-15.3	-15.2	5.4	5.1
<i>Main activity producers</i> ²	-1.8	-2.5	-3.7	-4.8	-5.2	-6.2	-11.6	-11.3	3.3	5.9
<i>Autoproducers</i>	-0.6	-1.6	-1.6	-1.7	-2.0	-2.6	-3.7	-3.8	9.8	3.4
Gas works	0.0	0.0	0.0	0.0	-	-	-	-	-	-
Coal transformation ³	-3.8	-5.7	-6.0	-4.7	-5.4	-5.0	-4.9	-4.4	4.1	-1.0
<i>BKB plants</i>	-	-	-	-	-	-	-	-	-	-
<i>Blast furnaces</i>	-2.7	-4.0	-5.0	-4.8	-5.7	-5.5	-5.3	-4.8	4.3	0.7
<i>Coke ovens</i>	-1.2	-1.7	-1.0	0.1	0.3	0.5	0.4	0.4	3.5	-
<i>Patent fuel plants</i>	-	-	-	-	-	-	-	-	-	-
Other transformation ⁴	-	-	-	-	-	-	-	-	-	-
Energy ind. own use	-1.0	-1.3	-1.4	-1.1	-1.1	-0.7	-0.6	-0.5	3.1	-3.8
Losses	-1.4	-1.3	-1.8	-0.6	-0.6	-0.5	-0.4	-0.4		
Final consumption ⁵	5.6	8.8	10.0	13.1	12.5	15.2	17.0	15.5	4.5	2.2
Industry ⁶	5.2	8.4	9.7	12.8	12.1	14.9	16.7	15.1	5.0	2.3
<i>Iron and steel</i>	2.8	4.1	5.7	7.8	7.3	9.5	9.4	8.4	4.1	2.8
<i>Chemical</i>	0.1	0.2	0.3	0.3	0.3	0.3	0.4	0.4	7.1	2.7
<i>Non-metallic minerals</i>	1.4	2.5	1.6	1.8	1.4	1.5	2.5	2.4	5.9	-0.1
<i>Paper, pulp and print</i>	0.3	0.5	0.5	0.6	0.5	0.4	0.5	0.5	4.7	0.5
<i>Other industry</i> ⁷	0.6	1.1	1.5	2.3	2.7	3.2	3.9	3.3	6.2	4.4
Transport ⁸	0.0	0.0	0.0	0.0	0.0	0.0	-	-	-	-
Other	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	-2.7	-2.8
<i>Comm. and pub. services</i>	0.0	0.0	0.0	0.0	-	-	0.0	-	-	-
<i>Residential</i>	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	-1.9	-2.7
<i>Other sectors</i> ⁹	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Non-energy use	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	-1.0	1.1
Electricity gen. - TWh	5.9	9.2	11.9	15.9	18.6	22.3	44.8	42.6	4.6	6.1

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

NON-OECD EUROPE AND EURASIA

	Coal balance ¹								Average annual percent change	
	1980	1990	1995	2000	2005	2010	2015	2016	80-90	90-16
Production	518.5	532.8	337.8	319.2	364.8	393.7	420.8	433.2	0.3	-0.8
Imports	21.6	104.2	45.9	37.9	39.2	43.2	43.5	43.4	17.1	-3.3
Exports	-21.4	-120.1	-42.5	-61.1	-98.8	-150.5	-163.5	-173.5	18.8	1.4
Stock changes	-1.4	6.8	4.6	2.5	-3.2	9.4	3.1	-0.3		
Primary supply	517.3	523.7	345.7	298.5	302.1	295.9	303.9	302.9	0.1	-2.1
Statistical differences	28.4	1.5	4.2	-3.0	-3.9	9.9	-4.8	-8.1		
Total transformation	-309.0	-338.1	-258.3	-236.7	-239.1	-236.7	-242.5	-238.3	0.9	-1.3
Electricity and heat gen.	-223.6	-281.4	-208.0	-189.9	-193.3	-194.8	-179.5	-175.9	2.3	-1.8
<i>Main activity producers</i> ²	-211.2	-250.3	-177.6	-154.4	-154.4	-161.8	-153.6	-151.4	1.7	-1.9
<i>Autoproducers</i>	-12.4	-31.2	-30.4	-35.5	-38.9	-33.0	-26.0	-24.5	9.6	-0.9
Gas works	-	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0	-	-
Coal transformation ³	-85.3	-56.7	-50.3	-46.8	-45.7	-41.7	-62.7	-62.1	-4.0	0.4
<i>BKB plants</i>	-0.5	0.8	-0.0	0.0	-0.0	-0.2	-0.2	-0.2	-	-
<i>Blast furnaces</i>	-61.5	-34.2	-27.3	-23.8	-24.6	-28.4	-40.5	-41.8	-5.7	0.8
<i>Coke ovens</i>	-23.8	-23.8	-22.7	-22.9	-19.8	-13.1	-21.9	-20.1	0.0	-0.6
<i>Patent fuel plants</i>	0.4	0.5	-0.3	-0.2	-1.2	0.0	-0.0	-	3.2	-
Other transformation ⁴	-	-	-	-	-0.1	-0.1	-0.3	-0.2	-	-
Energy ind. own use	-12.9	-6.4	-5.0	-4.8	-5.3	-7.3	-5.1	-5.4	-6.8	-0.7
Losses	-6.3	-18.6	-9.6	-1.8	-1.5	-2.3	-3.3	-4.4		
Final consumption ⁵	217.5	162.0	77.1	52.1	52.2	59.5	48.3	46.8	-2.9	-4.7
Industry ⁶	97.0	80.2	49.3	29.3	35.5	42.6	35.0	35.1	-1.9	-3.1
<i>Iron and steel</i>	19.2	35.4	26.1	17.5	21.5	26.1	21.3	23.0	6.3	-1.6
<i>Chemical</i>	4.5	1.3	0.7	0.5	0.4	0.7	0.6	0.6	-11.4	-3.3
<i>Non-metallic minerals</i>	12.7	1.1	1.2	1.1	1.9	3.5	4.1	3.9	-22.0	5.1
<i>Paper, pulp and print</i>	-	0.0	0.0	0.0	0.0	0.1	0.0	0.1	-	-
<i>Other industry</i> ⁷	60.6	42.3	21.4	10.3	11.8	12.2	8.9	7.6	-3.5	-6.4
Transport ⁸	8.7	0.1	0.0	0.0	0.1	0.1	0.1	0.0	-33.3	-8.0
Other	102.4	81.7	27.8	20.8	12.9	15.5	12.3	10.5	-2.2	-7.6
<i>Comm. and pub. services</i>	90.1	30.7	2.3	0.9	4.2	5.4	3.6	3.4	-10.2	-8.1
<i>Residential</i>	1.8	29.9	20.1	18.2	6.2	5.9	7.4	5.7	32.7	-6.2
<i>Other sectors</i> ⁹	10.6	21.1	5.4	1.7	2.5	4.2	1.4	1.3	7.2	-10.1
Non-energy use	9.4	-	0.0	2.0	3.7	1.2	0.9	1.1	-	-
Electricity gen. - TWh	471.0	429.3	349.4	338.4	352.8	396.1	386.1	395.0	-0.9	-0.3

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

NON-OECD TOTAL

	Coal balance ¹ (Mtce)								Average annual percent change	
	1980	1990	1995	2000	2005	2010	2015	2016	80-90	90-16
Production	1186.6	1644.8	1755.8	1873.2	2837.3	3808.0	4238.6	4052.4	3.3	3.5
Imports	39.4	163.1	125.1	149.6	221.5	436.2	559.7	592.6	15.3	5.1
Exports	-57.3	-205.7	-186.6	-287.8	-433.9	-566.2	-657.0	-694.4	13.6	4.8
Stock changes	-1.5	28.7	-4.2	1.2	11.7	-18.6	10.0	103.8		
Primary supply	1167.3	1630.9	1690.1	1736.2	2636.6	3659.4	4151.3	4054.3	3.4	3.6
Statistical differences	8.5	-39.5	21.9	14.0	32.8	-65.6	-33.9	36.1		
Total transformation	-513.9	-790.6	-926.5	-1106.0	-1591.0	-2141.0	-2619.0	-2667.2	4.4	4.8
Electricity and heat gen.	-382.8	-654.9	-782.3	-959.1	-1378.9	-1861.6	-2258.1	-2301.8	5.5	5.0
<i>Main activity producers</i> ²	-365.0	-612.0	-735.1	-893.7	-1289.9	-1742.6	-2108.4	-2138.3	5.3	4.9
<i>Autoproducers</i>	-17.8	-42.9	-47.2	-65.4	-89.0	-119.0	-149.7	-163.5	9.2	5.3
Gas works	-3.3	-4.7	-4.3	-5.5	-10.6	-8.8	-12.5	-15.9	3.8	4.8
Coal transformation ³	-124.8	-110.9	-120.0	-120.2	-193.1	-261.4	-335.5	-333.7	-1.2	4.3
<i>BKB plants</i>	-0.6	0.5	-0.3	-0.2	-0.2	-0.5	-0.3	-0.3	-	-
<i>Blast furnaces</i>	-88.6	-72.5	-78.8	-77.5	-138.1	-189.9	-218.0	-221.5	-2.0	4.4
<i>Coke ovens</i>	-36.0	-39.5	-40.6	-41.8	-50.2	-65.4	-111.5	-107.9	0.9	3.9
<i>Patent fuel plants</i>	0.4	0.6	-0.4	-0.6	-4.6	-5.7	-5.8	-4.0	3.0	-
Other transformation ⁴	-3.1	-20.1	-19.9	-21.2	-8.4	-9.2	-12.9	-15.8	20.6	-0.9
Energy ind. own use	-19.6	-32.0	-49.1	-59.2	-78.1	-133.6	-104.6	-85.4	5.0	3.8
Losses	-8.0	-20.2	-11.7	-2.9	-2.5	-3.3	-4.1	-5.1		
Final consumption ⁵	634.2	748.6	724.7	582.2	997.9	1315.9	1389.7	1332.7	1.7	2.2
Industry ⁶	365.8	433.0	493.8	408.2	781.8	1083.2	1126.4	1065.0	1.7	3.5
<i>Iron and steel</i>	91.5	98.3	119.7	116.2	191.5	322.2	379.2	371.6	0.7	5.2
<i>Chemical</i>	48.8	37.8	68.9	49.0	101.1	127.7	155.1	155.5	-2.5	5.6
<i>Non-metallic minerals</i>	56.1	91.5	119.8	102.6	213.9	281.8	302.8	289.6	5.0	4.5
<i>Paper, pulp and print</i>	7.1	12.6	17.2	14.0	21.4	28.3	18.1	17.3	5.9	1.2
<i>Other industry</i> ⁷	162.4	192.8	168.2	126.3	253.9	323.2	271.2	231.0	1.7	0.7
Transport ⁸	28.5	13.0	4.5	0.8	0.1	0.1	0.1	0.1	-7.5	-18.0
Other	229.1	270.8	199.5	145.2	177.9	186.0	193.8	192.3	1.7	-1.3
<i>Comm. and pub. services</i>	98.6	50.3	21.9	17.9	31.0	35.8	41.5	41.0	-6.5	-0.8
<i>Residential</i>	88.8	153.8	127.5	90.8	93.7	86.8	88.6	86.9	5.6	-2.2
<i>Other sectors</i> ⁹	41.6	66.6	50.1	36.5	53.2	63.4	63.7	64.3	4.8	-0.1
Non-energy use	10.8	31.8	26.8	28.0	38.1	46.6	69.4	75.4	11.4	3.4
Electricity gen. - TWh	817.4	1331.1	1713.7	2212.2	3364.6	4922.8	6311.3	6550.6	5.0	6.3

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

WORLD

Coal balance¹
(Mtce)

	1980	1990	1995	2000	2005	2010	2015	2016	Average annual percent change	
									80-90	90-16
Production	2570.9	3176.1	3170.4	3254.9	4282.5	5233.1	5552.0	5224.6	2.1	1.9
Imports	275.8	481.5	476.9	591.7	743.9	966.4	1129.6	1136.0	5.7	3.4
Exports	-272.3	-493.3	-487.2	-596.0	-762.0	-975.9	-1168.6	-1190.6	6.1	3.4
Stock changes	-27.7	7.3	-7.1	58.2	12.4	-6.1	-12.2	159.9		
Primary supply	2546.8	3171.7	3152.9	3308.7	4276.8	5217.6	5500.8	5329.8	2.2	2.0
Statistical differences	-11.4	-33.3	49.4	33.6	10.8	-78.9	-36.1	39.0		
Total transformation	-1473.5	-1984.0	-2172.1	-2482.6	-3005.4	-3482.2	-3786.6	-3775.0	3.0	2.5
Electricity and heat gen.	-1232.4	-1741.0	-1928.0	-2235.4	-2707.7	-3110.2	-3328.2	-3313.2	3.5	2.5
<i>Main activity producers</i> ²	-1151.0	-1627.7	-1817.9	-2116.6	-2573.2	-2948.4	-3132.5	-3107.1	3.5	2.5
<i>Autoproducers</i>	-81.4	-113.3	-110.1	-118.8	-134.5	-161.8	-195.7	-206.1	3.4	2.3
Gas works	4.5	-5.3	-6.7	-8.3	-13.2	-11.9	-15.8	-19.0	-	5.1
Coal transformation ³	-242.5	-217.4	-216.8	-217.0	-275.1	-349.5	-427.6	-425.0	-1.1	2.6
<i>BKB plants</i>	0.8	-1.0	-1.5	-0.4	-0.5	-0.4	-0.6	-0.8	-	-1.0
<i>Blast furnaces</i>	-168.6	-151.7	-155.5	-159.0	-212.7	-264.0	-294.4	-296.7	-1.0	2.6
<i>Coke ovens</i>	-75.2	-61.1	-59.1	-56.2	-64.5	-79.5	-126.8	-123.5	-2.0	2.7
<i>Patent fuel plants</i>	0.5	-3.6	-0.7	-1.4	2.5	-5.6	-5.8	-4.0	-	0.4
Other transformation ⁴	-3.1	-20.3	-20.6	-21.9	-9.3	-10.6	-15.0	-17.7	20.7	-0.5
Energy ind. own use	-47.4	-58.1	-72.4	-81.7	-99.1	-157.4	-127.8	-107.5	2.1	2.4
Losses	-10.4	-21.6	-13.3	-4.0	-4.3	-4.9	-5.8	-7.0		
Final consumption ⁵	1004.1	1074.7	944.5	774.0	1178.7	1494.1	1544.5	1479.3	0.7	1.2
Industry ⁶	594.8	653.8	663.8	571.2	933.0	1222.0	1250.9	1181.4	0.9	2.3
<i>Iron and steel</i>	197.8	180.3	188.4	178.4	248.6	376.7	429.0	419.7	-0.9	3.3
<i>Chemical</i>	73.7	68.2	88.7	67.8	117.7	144.8	171.3	170.4	-0.8	3.6
<i>Non-metallic minerals</i>	88.8	135.7	161.5	140.2	247.5	311.4	331.6	316.5	4.3	3.3
<i>Paper, pulp and print</i>	18.3	28.9	25.9	22.5	32.5	38.3	25.8	24.1	4.7	-0.7
<i>Other industry</i> ⁷	216.3	240.7	199.2	162.3	286.5	350.8	293.3	250.6	1.1	0.2
Transport ⁸	32.2	13.4	4.7	1.0	0.4	0.3	0.2	0.1	-8.4	-17.4
Other	362.9	371.3	246.0	170.6	203.8	221.6	219.9	218.3	0.2	-2.0
<i>Comm. and pub. services</i>	127.3	73.6	30.0	22.1	36.1	46.2	49.5	48.4	-5.3	-1.6
<i>Residential</i>	180.1	218.6	162.2	110.0	112.1	109.9	105.2	103.9	2.0	-2.8
<i>Other sectors</i> ⁹	55.5	79.1	53.8	38.5	55.6	65.5	65.2	65.9	3.6	-0.7
Non-energy use	14.1	36.1	30.1	31.1	41.5	50.3	73.5	79.6	9.9	3.1
Electricity gen. - TWh	3136.8	4430.4	4996.3	6001.4	7330.9	8659.5	9551.7	9594.3	3.5	3.0

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal, lignite) and derived fuels (patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases), as well as peat, peat products and oil shale and oil sands. Quantities have been converted to Mtce using calorific values reported by the respective countries. Please refer to the explanatory notes and definitions in Part I.

2. Main activity electricity and heat generation includes district heating.

3. Coal transformation refers to the transformation of coal and peat to secondary and tertiary products (mainly cokes, briquettes, coal tar and off-gases). Gas works and Liquefaction are shown separately to match the *World Energy Balances*.

4. Other transformation includes Liquefaction and Non-specified transformations.

5. Final Consumption includes non-energy use and energy use (Industry, Transport and Other).

6. Please refer to the explanatory notes and definitions in Part I for detailed explanation.

7. Other industry includes Non-ferrous metals, Transport equipment, Machinery, Mining and quarrying, Food and tobacco, Wood and wood products, Construction, Textile and leather, and Non-specified industry.

8. Transport includes Rail and Inland waterways.

9. Other sectors includes Agriculture/Forestry, Fishing and Non-specified other.

Source: IEA/OECD *World Energy Balances*

COUNTRY NOTES AND SOURCES

NON-OECD COUNTRIES

In the references below, both the statistical year (2016) for which data are being published in this edition, as well as publication dates of the many documents which have been consulted during the development of this publication are mentioned. As a general rule, where specific documents or personal communications have been used, the date that is referenced is the date of publication of the document or the date of the communication, whereas, where data received through the completion of questionnaires are mentioned, the date that is referenced is the statistical year for which data are being published in this edition, namely 2016.

Data may not include all informal and/or illegal trade, production or consumption of energy products, although the IEA Secretariat makes efforts to estimate these where reliable information is available.

General references

- *Annual Bulletin of Coal Statistics for Europe*, Economic Commission for Europe (ECE), New York, 1994.
- *Annual Bulletin of Electric Energy Statistics for Europe*, Economic Commission for Europe (ECE), New York, 1994.
- *Annual Bulletin of Gas Statistics for Europe*, Economic Commission for Europe (ECE), New York, 1994.
- *Annual Bulletin of General Energy Statistics for Europe*, Economic Commission for Europe (ECE), New York, 1994.
- *Annual Crude Steel production*, World Steel Association, www.worldsteel.org.
- *Annual Report July 1991-June 1992*, South African Development Community (SADC), Gaborone, 1993.
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- *Annual Statistical Report*, Organization of Arab Petroleum Exporting Countries (OAPEC), Kuwait, various editions up to 2016.
- *APEC Energy Database*, Tokyo, 2016.
- *Arab Oil and Gas Directory*, Arab Petroleum Research Centre, Paris, various editions up to 2016.
- *ASEAN Energy Review 1995 Edition*, ASEAN-EC Energy Management Training and Research Centre (AEEMTRC), Jakarta, 1996.
- *Asia Pacific Databook*, FACTS Global Energy, Singapore, various editions up to 2016.
- *Banque de données Enerdata, Fiches d'expertise des données*, Enerdata, Grenoble, September 2016.
- *Base CHELEM-PIB*, Centre d'Etudes Prospectives et d'Informations Internationales (CEPII), Bureau van Dijk, Paris, 2008 to 2017.
- *Centroamérica: Estadísticas de Hidrocarburos*, Comisión Económica para América y el Caribe (CEPAL), United Nations, Mexico, various editions up to 2016.
- *CIS and East European Energy Databook*, Eastern Bloc Research Ltd, Tolsta Chaolais, various editions up to 2016.
- *Eastern Bloc Energy*, Tadcaster, various issues up to May 1999.
- *Energy Indicators of Developing Member Countries*, Asian Development Bank (ADB), Manila, 1994.

- *Energy-Economic Information System (SIEE)*, Latin American Energy Organization (OLADE), Quito: <http://sier.olade.org/>.
- *Energy Statistics Yearbook 1990*, South African Development Community (SADC), Luanda, 1992.
- *Energy Statistics Yearbook 2008*, United Nations, New York, 2011.
- *External Trade of the CIS countries*, The Interstate Statistical Committee of the Commonwealth of Independent States, Moscow, 2005.
- *Forestry Data*, Food and Agriculture Organisation of the United Nations, Rome, 2000.
- *Foreign Scouting Service, Commonwealth of Independent States*, IHS Energy Group – IEDS Petroconsultants, Geneva.
- *Forests and Biomass Sub-sector in Africa*, African Energy Programme of the African Development Bank, Abidjan, 1996.
- *Global E&P Service, Commonwealth of Independent States*, IHS Energy Group – IEDS Petroconsultants, Geneva.
- *International Energy Annual*, Energy Information Administration (EIA), Washington, D.C., 1991 to 1994.
- *International Energy Data Report 1992*, World Energy Council, London, 1993.
- *Les Centrales Nucléaires dans le Monde*, Commissariat à l'Énergie Atomique, Paris, various editions up to 2016.
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- *Middle East Economic Survey (MEES)*, Nicosia, various issues to June 1999.
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- *Natural Gas in the World*, Cedigaz, Paris, various editions up to 2016.
- *Natural Gas Vehicles Statistics*, International Association for Natural Gas Vehicles, online database: www.iangv.org.
- *Notes d'Information et Statistiques*, Banque Centrale des Etats de l'Afrique de l'Ouest, Dakar, 1995.
- *Pétrole 1994*, Comité Professionnel du Pétrole (CPDP), Paris, 1995.
- Pirani et al, *Russian and CIS Gas Markets and Their Impact on Europe*, Oxford University Press, Oxford, 2009.
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- *PlanEcon Energy Outlook for the Former Soviet Republics*, Washington, June 1995 and 1996.
- *Prospects of Arab Petroleum Refining Industry*, Organization of Arab Petroleum Exporting Countries (OAPEC), Kuwait, 1990.
- *Review of Wood Energy Data in RWEDP Member Countries*, Regional Wood Energy Development Programme in Asia, Food and Agriculture Organisation of the United Nations, Bangkok, 1997.
- *SIE-Afrique (Systèmes d'Information Énergétique – Afrique)*, projet promu par ECONOTEC et Institut de l'Énergie et de l'Environnement de la Francophonie (IEPF), organe subsidiaire de l'Organisation Internationale de la Francophonie (OIF) up to 2009.
- *Solar Heat Worldwide*, AEE - Institute for Sustainable Technologies, Gleisdorf, various editions up to 2017.
- *Statistical Bulletin*, Arab Union of Producers, Transporters and Distributors of Electricity (AUPTDE), Amman, various editions up to 2015.
- *Statistical Bulletin*, The Interstate Statistical Committee of the Commonwealth of Independent States, Moscow, 1993 and 1994.
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- *Statistical Yearbook*, The Interstate Statistical Committee of the Commonwealth of Independent States, Moscow, various editions up to 2011.
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- *The LNG Industry*, International Group of Liquefied Natural Gas Importers (GIIGNL), Levallois, various editions up to 2016.
- *The United Nations Energy Statistics Database*, United Nations Statistical Office, New York, various editions up to 2017.
- *World Development Indicators*, The World Bank, Washington, various editions up to 2016.

Note:

- EU4Energy is a 4-year (2016-2020) EU-funded programme working to support evidence-based energy policy and decision making in the areas of energy security, energy markets and sustainable development in 11 focus countries - Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Uzbekistan and Ukraine. The IEA is responsible for the programme's energy-data management and data use in policy design.
- The OLADE database was used for several Non-OECD Americas countries.
- The UN database was the only source of information for time series of the countries not listed individually and included in the regions Other Africa, Other Non-OECD Americas and Other Asia. It was also used in a number of other countries as a complementary data source.

Brazil

General notes

Brazil joined the IEA as an Association country in October 2017.

Although IEA's balance is based on Brazil's national statistics, differences with the national energy balance can be observed due to the different methodologies adopted for reporting nuclear, chemical heat, natural gas, renewables, blast furnaces and coke ovens.

Brazil produces a large share of its pig iron in blast furnaces that are fuelled and fed with charcoal. The blast furnace gases produced when charcoal is used as a reagent in the blast furnaces are renewable products and they have been reported in this publication under the product "Biogases from thermal processes". Additionally, only the part of these gases consumed for power generation (i.e. energy purposes) has been accounted for in the transformation sector. The remaining charcoal consumed in or used to heat the blast furnaces is reported in final consumption under the iron and steel industry with no distinction between transformation and final consumption.

Prior to the year 2000 blast furnace gases data availability is limited to the input to auto producer

electricity plants. Therefore, from 1971 to 1999, the other flows (e.g. production, consumption etc.) are IEA Secretariat estimates.

The Itaipu hydroelectric plant, operating since 1984 and located on the Paraná River (which forms the border of Brazil and Paraguay) was formed as a joint venture between Eletrobrás and the Paraguayan government. Production is shared equally between Brazil and Paraguay.

Sources 1971 to 2016:

- Direct communication with the Ministério de Minas e Energia, Brasília.

Bulgaria

Sources 1990 to 2016:

- Direct communication with the National Statistical Institute, Sofia.
- Joint IEA/Eurostat/UNECE annual energy questionnaires.
- Energy Balances, National Statistical Institute, Sofia, 1995.

Sources up to 1991:

- *Energy Development of Bulgaria*, Government of Bulgaria, Sofia, 1980 and 1984.
- *Energy in Bulgaria*, Government of Bulgaria, Sofia, 1980 to 1983.
- *General Statistics in the Republic of Bulgaria 1989/1990*, Government of Bulgaria, Sofia, 1991.

People's Republic of China

Please see the explanatory notes in Part I.

Colombia

General notes

In 2018, time series for the period 2013-2016 were revised based on new energy balances received from the Unidad de Planeación Minero Energética (UPME). Breaks in time series may occur between 2012 and 2013.

Sources 1992 to 2016:

- *Energy-Economic Information System (SIEE)*, Latin American Energy Organization (OLADE), Quito, accessed May 2018: <http://sier.olade.org/>.
- Unidad de Planeación Minero Energética (UPME) Online statistics, Ministerio de Minas y Energía, various editions up to 2016.
- Direct communication with the Ministry of Mines and Energy, Energy Information Department, Bogotá.
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Sources up to 1991:

- *Boletín Minero-Energético*, Ministerio de Minas y Energía, Bogotá, December 1991.
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- *Energía y Minas Para el Progreso Social 1982-1986*, Ministerio de Minas y Energía, Bogotá, 1987.

Democratic People's Republic of Korea

General notes

The sources cited below provide domestic supply data for DPR Korea. All other flows are estimated by the IEA Secretariat.

2011 data for primary coals were revised based on new information in the 2014 edition. This may lead to breaks in the time series between 2010 and 2011 and differences in trends compared to previous editions for some products.

Sources 1971 to 2016:

- Direct communication with Korea's National Statistical Office and Korea's Energy Economics Institute.
- *North Korea Statistics*, Korean Statistical Information Service website, www.kosis.kr, Seoul.
- *World Trade Database*, prepared annually by the International Energy Agency.
- *The UN Energy Statistics Database*.
- IEA Secretariat estimates.

Sources for Biofuels and waste:

- *The UN Energy Statistics Database*.
- *Forestry Statistics*, FAO, Rome, 2018.
- IEA Secretariat estimates.

Hong Kong, China

Sources up to 2016:

- *Hong Kong Energy Statistics - Annual Report*, Census and Statistics Department, Hong Kong Special Administrative Region, various editions up to 2016.
- *Hong Kong Merchandise Trade Statistics – Domestic Exports and Re-exports/ Imports*, Census and Statistics Department, Hong Kong Special Administrative Region, various editions up to December 2016.
- Direct communication with The Hongkong Electric Company, Ltd, Hong Kong.
- *China Light & Power - Annual Report*, China Light & Power Group, Hong Kong, several editions up to 2017.
- *China Light & Power – Facility Performance Statistics*, China Light & Power Group, Hong Kong, several editions up to 2017.
- *Hong Kong Monthly Digest of Statistics*, Census and Statistics Department, Hong Kong, various editions to 1994.
- *Towngas - Annual Report*, The Hong Kong and China Gas Company Ltd., Hong Kong, several editions up to 2013.

India

General notes

India joined the IEA as an Association country in March 2017.

Data are reported on a fiscal year basis. Data for 2016 correspond to 1 April 2016 – 30 March 2017.

In 2015, significant revisions of the net calorific values of the different types of coal were made for the whole time series, based on official data as well as IEA and other expert estimates. As a result, there have been significant changes for the coal data when presented in energy units, as well as in the calculated efficiency of coal fired power generation. Data on the production and consumption of secondary coal products may have also been revised as a result.

The net calorific values of coking coal, sub-bituminous coal and other bituminous coal, were revised again in 2018 to take into account more detailed information on imports and IEA Secretariat experts estimates. From 2008, due to a notable discrepancy between official coal imports from India and coal exports to India as reported by trade partners, imports of coking coal and non-coking coal are estimated by the IEA Secretariat, based on trade partners' data. The breakdown of non-coking coal imports between bituminous coal and sub-bituminous coal is estimated from 2008. This could lead to breaks in time series between 2007 and 2008.

Coking coal figures for India do not align with IEA definitions as they include production of non-metallurgical coking coal reported by India.

Due to data limitations, IEA Secretariat estimates are used for some products and flows, including supply and demand of coke oven gas and blast furnace gas. Coke oven coke production is estimated from 2006 based on growth of blast furnace iron production, as official production data do not include production from small private producers.

Sources 1992 to 2016:

- Direct communication with the Central Statistical Office, Ministry of Statistics and Programme Implementation, Government of India, New Delhi.
- *Energy Statistics*, Central Statistical Office, Ministry of Statistics and Programme Implementation, New Delhi, various editions up to 2016-17.
- *Monthly Abstract of Statistics*, Ministry of Planning, Central Statistics Organisation, Department of Statistics, New Delhi, various editions from 1984 to 2000.

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- *General Review*, Public Electricity Supply, India Statistics, Central Electricity Authority, New Delhi, 1982 to 1985.
- *Energy Data Directory, Yearbook "TEDDY"*, and *Annual Report*, The Energy and Resources Institute "TERI", New Delhi, 1986-1988, 1990.

Indonesia

General notes

Indonesia joined the IEA as an Association country in November 2015.

For 2012-2015 coal exports data from BPS are used. This results in breaks in time series for 2011-2012.

Non-specified industry consumption is re-estimated by the IEA Secretariat.

The production and allocation of coal among the various coal types and products between 2000 and 2015 are estimated by the IEA Secretariat due to data collection limitations.

In 2015, data reported for coal consumption in pulp and paper industry might also include coal consumed in the textile and fertilizers sectors. This may create breaks in time series.

In the 2018 edition the IEA Secretariat estimated coking coal production for the period 2014-2016. Breaks in time series may appear between 2013 and 2014.

Sources 2008 to 2016:

- Direct communication with the Data Centre and Information Technology (PUSDATIN), Ministry of Energy and Mineral Resources, Jakarta.

- *Handbook of Energy & Economic Statistics of Indonesia*, PUSDATIN, Ministry of Energy and Mineral Resources (ESDM), Jakarta, various editions up to 2017.
- *Trade data on coal, charcoal for 1999-2016*, website of the Central Bureau of Statistics of the Republic of Indonesia (BPS).
- *PLN Statistics*, PT.PLN (Persero), Jakarta, various editions up to 2017.
- Direct communication with PT PLN (Persero), Jakarta.
- Direct communication with the Indonesia Coal Mining Association, Jakarta.
- IEA Secretariat estimates.

Sources 1992 to 2007:

- *Indonesia Mineral and Coal Statistics*, Directorate of Coal and Mineral Resources, Jakarta, 1998 to 2007.
- *Statistics on Electricity and Energy, 1998 to 2004*, Directorate General of Electricity and Energy Utilisation, Jakarta, 1999 to 2005.
- *Neraca energy 2000*, Energy Balance of Indonesia 2000, Asean Center for Energy.
- *Mining and Energy Yearbook, 1998*, Ministry of Mines and Energy, Jakarta, 1998.
- APEC annual energy statistics questionnaires.
- Direct communication with Directorate General of Coal and Mineral Resources, Directorate General Oil and Gas, and Directorate General of Electricity and Energy Utilisation of the Ministry of Energy and Mineral Resources.
- Direct communication with the Indonesian Institute for Energy Economics, 2004 and 2005.
- Direct communication with the ASEAN Centre for Energy, 2005.

Sources up to 1991:

- *Indonesian Financial Statistics*, Bank of Indonesia, Jakarta, 1982.
- *Indikator Ekonomi 1980-1985*, Biro Pusat Statistik, Jakarta, 1986.
- *Statistical Yearbook of Indonesia*, Biro Pusat Statistik, Jakarta, 1978 to 1984 and 1992.
- *Statistik Pertambangan Umum, 1973-1985*, Biro Pusat Statistik, Jakarta, 1986.
- *Energy Planning for Development in Indonesia*, Directorate General for Power, Ministry of Mines and Energy, Jakarta, 1981.

- *Commercial Information*, Electric Power Corporation, Perusahaan Umum Listrik Negara, Jakarta, 1984, 1985.

Kazakhstan

General notes

Data for Kazakhstan are available starting in 1990. Prior to that, they are included in Former Soviet Union.

Kazakhstan is one of the 11 EU4Energy focus countries.

In 2016, the Committee on Statistics of Kazakhstan introduced changes in the forms used to collect energy data to align more closely with the International Recommendations for Energy Statistics. In order to reduce burden on enterprises, questions on supply were removed and supply data are now taken from administrative sources. As a consequence, breaks in the time series appear for many product and flows, both for supply and demand between 2014 and 2015 data. Revisions are to be expected as data for additional years become available in the new format.

From 2012 onwards, as a result of important work carried out jointly by the Committee on Statistics and the Ministry of National Economy of the Republic of Kazakhstan, the IEA Secretariat was able to switch to the Joint IEA/Eurostat/UNECE questionnaires as a primary source for Kazakhstan's data. Breaks in time series appear between 2011 and 2012 as a result of this change.

Some data for fuel inputs to CHP plants are estimated by IEA secretariat. In 2010, Kazakhstan became a member of a Customs Union with Russia and Belarus. Breaks in trade time series appear from 2009 to 2012 as the Customs shifted from one accounting system to another.

Kazakhstan's coal data are normally not disaggregated by coal type. The disaggregation presented in the IEA energy balances is achieved by considering the typical end uses for different types of coals. This may lead to large statistical differences for some types of coal.

Sources 2012 to 2016:

- Direct communication with the Committee on Statistics of the Ministry of National Economy (formerly: Agency on Statistics) of the Republic of Kazakhstan, Astana.
- Joint IEA/Eurostat/UNECE annual energy questionnaires.
- IEA Secretariat estimates.

Sources 1993 to 2011:

- Direct communication with the Agency on Statistics of the Republic of Kazakhstan, Astana.
- *Fuel and Energy Balance of Kazakhstan Republic*, Agency on Statistics of the Republic of Kazakhstan, Astana, various editions up to 2010.
- Joint IEA/Eurostat/UNECE annual energy questionnaires, 1993, 1995, 1997 to 2009.
- *Statistical Yearbook "Kazakhstan in 2009"*, Agency on Statistics of the Republic of Kazakhstan, Astana, 2010.
- IEA Secretariat estimates.

Sources 1990 to 1992:

- IEA Secretariat estimates.

Malaysia

Sources 2000 to 2016:

- Direct communication with the Energy Commission, Putrajaya.
- *National Energy Balance*, Malaysia, Energy Commission, Putrajaya, 2009 to 2016.
- *Electricity Supply Industry in Malaysia*, Performance and Statistical Information, Malaysia Energy Commission, Putrajaya, 2009 to 2016.
- *Electricity Supply Statistics, Malaysia Energy Information Hub*, website: meih.st.gov.my, 2018.
- APEC annual energy questionnaires, 2009, 2011
- *National Energy Balance Malaysia*, Ministry of Energy, Water and Communication, Kuala Lumpur, 2002 to 2008.

Sources up to 2000:

- Direct communication with Petroliam Nasional Berhad, Kuala Lumpur, April 2001.

Sources 1990 to 1991:

- IEA Secretariat estimates.

Mongolia

General notes

Data for Mongolia are available starting in 1985. Prior to that, they are included in Other Asia.

Data allowing a disaggregation of coal by type became available in 2015. In addition time series were revised from 2005 forward. Breaks in time series between 2004 and 2005 may result as well as differences in trends from previous editions.

Sources 1985 to 2015:

- *Mongolian Statistical Yearbook*, National Statistical Office, Ulaanbaatar, various editions up to 2017.
- *Balance of Coal & Coal Exports*, Mongolian Statistical Information Service, National Statistical Office, Ulaanbaatar, online statistical service, accessed May 2018: www.1212.mn.
- Asian Development Bank online database.
- IEA Secretariat estimates.

Mozambique

Sources 1992 to 2015:

- Direct communication with Ministério da Energia, Maputo and the National Petroleum Institute.
- *Annual Statistical Yearbook 1993, 1994, 1995*, Eskom, Johannesburg, 1994, 1995, 1996, citing Electricidade de Mozambique, Maputo, as source.
- *The UN Energy Statistics Database*.
- IEA Secretariat estimates.

Sources up to 1991:

- IEA Secretariat estimates.

Philippines

Sources 1990 to 2015:

- Direct communication with the Department of Energy, Manila.
- *Energy Commodity Account (ECA) and Overall Energy Balance (OEB)*, 1990-2008, 2010-2016 submitted by the Department of Energy, Manila.
- APEC annual energy statistics questionnaires.
- *Annual Report*, Semirara Mining Corporation, 2006-2017.
- Annual steel production 1980-2017, World Steel Association, www.worldsteel.org/statistics/.
- Philippines Energy Bulletin 1996, 1997, 1998, 1999.
- IEA Secretariat estimates.

Sources up to 1989:

- Direct communication with the Office of Energy Affairs, Manila.
- *APEC Energy Statistics 1994*, Tokyo, October 1996.
- *1990 Power Development Program (1990-2005)*, National Power Corporation, Manila, 1990.
- *Philippine Medium-term Energy Plan 1988-1992*, Office of Energy Affairs, Manila, 1989.
- *Philippine Statistical Yearbook 1977-1983*, National Economic and Development Authority, Manila.
- *1985 and 1989 Annual Report*, National Power Corporation, Manila, 1986, 1990.
- *Philippine Economic Indicators*, National Economic and Development Authority, Manila, various editions of 1985.
- *Accomplishment Report: Energy Self-Reliance 1973-1983*, Ministry of Energy, Manila, 1984.
- *Industrial Energy Profiles 1972-1979, vol. 1-4*, Ministry of Energy, Manila, 1980.
- *National Energy Program*, Ministry of Energy, Manila, 1982-1987 and 1986-1990.
- *Philippine Statistics 1974-1981*, Ministry of Energy, Manila, 1982.
- *Energy Statistics*, National Economic and Development Authority, Manila, 1983.
- *Quarterly Review*, Office of Energy Affairs, Manila, various editions.
- *UN Energy Statistics Database*.
- IEA Secretariat estimates.

Romania**General notes**

Data on quantities of coke oven coke used in blast furnaces do not correspond to the official submission of the national administration, as they have been estimated by the IEA Secretariat to ensure a carbon balance in the blast furnace transformation.

Sources 1992 to 2016:

- Direct communication with the National Institute of Statistics, Bucharest.
- Joint IEA/Eurostat/UNECE annual energy questionnaires.
- *Buletin Statistic de Informare Publica*, Comisia Nationala Pentru Statistica, Bucharest, various editions up to June 1995.

- *Renel Information Bulletin*, Romanian Electricity Authority, Bucharest, 1990, 1991, 1992, 1993, 1994. *Anuarul Statistic al Republicii Socialiste Romania*, Comisia Nationala Pentru Statistica, Bucharest, 1984, 1985, 1986, 1990, 1991.
- IEA Secretariat estimates.

Russian Federation**General notes**

Data for the Russian Federation are available starting in 1990. Prior to that, they are included in Former Soviet Union.

Annual statistics are based on annual joint IEA/Eurostat/UNECE questionnaires submissions received from Rosstat, the official data provider to the IEA. Data may differ from secondary sources, and discrepancies are being investigated.

In 2007, the Federal State Statistics Service introduced a new classification, the Russian Classification of Economic Activities (OKVED), oriented towards harmonization with the Statistical Classification of Economic Activities in the European Community (NACE Rev.1). Data for the years prior to 2005 were submitted to the IEA Secretariat according to the Russian Classification of the Industries of the Economy (OKONKH). Therefore, breaks in time series for final consumption sectors may occur between 2004 and 2005.

Coal statistics provided by Rosstat may differ from those collected by Rosinformugol. Blast furnace gas values since 2012 utilise a different methodology to that of prior years (where heat from other sources than blast furnace gas had been attributed to blast furnace gas). Some coal trade from partners of the Customs Union has been estimated by the IEA Secretariat and additionally removed from indigenous production where it may be reported in data of other organisations.

Sources 1990 to 2016:

- Direct communication with the Department of Foreign Statistics and International Cooperation from the Federal State Statistics Service (Rosstat), Moscow, Russian Federation.
- Joint IEA/Eurostat/UNECE annual energy questionnaires.
- Energy trade: direct communication with the Federal State Statistics Service, July 1994.
- *Statistical Yearbook of Russia 1994*. The State Committee of Statistics, Moscow, 1994.

- *The Russian Federation in 1992, Statistical Yearbook*, The Federal State Statistics Service, Moscow, 1993.
- *Russian Federation External Trade*, annual and quarterly various editions, the Federal State Statistics Service, Moscow.
- *Statistical Bulletin*, various editions, The State Committee of Statistics of the CIS, Moscow, 1993, 1994.
- *Statistical Bulletin N° 3*, The Federal State Statistics Service, Moscow, 1992.
- *Fuel and Energy Balance of Russia 1990*, The Federal State Statistics Service, Moscow, 1991.
- *Energetika*, Energo-Atomisdat, Moscow, 1981 to 1987.
- IEA Secretariat estimates.

Serbia

General notes

Data for Serbia are available starting in 1990. Prior to that, they are included in Former Yugoslavia.

Serbia energy data include Montenegro until 2004 and The United Nations Interim Administration Mission in Kosovo until 1999.

Sources 1990 to 2016:

- Direct communication with the Ministry of Mining and Energy, Belgrade.
- Direct communication with the Statistical Office of the Republic of Serbia, Belgrade.
- Joint IEA/Eurostat/UNECE annual energy questionnaires.
- Direct communication with the Federal Ministry of Economy, Belgrade, 2001 and 2002.
- IEA Secretariat estimates.

South Africa

General notes

Outputs from gas-to-liquids and coal-to-liquids plants are presented in the “Transfers” flow.

New information became available in 2015 which allowed the separation of non-energy use of coal in Coal to Liquids (CTL) plants from the coal used for

energy purposes in these same plants. Non-energy conversion efficiencies for CTL plants in South Africa are assumed to be 60%. This new methodology may lead to breaks in time series between 2010 and 2011 for these products and flows.

Breaks in time series may occur for anthracite and coking coal between 2009 and 2010 as new information became available. Prior to 2010, coking coal data may include anthracite.

Coking coal, coke oven coke, coke oven gas, gas works gas and blast furnace gas production and consumption have been estimated using reported crude steel production figures.

Sources 2010 to 2016:

- Direct communication with the Department of Energy, Pretoria, South Africa.
- *Energy statistics: Supply and demand of petroleum products*, Department of Energy, Pretoria, South Africa.
- *Statistical release on electricity generated and available for distribution*, Statistics South Africa, Pretoria.
- *South African Statistics*, Statistics South Africa, Pretoria, various editions up to 2017.
- *Integrated Annual Reports*, Electricity Supply Commission (ESKOM), South Africa.
- *Analyst Book*, SASOL Limited Group, Johannesburg, various editions up to 2016.
- *Steel statistical Yearbook*, World Steel Association, Brussel, accessed March 2018, <http://www.worldsteel.org/statistics/>
- IEA Secretariat estimates.

Sources 1992 to 2009:

- Energy balances submitted to the IEA Secretariat from the Department of Minerals and Energy, 2003 to 2009.
- *Electricity generated and available for distribution*, Statistics South Africa, Pretoria, various editions up to 2009.
- Direct submission from the Institute for Energy Studies, Rand Afrikaans University, Pretoria, 1998 to 2001.
- *Digest of South African Energy Statistics 1998*.
- Direct submissions from the Energy Research Institute, University of Cape Town.
- *ESKOM Annual Report*, Electricity Supply Commission (ESKOM), South Africa, 1989 to 1994.

- *Statistical Yearbook*, Electricity Supply Commission (ESKOM), South Africa, 1983 to 1994.
- *South Africa's Mineral Industry*, Department of Mineral and Energy Affairs, Braamfontein, 1995.
- *South African Energy Statistics, 1950-1993*, Department of Mineral and Energy Affairs, Pretoria, 1995.
- *South African Coal Statistics 1994*, South African Coal Report, Randburg, 1995.
- *Energy Balances in South Africa 1970-1993*, Energy Research Institute, Plumstead, 1995.

Sources up to 1991:

- *Statistical News Release 1981-1985*, Central Statistical Service, South Africa, various editions from 1986 to 1989.
- *Annual Report Energy Affairs 1985*, Department of Mineral and Energy Affairs, Pretoria, 1986.
- *Energy Projections for South Africa (1985 Balance)*, Institute for Energy Studies, Rand Afrikaans University, South Africa, 1986.

Former Soviet Union

General notes

Data for individual countries of the Former Soviet Union are available starting in 1990, and most of the information on 1990 and 1991 was estimated by the IEA Secretariat. Because of large breaks in reporting occurring in the early 1990's, breaks in time series may occur in 1990 for all regional totals.

Coal production statistics refer to unwashed and un-screened coal up to 1990. IEA coal statistics normally refer to coal after washing and screening for the removal of inorganic matter. Also, see notes under 'Classification of Fuel Uses' and 'Heat', in section I.1, Issues of data quality.

The commodity balances presented for the Former Soviet Union include IEA Secretariat estimates of fuel consumption in the main categories of transformation. These estimates are based on secondary sources and on isolated references in FSU literature.

In older editions of this publication, intra-FSU trade was excluded.

Sources up to 1989:

- *Statistical Yearbook*, The State Committee for Statistics of the USSR, Moscow, various editions from 1980 to 1989.

- *External Trade of the Independent Republics and the Baltic States, 1990 and 1991*, the State Committee of Statistics of the CIS, Moscow, 1992.
- *External Trade of the USSR*, annual and quarterly, various editions, The State Committee of Statistics of the USSR, Moscow, 1986 to 1990.
- *CIR Staff Paper no. 14, 28, 29, 30, 32 and 36*, Center for International Research, U.S. Bureau of the Census, Washington, 1986, 1987 and 1988.
- *Yearbook on Foreign Trade*, The Ministry of Foreign Trade, Moscow, 1986.

Chinese Taipei

General notes

Data for the period 1982-2009 were revised in 2012 based on new balances submitted by the Bureau of Energy. Breaks in time series may occur between 1981 and 1982.

Breaks in time series may also occur between 2010 and 2011 as more detailed information became available for refinery feedstocks and oil products.

In 2018 data were revised for the period 2002-2015 based on new balances submitted by the Bureau of Energy and changes in methodology, breaks in time series might occur.

Sources 1982 to 2016:

- *Energy Balances in Taiwan*, Bureau of Energy, Ministry of Economic Affairs, Taipei, various editions up to 2016.
- Direct communication with the electricity utilities.
- *Yearbook of Energy Statistics*, Ministry of Trade, Industry and Energy, Taipei, 1996.
- *The Energy Situation in Taiwan*, Ministry of Economic Affairs, Energy Committee, Taipei, 1986, 1987, 1988 and 1992.
- IEA Secretariat estimates.

Sources up to 1981:

- *The Energy Situation in Taiwan*, Ministry of Economic Affairs, Energy Committee, Taipei, 1986, 1987, 1988 and 1992.
- *Industry of Free China 1975-1985*, Council for Economic Planning and Development, Taipei, 1986.

- *Taiwan Statistical Data Book 1954-1985*, Council for Economic Planning and Development, Taipei, 1986.
- *Energy Policy for the Taiwan Area*, Ministry of Economic Affairs, Energy Committee, Taipei, 1984.
- *Energy Balances in Taiwan*, Ministry of Economic Affairs, Taipei, 1980 to 1981.

Thailand

General notes

Thailand joined the IEA as an Association country in November 2015.

Stock changes may include statistical difference for certain products.

In the 2014 edition, new information became available for the consumption of anthracite and lignite coal in industry. Breaks in time series may occur between 2011 and 2012.

Sources for 2012 up to 2016:

- Direct communication with the Ministry of Energy, Thailand, Bangkok.
- *Thailand Energy Statistics*, Ministry of Energy, Department of Alternative Energy Development and Efficiency, Bangkok, various editions up to 2016.
- *Thailand Energy Balance Table*, Ministry of Energy, Department of Alternative Energy Development and Efficiency, Bangkok, various editions up to 2016.
- *Thailand Energy Efficiency Situation*, Ministry of Energy, Department of Alternative Energy Development and Efficiency, Bangkok, various editions up to 2014.
- *Energy Statistics of Thailand*, Ministry of Energy, Energy Policy & Planning Office, Bangkok, various editions up to 2016.
- *Key Statistical Data*, Electricity Generation Authority of Thailand, online database: www.egat.co.th.
- IEA Secretariat estimates.

Sources for 2002 to 2012:

- Direct communication with the Petroleum Institute of Thailand, Bangkok, 2008 to 2012.
- *Thailand Energy Situation*, Ministry of Energy, Department of Alternative Energy Development and Efficiency, various editions up to 2012.

- *Key Statistical Data*, Electricity Generation Authority of Thailand, online database: www.egat.co.th.
- *Electric Power in Thailand*, Ministry of Energy, Department of Alternative Energy Development and Efficiency, various editions up to 2012.
- IEA Secretariat estimates.

Sources up to 2001:

- *Electric Power in Thailand*, Ministry of Science, Technology and Energy, National Energy Administration, Bangkok, 1985, 1986, 1988 to 2001.
- *Thailand Energy Situation*, Ministry of Science, Technology and Energy, National Energy Administration, Bangkok, 1978 to 2001.

Ukraine

General notes

Data for Ukraine are available starting in 1990. Prior to that, they are included in Former Soviet Union.

Ukraine is one of the 11 EU4Energy focus countries.

Due to limited information being available to the State Statistics Service of Ukraine from part of the Donetsk and Luhansk regions of Ukraine and from the Autonomous Republic of Crimea, breaks in the time series occur after 2013.

In 2016, power plants have been reclassified due to the implementation of more detailed survey forms.

The IEA Secretariat and State Statistics Committee of Ukraine are working closely and intensively on the improvement of data quality, and in particular revision of historical data. Therefore, breaks in time series may occur between 2006 and 2007.

For the period 2007 to 2016 the transparency of data may be reduced because of confidentiality issues. For instance: peat includes lignite and patent fuel.

IEA statistics refer to coal after washing and screening for the removal of inorganic matter. Official Ukrainian coal statistics refer to unwashed and un-screened coal prior to 1995.

Bituminous coal "From other sources" refers to coal mined in informal sector.

Due to confidentiality constraints, data for anthracite are not available for 2017p. As a result, quantities of anthracite are included under other bituminous coal.

Due to a plant closure in 2008, a stock of lignite/peat became available, without details about its consumption. This may lead to breaks in time series and high statistical difference for 2008.

In 2015, some inputs to oven coke production may be missing leading to high efficiency.

Due to the new annual survey form, there was re-classification between main activity producers and autoproducers in 2016.

Sources 2007 to 2016:

- Direct communication with the State Statistics Committee of Ukraine, Kiev
- Joint IEA/Eurostat/UNECE annual energy questionnaires for Oil, Natural gas, Coal, Renewables, Electricity and heat.

Sources 1992 to 2006:

- Joint IEA/Eurostat/UNECE annual energy questionnaires.
- Direct communication with the Ministry of Statistics, the Coal Ministry, the National Dispatching Company, 1995.
- Coal: Direct communications with the State Mining University of Ukraine, 1995, 1996.
- Direct communication with the Ministry of Statistics of the Ukraine, July 1994.
- *Ukraine in 1992, Statistical Handbook*, Ministry of Statistics of the Ukraine, Kiev, 1993.
- *Ukraine Power Demand and Supply Options*, The World Bank, Washington, 1993.
- *Power Industry in Ukraine*, Ministry of Power and Electrification, Kiev, 1994.
- *Energy Issues Paper*, Ministry of Economy, March 1995.
- *Ukraine Energy Sector Statistical Review 1993, 1994, 1995, 1996, 1997*, The World Bank Regional Office, Kiev, 1994, 1995, 1996, 1997, 1998.
- *Global Energy Saving Strategy for Ukraine*, Commission of the European Communities, TACIS, Madrid, July 1995.
- IEA Secretariat estimates.

Sources 1990 to 1991:

- IEA Secretariat estimates.

Venezuela

General notes

In 2015, new information on the production and consumption of refinery gas since 2007 became available. For this reason, breaks in time series may occur between 2006 and 2007.

Revised data for the years 2005-2011 were provided by OLADE for Venezuela. These revisions may lead to breaks in time series between 2004 and 2005 and differences in trends in comparison to previous editions.

Sources up to 2016:

- Energy-Economic Information System (SIEE), Latin American Energy Organization (OLADE), Quito, accessed April 2018: <http://sier.olade.org/>.
- Estadísticas consolidadas, Cámara Venezolana de la Industria Eléctrica, 1996 to 2007.
- Oficina de operación de sistemas interconectados Venezuela, 2008.
- Petróleo y Otros Datos Estadísticos, Dirección General Sectorial de Hidrocarburos, Caracas, 1983 to 1991, 1993 to 2004, 2007 to 2008.
- Balance Energético de Venezuela, Dirección de Planificación Energética, Ministerio de Energía y Minas, Caracas, 1971 to 2005.
- Transformando la energía en desarrollo social, CVG EDELCA Informe Anual 2006.
- Compendio Estadístico del Sector Eléctrico, Ministerio de Energía y Minas, Dirección de Electricidad, Carbón y Otras Energías, Caracas, 1984, 1989, 1990, 1991.
- Memoria y Cuenta, Ministerio de Energía y Minas, Caracas, 1991.
- Energy-Economic Information System (SIEE), Latin American Energy Organization (OLADE), Quito, accessed May 2016, <http://sier.olade.org/>
- IEA Secretariat estimates.

Viet Nam

General notes

Data for stock changes may contain statistical differences for some energy products.

Sources 1992 to 2016:

- Direct communication with the Institute of Energy and the Ministry of Industry and Trade, Hanoi.
- *Vietnam Energy Balance Tables*, General Directorate of Energy, Ministry of Industry and Trade, Hanoi, various editions up to 2016.
- *Statistical Yearbook of Vietnam & Statistical Handbook*, General Statistics Office of Vietnam (GSO), Hanoi, various editions up to 2015.
- *Yearbook*, Vietnam Energy (Năng Lượng Việt Nam), Hanoi, 2012.
- Direct communications with the Center for Energy-Environment Research and Development, Pathumthani, 1997 to 1999.
- *Sectoral Energy Demand in Vietnam*, UNDP Economic and Social Commission for Asia and the Pacific, Bangkok, 1992.
- *Energy Commodity Account of Vietnam 1992*, Asian Development Bank, Manila, 1994.
- *World Economic Problems (20)*, National Centre for Social Sciences of the S.R. Vietnam, Institute of World Economy, Hanoi, 1993.

- *Vietnam Energy Review*, Institute of Energy, Hanoi, 1995, 1997, 1998.
- APEC annual energy statistics questionnaires.
- IEA Secretariat estimates.

Former Yugoslavia

General notes

Data for individual countries of the Former Yugoslavia are available starting in 1990, and most of the information on 1990 and 1991 was estimated by the IEA Secretariat. Because of large breaks in reporting which occurred in the early 1990's, breaks in time series may occur in 1990 for all regional totals.

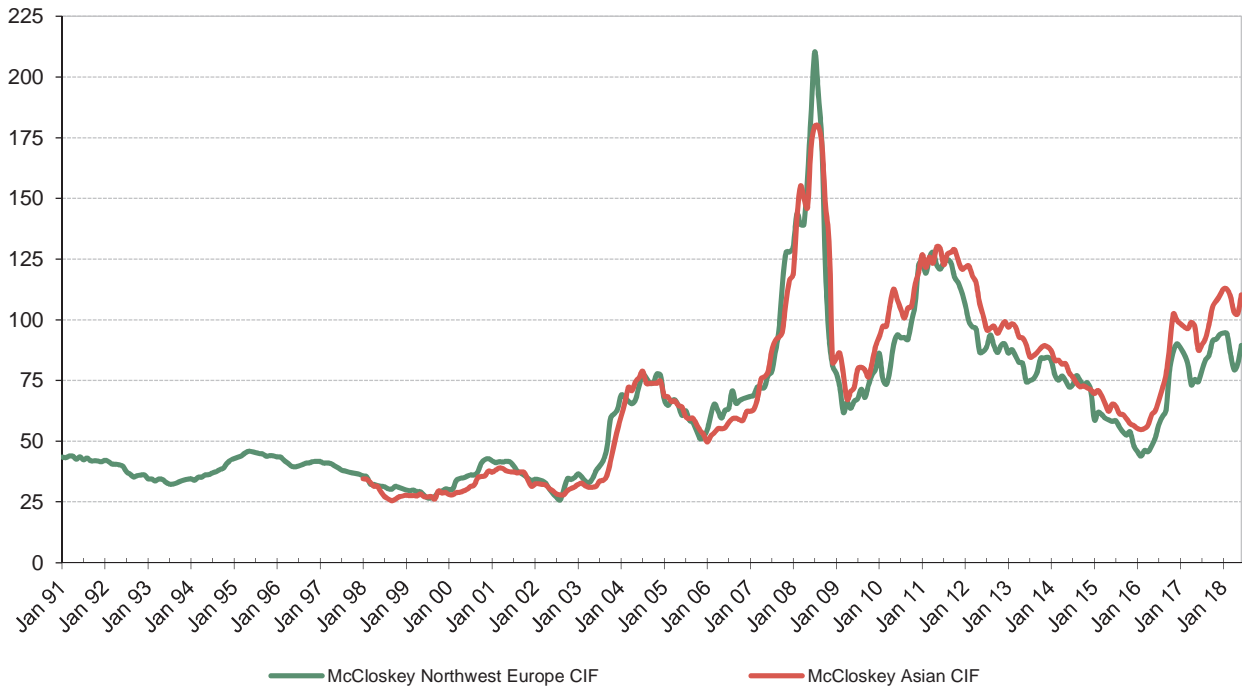
Sources up to 1989:

- *Statistički Godisnjak Jugoslavije*, Socijalistička Federativna Republika Jugoslavija, Savezni Zavod Za Statistiku, Beograd, 1985 to 1991.
- *Indeks*, Socijalistička Federativna Republika Jugoslavija, Beograd, 1990, 1991, 1992.

PART V

PRICES

Figure 1: Delivered steam coal prices in Europe and Asia (USD/t CIF)



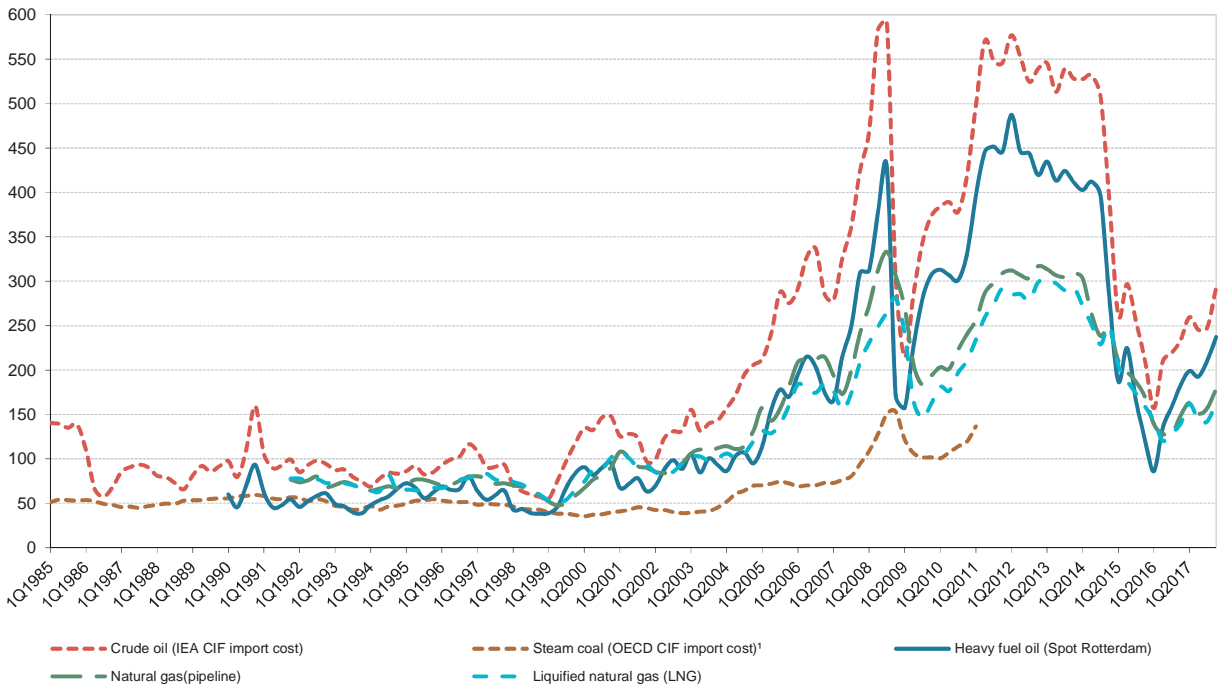
Source: IHS McCloskey, McCloskey's Coal Report

Figure 2: FOB port steam coal prices in South Africa and Australia (USD/t FOB)



Source: IHS McCloskey, McCloskey's Coal Report.

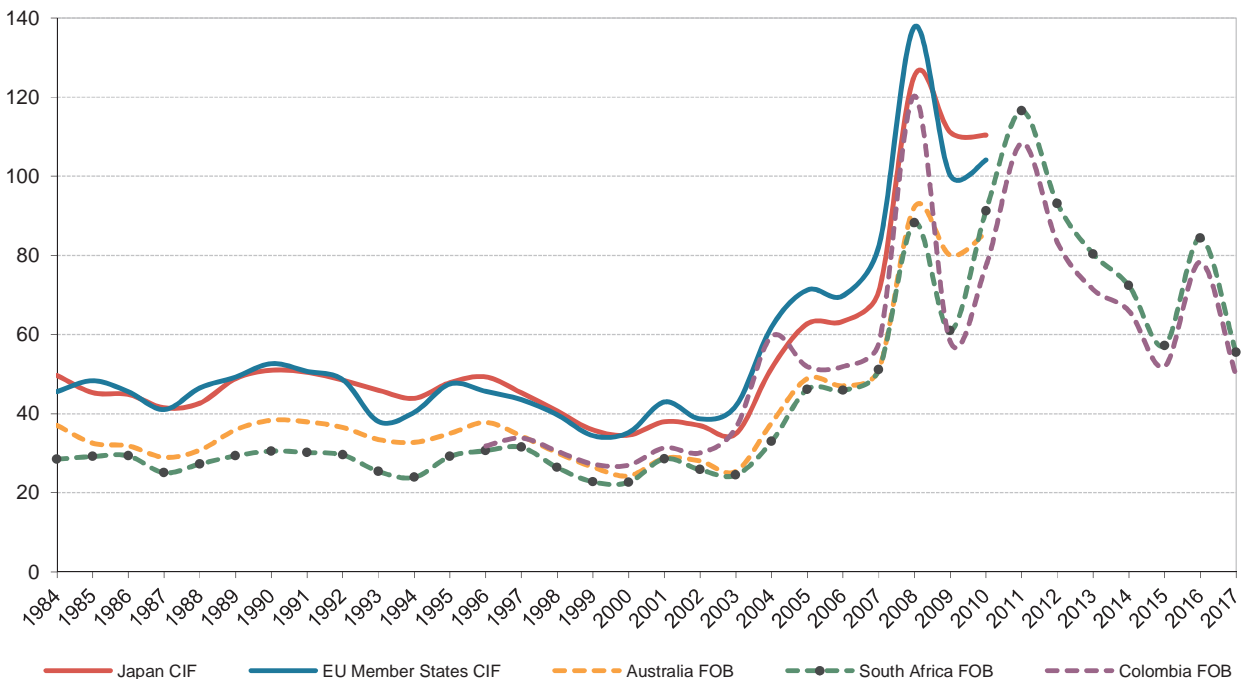
Figure 3: OECD international trade values for steam coal and oil (USD/tce)



Notes: Spot prices for heavy fuel oil are not directly comparable to customs unit values for steam coal. They are, however, closely correlated with average CIF crude oil prices, which are, by definition comparable to customs unit values for steam coal. As a consequence, it is not unreasonable to compare customs unit values for steam coal with spot prices of heavy fuel oil. Steam coal and crude oil are IEA average and CIF import values. Steam coal excludes intra-EU trade. Heavy fuel oil is Rotterdam spot market value, 3.5% sulphur.

Source: IEA/OECD Energy Prices and Taxes.

Figure 4: Steam coal import and export value comparison (USD/t)



Coal data for some countries and regions for Figure 3 and Figure 4 are currently unavailable for 2011 onwards due to resource constraints.

Source: IEA/OECD Energy Prices and Taxes.

Table 1: Japan coking coal import costs
(average unit value, CIF, USD/tonne)

	Total ¹ (all sources)	Australia	Canada	USA	South Africa	Russian Federation	PR of China
1997	55.19	52.73	64.84	61.24	49.64	57.09	49.98
1998	50.98	49.47	59.73	59.53	47.06	54.63	46.78
1999	42.95	41.83	51.05	55.79	39.74	45.17	40.01
2000	39.46	39.01	45.46	52.69	39.99	43.62	37.12
2001	41.13	40.96	47.30	47.81	47.09	45.52	39.35
2002	42.14	43.32	50.50	52.07	x	45.59	38.97
2003	41.73	43.56	51.64	42.93	x	46.05	39.09
2004	61.40	56.85	62.04	163.61	x	67.98	72.57
2005	88.80	96.44	106.05	159.01	x	114.96	100.45
2006	93.10	106.20	125.68	159.35	x	116.69	91.98
2007	88.43	96.03	112.61	516.32	x	105.45	100.91
2008	184.13	206.71	234.34	308.56	x	250.90	256.42
2009	163.82	191.58	220.94	241.65	x	190.54	138.99
2010	151.45	170.10	191.97	208.24	x	185.00	154.71
2011	214.16	248.43	274.44	267.90	x	249.74	247.90
2012 ²	..	..	..	..	..	..	..
2013 ²	..	..	..	..	..	..	..
2014 ²	..	..	..	..	..	..	..
2015 ²	..	..	..	..	..	..	..
2016 ²	..	..	..	..	..	..	..
2017 ²	..	..	..	..	..	..	..

Note: It should be noted that as a result of the import coal classification system used by Japanese customs authorities, some imports of Indonesian coal are recorded by customs as coking coal even though most of the coal is not used in the metallurgical industry. As this coal has a lower unit value than coking coal reported in other categories, the data presented in the Total column in this table, from 1991 onwards, tend to understate the total average unit value of coals imported into Japan for metallurgical use. Prior to 1991, the volume of imports reported by customs in this manner was not so large as to significantly affect the total averages.

Table 2: EU coking coal import costs from selected countries
(Average Unit Value, CIF, USD/tonne)

	Total ¹ (all sources)	Australia	Canada	USA	South Africa	Russian Federation	Poland
1997	57.99	57.97	57.61	60.08	43.31	54.93	61.02
1998	54.53	55.00	54.18	58.53	35.83	51.08	52.52
1999	48.97	47.33	45.58	54.14	36.21	57.96	47.48
2000	47.88	45.45	45.92	52.91	39.09	42.02	50.43
2001	53.56	51.24	54.59	58.54	42.10	58.89	51.58
2002	56.63	55.52	56.90	61.48	38.69	58.11	50.15
2003	59.61	58.03	61.31	64.18	39.20	47.45	62.24
2004	78.12	73.63	76.64	84.75	61.31	86.41	108.71
2005	109.61	114.89	113.81	110.91	71.77	86.05	138.92
2006	125.86	135.52	137.66	123.44	66.18	81.34	118.82
2007	125.73	127.74	129.45	126.95	96.82	92.15	139.47
2008	197.84	220.54	220.91	175.35	141.18	147.83	245.85
2009	187.29	243.76	223.39	160.22	81.99	108.78	137.24
2010	194.02	213.42	205.20	191.43	95.76	128.15	194.36
2011	264.74	290.70	285.81	255.81	131.56	154.79	274.08
2012 ²	..	..	..	..	..	..	..
2013 ²	..	..	..	..	..	..	..
2014 ²	..	..	..	..	..	..	..
2015 ²	..	..	..	..	..	..	..
2016 ²	..	..	..	..	..	..	..
2017 ²	..	..	..	..	..	..	..

1. Weighted average based only on imports for which prices are available. Calculated average prices may not be comparable from one year to the next due to differing components.

2. Coking coal import prices for 2012 through 2017 are unavailable due to resource constraints.

Source: IEA/OECD Energy Prices & Taxes [For editions prior to 2011]

Table 3: Japan steam coal import costs

(average unit value, CIF, USD/tonne)

	Total ¹ (all sources)	Australia	USA	South Africa	Russian Federation	PR of China	Canada	Indonesia
1997	45.26	45.59	49.86	46.58	42.57	44.73	42.01	41.63
1998	40.68	40.80	47.52	41.50	38.46	39.96	38.25	36.58
1999	35.87	36.12	45.37	37.34	30.24	34.89	33.50	32.40
2000	34.59	34.59	45.49	35.82	30.68	33.69	34.72	31.85
2001	37.95	38.32	45.99	38.05	37.61	36.95	36.94	35.17
2002	36.95	37.39	48.63	40.30	34.35	36.25	37.34	34.52
2003	34.93	35.13	x	35.21	34.28	35.28	33.82	32.72
2004	51.48	50.20	186.48	x	59.02	55.06	52.60	46.98
2005	62.73	61.90	x	80.64	66.10	65.65	63.79	59.65
2006	63.33	63.90	596.68	x	62.20	63.88	56.32	60.31
2007	70.92	71.03	553.99	77.46	72.28	73.60	66.04	66.45
2008	125.42	127.23	151.26	105.49	121.34	124.10	125.52	116.08
2009	111.12	111.87	47.12	87.62	101.62	118.18	103.84	112.99
2010	110.40	111.12	84.43	107.07	106.42	112.29	107.80	108.20
2011	141.26	142.75	123.01	146.91	137.21	146.66	140.99	134.62
2012 ²	..	..	..	..	..	..	..	..
2013 ²	..	..	..	..	..	..	..	..
2014 ²	..	..	..	..	..	..	..	..
2015 ²	..	..	..	..	..	..	..	..
2016 ²	..	..	..	..	..	..	..	..
2017 ²	..	..	..	..	..	..	..	..

Table 4: EU steam coal import costs from selected countries

(average unit value, CIF, USD/tonne)

	Total ¹ (all sources)	Australia	USA	South Africa	Russian Federation	PR of China	Poland	Colombia
1997	43.52	46.38	48.47	40.33	39.84	52.87	42.62	42.29
1998	39.72	40.03	46.99	36.30	37.23	52.85	39.61	37.56
1999	34.43	36.68	40.67	31.78	30.96	32.58	35.03	32.69
2000	35.22	39.04	41.07	33.83	33.59	31.45	35.30	34.22
2001	42.96	44.13	46.52	42.32	42.16	40.90	44.41	42.32
2002	38.69	43.28	43.48	36.65	36.79	44.30	40.75	36.99
2003	41.94	46.83	47.37	39.10	42.22	51.38	43.26	41.65
2004	61.91	69.05	61.50	58.00	65.14	60.61	68.95	61.54
2005	71.27	106.40	86.75	67.64	68.46	93.41	78.34	67.98
2006	69.80	109.71	82.08	66.24	67.93	150.20	75.65	66.07
2007	82.21	103.73	97.50	80.25	79.03	73.02	94.13	78.16
2008	137.79	184.75	138.40	142.07	131.62	161.12	156.01	138.32
2009	100.28	149.29	107.28	95.66	92.41	x	114.60	95.99
2010	104.10	197.74	117.46	98.50	97.66	x	104.06	95.84
2011	131.24	268.16	138.63	124.66	125.29	1344.85	134.57	118.88
2012 ²	..	..	..	..	..	..	..	..
2013 ²	..	..	..	..	..	..	..	..
2014 ²	..	..	..	..	..	..	..	..
2015 ²	..	..	..	..	..	..	..	..
2016 ²	..	..	..	..	..	..	..	..
2017 ²	..	..	..	..	..	..	..	..

1. Weighted average based only on imports for which prices are available. Calculated average prices may not be comparable from one year to the next due to differing components.

2. Steam coal import prices for 2012 through 2017 are unavailable due to resource constraints.

Source: IEA/OECD Energy Prices & Taxes [For editions prior to 2011]

Table 5: Steam coal export costs
(Average Unit Value, USD/tonne)

Exported from: To:	Australia (FOB)			Canada	United States (FAS)			Colombia	Indonesia	S. Africa
	Total	Japan	EU ¹		Total	Japan	EU ¹			
1997	34.35	35.40	31.76	32.44	34.84	38.55	35.88	33.84	39.90	31.47
1998	30.10	31.50	24.54	30.24	32.24	37.00	33.05	30.51	35.82	26.37
1999	26.49	27.02	21.63	25.72	32.02	35.40	29.39	27.25	31.00	22.77
2000	24.27	24.72	20.86	24.99	31.84	34.90	28.26	26.99	29.60	22.63
2001	28.71	29.69	25.86	26.01	34.51	37.70	34.69	31.36	32.07	28.59
2002	28.01	29.20	24.42	28.11	37.70	40.41	33.09	30.09	29.98	25.82
2003	25.41	26.00	25.18	35.75	37.00	166.40	32.18	36.41	25.00	24.47
2004	37.65	38.45	34.44	44.75	53.93	91.47	42.06	59.55	38.00	32.77
2005	48.86	49.42	49.46	53.23	67.09	105.21	76.79	51.89	37.50	46.46
2006	47.05	50.59	49.29	45.24	55.66	166.53	64.17	51.92	32.75	45.90
2007	51.11	54.61	55.42	50.51	52.61	198.41	66.14	57.76	47.71	51.06
2008	92.23	103.23	102.85	97.37	62.76	143.02	82.07	120.27	87.74	88.19
2009	80.03	88.54	72.97	84.45	81.33	113.97	95.04	58.26	55.13	60.99
2010	85.82	89.03	120.56	95.97	71.63	83.85	82.21	77.31	71.01	91.26
2011	100.06	104.21	152.30	-	87.88	109.23	95.54	108.36	87.39	116.20
2012 ²	..	..	..	..	..	..	..	83.25	68.30	92.89
2013 ²	..	..	..	..	..	..	..	71.37	62.40	80.35
2014 ²	..	..	..	..	..	..	..	65.97	55.35	72.33
2015 ²	..	..	..	..	..	..	..	51.91	44.09	57.18
2016 ²	..	..	..	..	..	..	..	78.29	38.67	84.35
2017 ²	..	..	..	..	..	..	..	49.57	-	55.45

Table 6: Coking coal export costs
(Average Unit Value, USD/tonne)

Exported from: To:	Australia (FOB)			Canada	United States (FAS)			Colombia ³	Indonesia	S. Africa
	Total	Japan	EU ¹		Total	Japan	EU ¹			
1997	47.37	45.52	47.73	50.04	49.99	45.94	52.87	..	..	39.66
1998	43.97	42.47	44.10	46.15	48.55	45.98	51.67	..	..	39.68
1999	35.99	34.60	37.59	38.19	46.19	44.46	49.27	..	..	37.72
2000	32.85	31.64	33.66	34.01	42.98	41.99	45.58	31.97	..	31.39
2001	36.93	34.46	39.99	43.03	45.88	x	50.10	31.26	..	34.38
2002	40.16	36.79	44.34	43.90	50.06	x	53.14	33.15	..	32.09
2003	39.75	36.18	43.14	44.59	49.11	56.01	52.19	..	..	37.81
2004	48.84	45.51	51.43	51.37	70.14	98.14	63.60	..	..	32.43
2005	88.94	83.74	100.84	96.26	89.91	100.61	89.53	..	..	27.91
2006	98.27	94.04	106.29	109.29	111.72	89.80	102.37	..	..	43.15
2007	84.16	79.50	93.67	98.44	98.10	x	100.58	..	..	53.00
2008	194.87	193.79	215.74	209.51	148.39	157.59	133.63	..	..	54.94
2009	143.83	165.07	168.88	194.92	129.77	181.25	124.78	..	..	67.93
2010	171.76	154.53	193.71	212.01	160.32	166.81	158.48	..	..	114.58
2011	198.47	180.64	221.65	-	205.02	203.02	207.08	..	..	95.04
2012 ²	..	..	..	..	..	..	..	..	..	..
2013 ²	..	..	..	..	..	..	..	..	..	..
2014 ²	..	..	..	..	..	..	..	..	..	..
2015 ²	..	..	..	..	..	..	..	..	..	..
2016 ²	..	..	..	..	..	..	..	..	..	..
2017 ²	..	..	..	..	..	..	..	..	..	..

1. Weighted average based only on imports for which prices are available. Calculated average prices may not be comparable from one year to the next due to differing components.
2. OECD steam and coking coal export values are unavailable for 2012 through 2017 due to resource constraints.
3. Low ash bituminous; injection grade to Japanese steel mills

Sources: IEA/OECD *Energy Prices & Taxes* (Tables 23 to 27) for Australia, Canada and the US, prior to 2011; *Latin America Coal & Power* for Colombia prior to 2003, *Indonesia Mineral and Coal Statistics* for Indonesia prior to 2003; *Coal Americas*, IHS Energy Publishing Inc. for Colombia and Indonesia 2003 till 2012, IHS McCloskey, *McCloskey's Coal Report* from 2012 onwards; Republic of S. Africa Minerals Bureau for South Africa prior to 2004, Xavier Provost, private consultant since 2004 and *South African Coal Report*, IHS Energy Publishing Inc

Table 7: Coking coal prices for industry

(USD/tce)

	1978	1985	1990	1995	2000	2003	2004	2005	2006	2007
Australia	29.69	24.84	..	..	..	..	..	..	..	..
Austria	..	..	..	..	..	..	..	..	..	..
Belgium	63.67	60.40	61.72	57.55	47.21	..	..	..	..	..
Canada	62.70	54.01	..	..	..	..	..	..	..	..
Chile	..	..	..	..	..	45.46	66.19	99.08	116.90	106.47
Czech Republic	..	44.30	52.62	64.92	50.73	..	..	..	..	..
Denmark	..	..	..	..	..	..	..	..	..	..
Estonia	..	..	..	..	..	..	..	..	..	..
Finland	..	..	..	101.01	99.78	126.04	158.63	196.65	203.29	225.89
France	51.84	50.31	62.62	59.55	45.43	59.67	72.00	106.19	127.95	119.55
Germany	62.91	63.40	63.02	60.34	..	..	..	..	..	..
Greece	..	..	..	..	..	..	..	..	..	..
Hungary	..	..	..	..	..	..	..	..	..	..
Ireland	..	..	..	..	..	..	..	..	..	..
Israel	..	..	..	..	..	..	..	..	..	..
Italy	69.79	62.38	64.88	60.70	53.26	63.48	81.00	108.96	117.95	124.19
Japan	72.47	66.24	68.03	61.13	45.29	48.82	69.34	103.99	112.09	108.08
Korea	..	..	..	..	..	..	72.66	116.53	119.87	110.12
Luxembourg	..	..	..	..	..	..	..	..	..	..
Mexico	..	..	..	..	..	..	..	..	..	..
Netherlands	105.55	97.88	154.34	..	..	..	..	..	..	..
New Zealand	..	..	..	..	..	..	..	..	..	..
Norway	..	72.51	93.32	89.69	..	..	..	..	..	..
Poland	..	..	..	60.05	39.11	51.92	95.31	114.57	94.24	111.17
Portugal	175.90	68.37	52.51	43.92	31.67	38.73	..	..	..	..
Slovak Republic	27.50	41.02	56.55	..	..	..	..	..	..	..
Slovenia	..	..	..	..	..	..	..	..	..	..
Spain	68.57	63.42	..	..	..	..	..	..	..	..
Sweden	64.11	64.55	..	..	..	..	..	..	..	..
Switzerland	..	102.86	..	..	..	..	..	..	..	..
Turkey	70.23	57.26	82.07	86.05	80.19	92.36	118.78	148.07	161.57	200.53
United Kingdom	..	..	..	..	..	..	..	..	..	..
United States	48.94	59.10	52.01	51.52	48.41	55.15	66.99	91.26	101.49	103.44

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	..	..	..	..	..	..	..	..	..	..
Austria	..	..	..	..	..	..	..	..	..	..
Belgium	..	..	..	..	262.99	190.63	156.57	118.36	116.92	245.93
Canada	..	..	..	..	..	..	..	..	..	..
Chile	144.74	196.62	130.57	248.11	222.89	121.50	149.25	105.95	95.75	202.16
Czech Republic	..	..	..	..	..	..	..	..	..	..
Denmark	..	..	..	..	..	..	..	..	..	..
Estonia	..	..	..	..	..	..	..	..	..	..
Finland	382.62	287.47	288.80	479.68	398.61	352.52	338.36	299.06	322.59	425.03
France	207.93	197.67	209.30	278.21	..	..	..	..	..	..
Germany	..	..	..	..	..	..	..	..	..	..
Greece	..	..	..	..	..	..	..	..	..	..
Hungary	..	..	..	..	..	..	..	..	..	..
Ireland	..	..	..	..	..	..	..	..	..	..
Israel	..	..	..	..	..	..	..	..	..	..
Italy	199.90	152.00	185.71	254.63	..	..	..	..	..	..
Japan	220.67	203.28	186.84	252.07	212.39	157.84	134.08	113.60	110.81	177.20
Korea	247.02	169.43	..	..	..	..	..	..	..	..
Luxembourg	..	..	..	..	..	..	..	..	..	..
Mexico	..	..	..	..	..	..	..	..	..	..
Netherlands	..	..	..	..	..	..	..	..	..	..
New Zealand	..	..	..	..	..	..	..	..	..	..
Norway	..	..	..	..	..	..	..	..	..	..
Poland	221.51	129.55	187.88	253.30	184.16	149.15	132.93	105.45	102.50	177.35
Portugal	..	..	328.98	498.32	383.18	485.13	497.40	404.05	359.78	..
Slovak Republic	..	..	..	..	..	..	..	..	..	..
Slovenia	..	..	..	..	..	..	..	..	..	..
Spain	..	..	..	..	..	..	..	..	..	..
Sweden	..	..	..	..	..	..	..	..	..	..
Switzerland	..	..	..	..	..	..	..	..	..	..
Turkey	258.70	269.73	272.14	253.81	268.97	270.65	233.12	192.37	185.44	184.42
United Kingdom	..	..	..	..	..	..	..	..	..	..
United States	128.62	156.19	158.80	197.97	200.07	195.21	196.86	184.88	176.90	172.73

Source: IEA/OECD Energy Prices & Taxes

Table 8: Steam coal prices for industry

(USD/tce)

	1978	1985	1990	1995	2000	2003	2004	2005	2006	2007
Australia	..	27.23	..	..	..	..	..	..	..	..
Austria	90.20	65.63	78.84	82.29	54.73	87.64	171.25	178.69	181.33	203.12
Belgium	29.62	54.28	55.41	..	..	..	..	..	..	..
Canada	43.98	50.08	..	..	..	..	..	..	..	..
Chile	..	..	..	..	..	..	..	..	..	..
Czech Republic	..	19.06	24.44	31.30	26.96	..	..	..	..	..
Denmark	76.39	81.93	119.94	84.94	..	..	..	..	..	..
Estonia	..	..	..	..	..	..	..	..	..	..
Finland	51.74	57.34	72.35	96.93	89.47	113.53	140.81	146.63	149.81	166.59
France	61.82	89.61	128.20	145.13	105.48	130.49	..	..	..	..
Germany	98.52	98.18	185.76	..	..	..	..	..	..	..
Greece	93.42	..	..	..	..	..	..	..	..	..
Hungary	..	57.76	100.92	..	..	..	..	..	..	..
Ireland	..	..	..	..	..	..	..	..	..	..
Israel	..	..	..	..	..	..	..	..	..	..
Italy	70.05	56.50	58.84	57.35	43.46	48.09	72.13	83.23	78.59	97.48
Japan	71.23	66.48	70.53	62.01	45.68	45.29	67.17	81.23	87.10	97.98
Korea	..	40.62	61.03	56.01	58.36	58.42	57.88	66.77	60.93	75.29
Luxembourg	..	..	..	..	..	..	..	..	..	..
Mexico	..	..	..	..	..	..	..	..	..	..
Netherlands	57.76	60.33	62.74	..	..	..	..	..	..	..
New Zealand	36.23	..	..	..	..	..	..	..	..	..
Norway	39.79	45.67	53.13	..	..	..	..	..	..	..
Poland	..	..	..	51.77	48.83	56.63	65.40	71.39	81.68	96.84
Portugal	..	..	..	..	37.98	47.00	..	..	..	..
Slovak Republic	7.88	11.70	15.25	..	..	..	..	..	..	..
Slovenia	..	..	..	..	..	..	..	..	..	..
Spain	..	..	..	..	..	..	..	..	..	..
Sweden	77.55	69.89	92.56	..	..	..	..	..	..	..
Switzerland	68.82	70.26	72.45	71.06	60.13	75.26	110.07	110.02	111.25	145.85
Turkey	..	51.63	79.67	58.81	53.26	73.39	67.16	78.71	79.99	115.02
United Kingdom	49.74	72.97	88.51	65.61	59.33	70.29	86.77	99.65	99.18	113.42
United States	36.26	44.31	40.00	38.59	37.77	40.73	46.79	56.31	61.57	64.85
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	..	..	..	..	..	..	..	..	..	..
Austria	249.48	243.64	208.75	246.67	251.80	227.30	209.06	172.51	168.96	220.79
Belgium	..	..	..	..	238.71	178.40	153.15	117.23	111.15	177.25
Canada	..	..	..	..	..	..	..	..	..	..
Chile	..	..	..	..	..	..	..	..	..	..
Czech Republic	..	..	..	..	..	..	..	..	..	..
Denmark	..	..	..	..	..	..	..	..	..	..
Estonia	..	..	..	..	..	..	..	..	..	..
Finland	249.09	192.19	193.75	362.15	322.66	311.54	310.85	282.57	310.02	361.96
France	..	..	..	..	..	..	..	..	..	..
Germany	..	..	..	..	..	..	..	..	..	..
Greece	..	..	..	..	..	..	..	..	..	..
Hungary	..	..	..	..	..	..	..	..	..	..
Ireland	..	..	..	..	..	..	..	..	..	..
Israel	..	..	..	..	..	..	..	..	..	..
Italy	163.22	129.51	127.19	159.24	..	..	..	..	..	..
Japan	167.62	152.90	151.91	193.42	189.15	158.58	144.39	121.27	115.52	151.38
Korea	124.80	94.12	..	..	..	..	..	..	..	..
Luxembourg	..	..	..	..	..	..	..	..	..	..
Mexico	..	..	..	..	..	..	..	..	..	..
Netherlands	..	..	..	..	..	..	..	..	..	..
New Zealand	..	..	..	..	..	..	..	..	..	..
Norway	..	..	..	..	..	..	..	..	..	..
Poland	135.19	122.71	125.20	142.27	142.18	130.46	120.31	91.08	77.96	98.52
Portugal	..	..	140.85	176.25	202.94	165.35	147.81	89.28	179.12	..
Slovak Republic	..	..	..	..	..	..	..	..	..	..
Slovenia	..	..	..	..	..	..	..	..	..	..
Spain	..	..	..	..	..	..	..	..	..	..
Sweden	..	..	..	..	..	..	..	..	..	..
Switzerland	252.47	160.86	181.26	234.07	177.96	144.10	131.00	115.17	105.99	112.64
Turkey	152.51	139.04	137.83	142.33	161.45	172.80	149.36	133.00	128.39	115.68
United Kingdom	130.65	111.10	130.90	166.78	165.82	176.74	185.29	148.70	112.14	114.43
United States	75.60	77.28	76.20	77.52	87.90	85.76	86.49	81.22	77.36	75.89

Source: IEA/OECD Energy Prices & Taxes

Table 9: Steam coal prices for electricity generation

(USD/tce)

	1978	1985	1990	1995	2000	2003	2004	2005	2006	2007
Australia	10.83	19.10	29.05	..	..	..	..	..	..	..
Austria	173.19	75.95	80.98	..	56.94	68.29	86.09	92.70	98.23	101.93
Belgium	53.08	65.42	59.60	57.28	42.95	47.13	95.02	105.36	82.93	99.07
Canada	37.88	..	61.02	..	20.54	24.15	23.34	28.15	30.01	32.70
Chile	..	..	..	..	32.42	34.57	51.39	58.27	57.37	69.85
Czech Republic	10.29	15.70	20.49	26.48	21.88	..	..	..	..	..
Denmark	..	56.88	..	..	..	..	..	..	..	..
Estonia	..	..	..	..	..	..	..	..	..	..
Finland	51.74	57.34	72.35	96.93	44.40	55.49	76.99	82.82	85.36	96.21
France	..	43.58	57.35	55.34	41.98	47.85	71.64	84.41	82.15	94.53
Germany	83.97	82.45	141.95	163.77	42.94	50.64	70.87	80.73	78.92	91.38
Greece	..	..	..	..	..	..	..	..	..	..
Hungary	..	38.53	90.60	..	..	..	..	..	..	..
Ireland	..	84.91	63.11	53.27	34.26	40.16	75.99	79.21	69.22	94.31
Israel	..	..	..	..	..	..	..	..	..	..
Italy	41.32	57.38	67.72	65.27	..	43.38	70.11	83.45	79.24	100.83
Japan	90.58	77.86	101.84	92.28	51.42	..	..	..	..	..
Korea	..	..	..	..	..	..	50.51	58.44	54.57	63.96
Luxembourg	..	..	..	..	..	..	..	..	..	..
Mexico	..	42.40	48.19	39.17	48.69	49.11	56.82	62.69	64.79	70.26
Netherlands	40.99	65.72	71.37	..	..	..	..	..	..	..
New Zealand	..	..	..	..	..	..	..	..	..	..
Norway	..	..	..	..	..	..	..	..	..	..
Poland	..	16.93	17.03	43.52	38.86	49.33	54.89	65.18	69.75	79.22
Portugal	31.26	65.23	58.90	50.80	34.67	44.00	65.92	77.51	66.84	87.61
Slovak Republic	4.30	6.55	8.61	..	..	..	..	..	..	..
Slovenia	..	..	..	..	..	..	..	..	..	..
Spain	42.60	50.82	..	..	..	..	..	..	..	..
Sweden	50.00	50.43	..	..	..	..	..	..	..	..
Switzerland	..	..	..	..	..	..	..	..	..	..
Turkey	..	33.65	31.85	62.46	50.45	66.45	90.65	88.29	86.87	97.12
United Kingdom	52.18	72.71	96.26	68.61	55.02	56.85	73.99	81.19	86.73	101.99
United States	29.96	43.67	38.52	34.58	31.51	33.33	35.48	40.50	44.47	46.45
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	..	..	..	..	..	..	..	..	..	..
Austria	129.35	141.37	115.55	135.44	136.77	145.97	119.23	97.77	104.83	109.20
Belgium	171.19	100.77	..	..	..	..	..	..	..	..
Canada	33.19	28.67	35.65	33.14	37.72	37.80	..	..	..	..
Chile	116.66	95.43	83.62	106.86	96.33	89.82	83.14	71.97	65.59	88.52
Czech Republic	..	..	..	..	..	..	..	..	..	..
Denmark	..	..	..	..	..	..	..	..	..	..
Estonia	..	..	..	..	..	..	..	..	..	..
Finland	164.25	111.56	116.89	157.46	133.45	109.08	108.49	85.71	83.11	114.50
France	153.44	128.44	122.04	144.61	..	..	..	..	..	..
Germany	154.47	111.47	119.26	155.06	128.02	110.23	101.84	83.81	80.45	121.67
Greece	..	..	..	..	..	..	..	..	..	..
Hungary	..	..	..	..	..	..	..	..	..	..
Ireland	112.40	..	..	..	..	..	..	..	..	..
Israel	169.75	165.17	130.47	189.72	179.45	..	..	..	..	..
Italy	169.04	122.09	127.80	..	..	..	..	..	..	..
Japan	..	..	..	..	..	..	..	..	..	..
Korea	96.49	87.54	..	..	..	..	..	..	..	..
Luxembourg	..	..	..	..	..	..	..	..	..	..
Mexico	80.19	78.20	83.49	85.87	87.11	93.13	96.58	86.80	78.08	85.13
Netherlands	..	..	..	..	..	..	..	..	..	..
New Zealand	..	..	..	..	..	..	..	..	..	..
Norway	..	..	..	..	..	..	..	..	..	..
Poland	110.19	109.84	107.21	115.89	113.53	106.07	102.64	81.09	70.09	72.94
Portugal	162.01	93.32	101.19	129.86	103.39	89.61	82.69	64.28	62.97	97.70
Slovak Republic	..	..	..	..	..	..	..	..	..	..
Slovenia	..	..	..	..	..	..	..	..	..	..
Spain	..	..	..	..	..	..	..	..	..	..
Sweden	..	..	..	..	..	..	..	..	..	..
Switzerland	..	..	..	..	..	..	..	..	..	..
Turkey	113.22	112.43	127.32	130.86	135.91	159.57	152.34	111.71	99.64	91.72
United Kingdom	148.79	105.08	119.16	159.09	130.16	119.12	115.61	92.16	90.73	117.91
United States	54.32	57.91	59.42	62.80	62.55	61.51	62.06	58.45	55.46	54.49

Source: IEA/OECD Energy Prices & Taxes

Figure 5: Coking coal price
CIF Japan and CIF EU member states (USD/tonne)

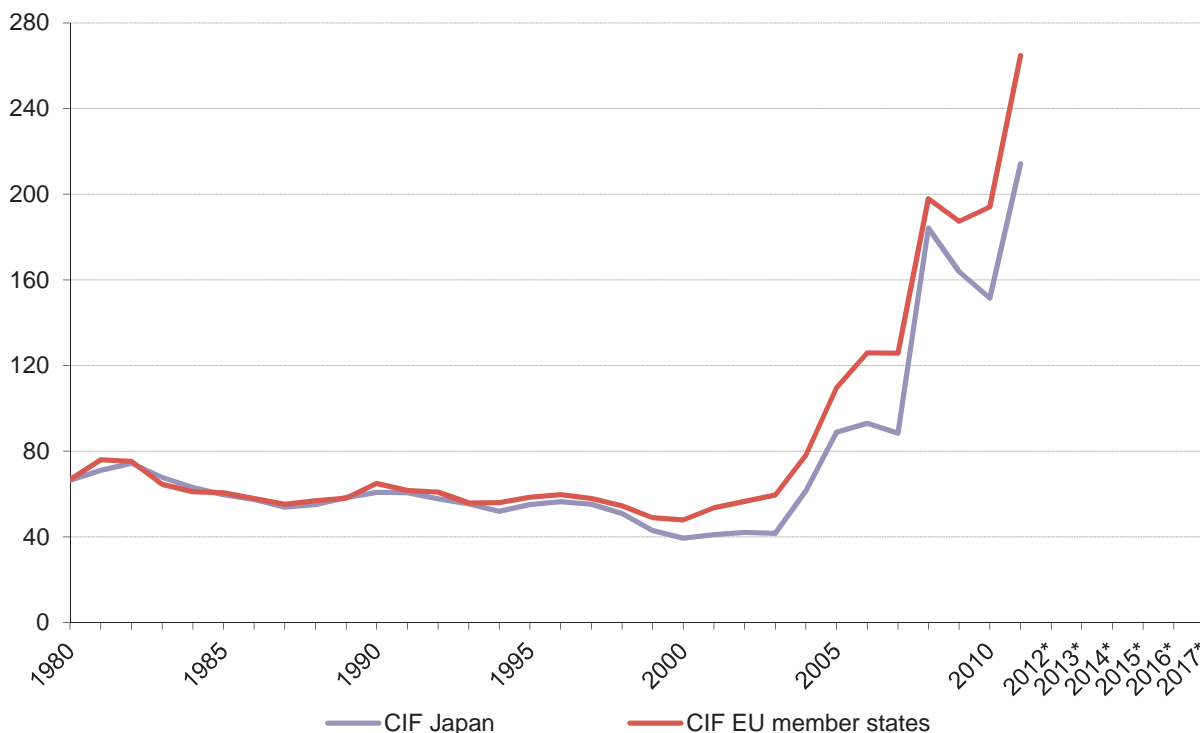
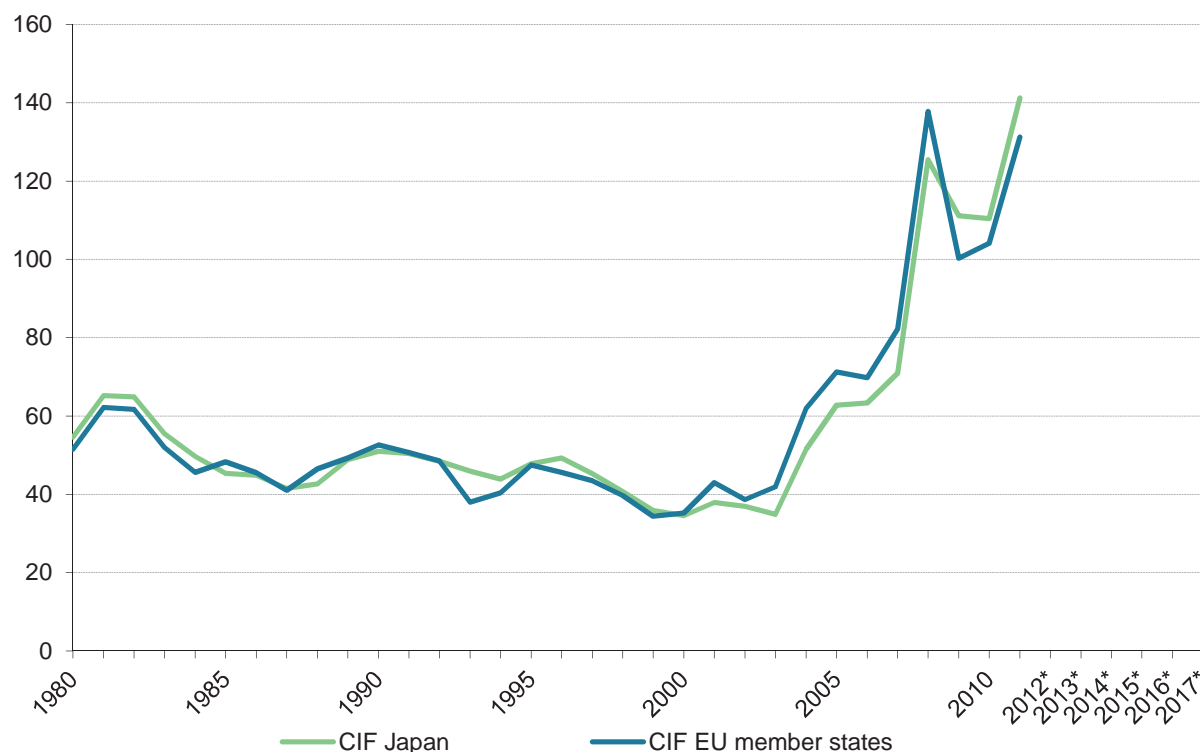
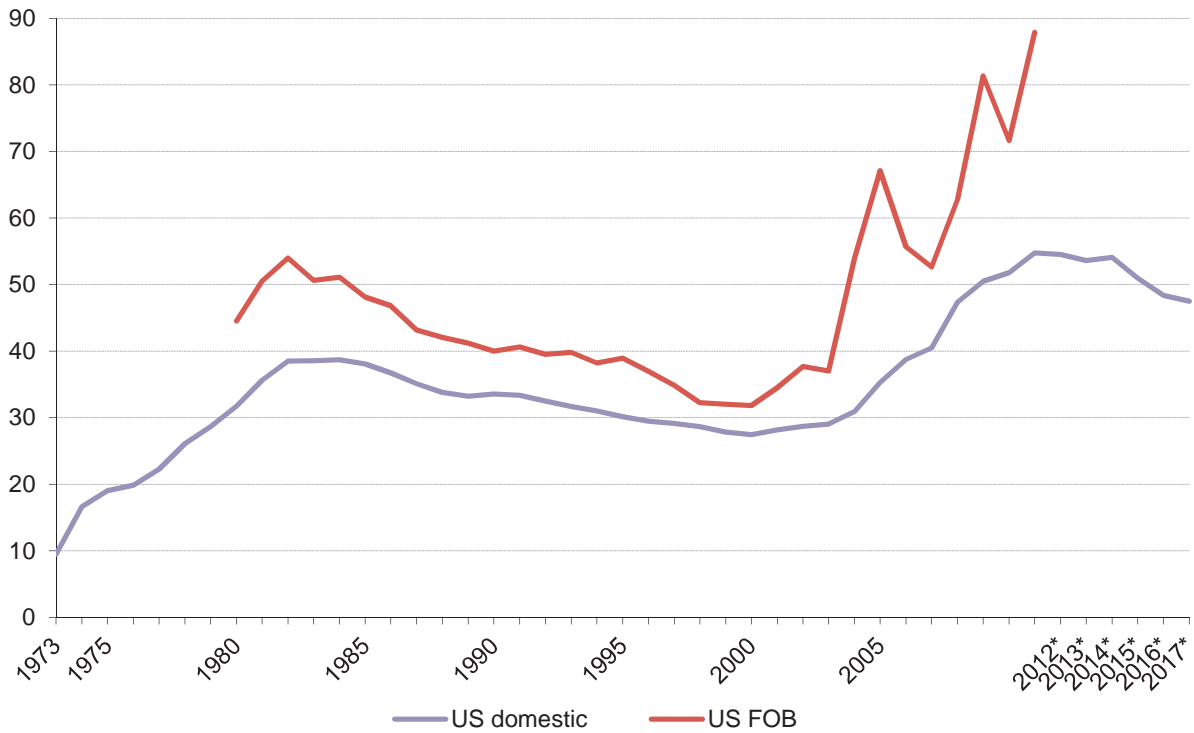


Figure 6: Steam coal price
CIF Japan and CIF EU member states (USD/tonne)

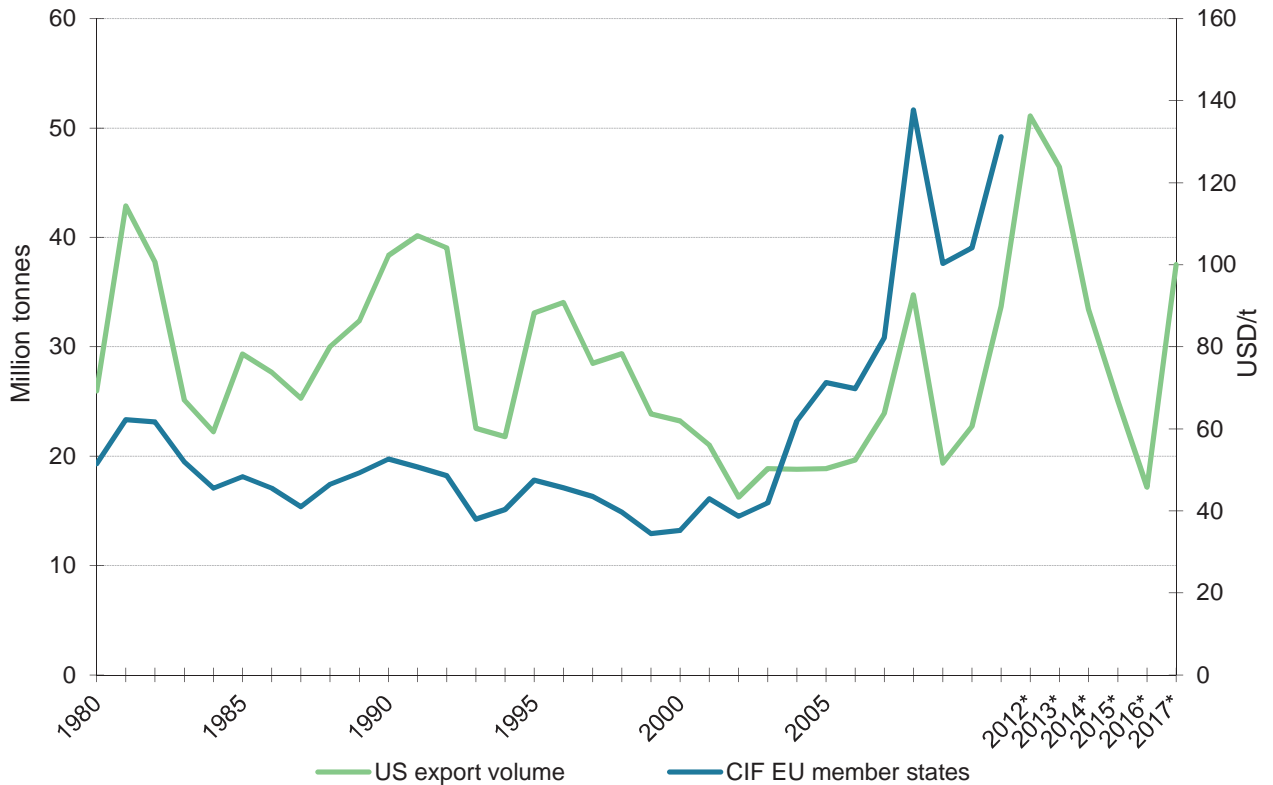


* Prices for 2012 through 2017 are unavailable due to resource constraints.

**Figure 7: Steam coal price
US FOB vs. US domestic (USD/tonne)**



**Figure 8: Steam coal price CIF EU member states (USD/tonne)
and US exports (million tonnes)**



* International trade prices for 2012 through 2017 are unavailable due to resource constraints.

PART VI

HISTORICAL TIME SERIES

1. PRODUCTION

Table 1.1: World coking coal production
(thousand tonnes)

	1978	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p
Australia	37668	40086	54835	64631	79375	103750	128358	162929	191056	189302	190000
Belgium	3805	4036	3484	-	-	-	-	-	-	-	-
Canada	13780	14151	24371	27660	28624	28164	30796	28153	27341	25016	26860
Czech Republic	18553	17403	16465	14383	10824	8136	7136	6023	4088	3384	2913
France	4664	4114	3388	1821	439	-	-	-	-	-	-
Germany	52239	56036	51401	44577	31686	18862	15171	8145	3843	2164	2362
Hungary	861	883	592	169	-	-	-	-	-	-	-
Japan	8659	6943	3921	-	-	-	-	-	-	-	-
Mexico	3085	3089	3713	2963	1645	2214	3520	4022	3113	4399	4566
New Zealand	11	173	319	578	1474	1310	2446	2341	1333	1171	1173
Norway	227	160	174	-	-	-	-	-	-	-	-
Poland	40845	31495	31143	28793	28714	17222	14071	11658	12985	13204	12380
Spain	1800	1333	907	279	-	-	-	-	-	-	-
Turkey	2964	2435	2247	1824	929	735	648	1088	767	695	675
United Kingdom	15110	10050	2608	1600	599	255	274	270	72	53	39
United States	92201	117716	89463	93259	77166	54287	46444	68645	57521	50136	65427
IEA Total	296472	310103	289031	282537	261475	234935	248864	293274	302119	289524	306395
OECD Total	296472	310103	289031	282537	261475	234935	248864	293274	302119	289524	306395
Algeria	-	3	23	-	-	-	-	-	-	-	-
Mozambique	-	-	-	-	-	-	-	-	4787	3863	6953
South Africa	9718	10605	11142	9308	10165	3204	1640	2797	3248	3742	4416
Tanzania	-	-	-	1	1	-	-	-	-	-	-
Zimbabwe	946	991	269	612	621	856	692	370	450	451	466
Brazil	1317	1545	1407	499	106	15	210	-	-	-	-
Colombia	1313	1383	1489	1721	1840	1818	1451	3837	4618	4352	5982
India	13938	18055	25847	36088	28803	22088	23584	41432	53014	57136	40920
Indonesia	-	-	10	29	241	616	1222	1947	2230	3340	1840
DPR of Korea	3415	3836	2500	2543	-	-	-	-	-	-	-
Mongolia	-	-	-	-	-	-	983	9465	12613	19998	25773
Chinese Taipei	-	-	107	3	-	-	-	-	-	-	-
PR of China	52604	68222	68370	85657	147206	124113	308648	488492	593047	547017	539578
Georgia	x	x	x	574	-	-	-	-	-	-	-
Kazakhstan	x	x	x	29983	12756	10687	10981	11906	17020	15468	15468
Romania	2134	1828	3825	1482	349	13	-	-	-	-	-
Russian Federation	x	x	x	85458	55645	51035	55505	66884	82869	83764	85952
Tajikistan	x	x	x	-	7	-	-	-	-	-	-
Ukraine	x	x	x	62283	25783	27844	23166	17688	10611	10495	5236
Former Soviet Union	139250	143534	134985	x	x	x	x	x	x	x	x
Islam. Rep. of Iran	678	842	1006	760	914	931	930	984	909	909	909
Non-OECD Total	225313	250844	250980	317001	284437	243220	429012	645802	785416	750535	733493
World	521785	560947	540011	599538	545912	478155	677876	939076	1087535	1040059	1039888

Source: IEA/OECD World Energy Statistics

Table 1.2: World steam coal¹ production
(thousand tonnes)

	1973 ²	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p
Australia ³	55483	31524	67511	93941	111680	135679	171699	200400	256014	249568	253795
Austria	-	-	-	-	1	-	-	-	-	-	-
Belgium ³	10362	3982	4182	2357	637	375	109	16	15	14	16
Canada	12337	16566	26810	31265	35618	29809	28215	29477	24785	26353	25257
Chile ³	1374	1125	1291	2183	1038	366	544	619	3143	2525	2495
Czech Republic	27780	10318	9936	8032	6914	6719	6118	5570	4338	3631	2790
France ³	26350	16076	13667	9378	8056	3804	617	261	-	-	-
Germany	104407	38456	37448	31976	27172	18514	12847	5963	2806	1914	1474
Hungary	1186	2498	2088	329	-	-	-	-	-	-	-
Ireland	64	60	57	25	1	-	-	-	-	-	-
Italy	-	-	-	58	-	-	95	101	81	-	-
Japan ³	25090	11084	12460	7985	6317	2964	1249	1145	1265	1288	1322
Korea ³	13571	18625	22543	17217	5720	8300	2832	2084	1764	1726	1486
Mexico ³	2494	-	1480	3970	7675	9130	9203	10585	7126	7692	6790
Netherlands	1829	-	101	-	-	-	-	-	-	-	-
New Zealand	1276	1757	1960	1841	1860	1936	2575	2695	1732	1386	1449
Norway	415	128	333	303	292	632	1471	1935	1106	818	131
Poland	156630	161626	160499	118943	108452	86109	83833	65070	59701	57579	53504
Portugal ³	221	177	237	281	-	-	-	-	-	-	-
Spain	9991	15544	21464	19030	17529	14947	11894	8430	3064	1800	2777
Sweden	12	18	13	11	-	-	-	-	-	-	-
Turkey	4642	1721	1881	1197	1386	1679	2410	2613	1525	2070	1869
United Kingdom	131985	120047	91503	91162	52438	30943	20224	18076	8526	4125	3002
United States ³	530064	592462	646472	760388	781461	839685	915996	856492	691240	544311	573276
IEA Total	1116189	1042669	1122645	1199689	1173209	1191225	1271387	1210913	1065088	904275	928938
OECD Total	1117563	1043794	1123936	1201872	1174247	1191591	1271931	1211532	1068231	906800	931433
Algeria	333	-	-	-	-	-	-	-	-	-	-
Botswana	..	..	437	794	898	947	985	988	2085	1877	2222
Dem. Rep. of Congo	130	138	121	126	-	-	-	-	-	-	-
Egypt	-	-	-	-	-	58	25	-	-	-	-
Ethiopia	-	-	-	-	-	-	-	36	-	-	-
Morocco	565	680	775	526	650	31	12	-	-	-	-
Mozambique	394	207	35	40	38	16	3	38	1814	2203	4307
Nigeria	327	176	140	90	20	3	8	38	47	46	46
South Africa	62352	104515	162358	165492	196046	220996	243346	251725	252177	251567	252691
Tanzania	-	1	15	3	43	79	31	-	257	276	563
Zambia	940	570	511	377	152	196	150	1	164	328	328
Zimbabwe	2806	1777	2835	4733	4072	3628	2929	2500	3886	1185	2462
Other Africa	160	567	317	314	342	427	496	543	196	200	200
Argentina	451	390	400	276	305	259	25	65	34	23	23
Brazil	1015	2570	4318	1935	2673	4061	3542	3320	4469	3525	3326
Colombia	2834	2781	7277	19654	23811	36424	57613	70513	80930	86160	83457
Peru	33	41	127	97	51	17	43	88	243	251	301
Venezuela	50	42	40	2189	4064	7885	7195	2730	830	749	749

Table 1.2: World steam coal¹ production (continued)
(thousand tonnes)

	1973 ²	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p
Bangladesh	-	-	-	-	-	-	178	705	676	1022	1161
India	76588	92945	124621	175096	239477	289340	383455	491262	586216	609314	641419
Indonesia ⁴	149	304	1898	10201	41587	78761	169319	323053	452542	460137	485767
DPR of Korea ⁴	23198	40270	49500	43810	31300	29743	34610	25500	27490	31060	18893
Malaysia	-	-	-	111	135	384	788	2397	2559	2259	2885
Mongolia	..	..	480	595	1290	70	2192	10025	3882	5496	15589
Myanmar	10	11	43	40	12	468	484	646	697	317	317
Nepal	-	-	-	-	-	17	12	15	19	21	21
Pakistan	1143	1098	1567	1922	2546	2166	2861	2350	3389	3584	3232
Philippines ⁴	-	326	1252	1229	1290	1354	2880	6650	7378	11211	11578
Chinese Taipei	3327	2574	1751	469	235	83	-	-	-	-	-
Thailand	-	-	-	-	5	-	-	-	-	-	-
Viet Nam	2990	5200	5594	4638	8350	11609	33771	44835	41484	38527	40382
Other non-OECD Asia	235	511	151	108	97	243	420	1252	1585	1608	1608
PR of China ⁴	417000	551928	768902	954163	1191540	1230773	2008677	2827609	2970118	2721190	2836480
Albania	-	-	-	-	-	-	-	-	99	6	84
Bosnia and Herzegovina	x	x	x	-	-	4038	4643	5367	-	-	-
Bulgaria	351	267	223	143	3381	118	9	45	51	52	41
Croatia	x	x	x	156	75	-	-	-	-	-	-
Kazakhstan	x	x	x	98017	67998	64199	71807	91740	84773	81856	84758
Kyrgyzstan	x	x	x	1495	183	104	43	75	345	248	248
Romania	7172	6232	4832	2964	799	268	32	4	10	-	-
Russian Federation	x	x	x	152056	106766	101503	153708	155693	195164	209098	225672
Serbia	x	x	x	137	55	176	24	-	-	-	-
Tajikistan	x	x	x	475	34	22	99	200	985	1311	1707
Ukraine ⁴	x	x	x	81200	48219	33757	36873	39971	24347	29367	23324
Uzbekistan	x	x	x	200	74	69	73	65	367	360	376
Former Soviet Union	510600	409466	434015	x	x	x	x	x	x	x	x
Former Yugoslavia	576	388	400	x	x	x	x	x	x	x	x
Islam. Rep. of Iran	903	83	100	75	170	217	626	105	186	206	206
Non-OECD Total	1116632	1226058	1575035	1725946	1978783	2124509	3223987	4362149	4751494	4556640	4746423
World	2234195	2269852	2698971	2927818	3153030	3316100	4495918	5573681	5819725	5463440	5677856

1. Steam coal is also commonly known as thermal coal. From 1978 onwards it comprises anthracite, bituminous coal and sub-bituminous coal. For further information, see notes and definitions in Part I.

2. Data prior to 1978 are hard coal. Hard coal comprises anthracite, coking coal and other bituminous coal. Sub-bituminous coal data may exist in hard coal for select countries.

3. May include sub-bituminous coal prior to 1978.

4. Data includes lignite for at least some years.

Source: IEA/OECD World Energy Statistics

Table 1.3: World lignite¹ production
(thousand tonnes)

	1973 ²	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p
Australia ³	24121	32894	38380	45990	50752	67293	70533	72547	65361	61473	57261
Austria	3328	2865	3081	2448	1297	1249	-	-	-	-	-
Canada	8135	5971	9672	9407	10739	11190	11017	10264	10259	9962	9247
Chile ³	61	40	35	-	-	-	-	-	-	-	-
Czech Republic	75965	89086	94636	78983	57163	50307	48772	43774	38105	38528	39310
France ³	2764	2560	1839	2333	1401	296	-	-	-	-	-
Germany	366409	389726	434037	357468	192756	167691	177907	169403	178065	171547	171286
Greece	13301	23198	35888	51896	57662	63887	69398	56520	46246	32638	37383
Hungary	25925	22644	21412	17332	14772	14033	9570	9113	9261	9216	7954
Italy	1190	1286	1892	956	172	14	-	-	-	-	-
Japan ³	100	27	-	-	-	-	-	-	-	-	-
Mexico ^{3,4}	84	-	-	-	-	-	752	697	438	476	420
New Zealand	1192	208	247	159	243	213	246	295	324	313	319
Poland	39215	36866	57746	67584	63547	59484	61636	56510	63128	60246	61161
Slovak Republic	5804	5796	5731	4766	3759	3648	2511	2378	1939	1847	1836
Slovenia	x	x	x	5583	4884	4480	4540	4430	3168	3349	3356
Spain	3003	11415	17292	16373	10776	8524	7587	-	-	-	-
Turkey	7754	14469	35869	44407	52758	60854	55282	69698	56122	70239	74100
United States ³	12948	42783	65701	79914	78471	77619	76151	70970	64929	66313	63565
IEA Total	591238	681794	823423	780016	596268	586302	591362	562169	534177	522798	523842
OECD Total	591299	681834	823458	785599	601152	590782	595902	566599	537345	526147	527198

Table 1.3: World lignite¹ production (continued)
(thousand tonnes)

	1973 ²	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p
Niger	..	..	..	..	..	158	182	275	226	247	247
Brazil ⁴	1324	1127	1987	2161	2420	2730	2503	2095	3560	3480	1492
India	3320	5110	8040	14074	22146	24247	30228	37733	43842	45230	47452
DPR of Korea ⁴	7000	-	-	-	-	-	-	-	-	-	-
Mongolia	..	..	6043	6562	3729	5115	4341	5723	5755	6672	6783
Myanmar	-	27	43	38	23	112	70	40	54	233	233
Pakistan	-	471	671	824	1091	928	2010	1101	752	504	1209
Philippines ⁴	39	-	4	3	3	3	-	-	-	-	-
Thailand	361	1525	5188	12421	18416	17708	20878	18344	15151	16979	16280
Viet Nam	-	-	-	-	-	-	322	-	-	-	-
Other non-OECD Asia	2206	3985	-	-	-	220	320	502	4658	14383	15374
Albania	811	1420	2150	2071	80	30	45	10	-	-	55
Bosnia and Herzegovina	x	x	x	19670	1640	3401	4476	5618	12173	13644	14029
Bulgaria	26459	29946	30657	31532	27449	26314	24686	29379	35859	31231	34276
Croatia	x	x	x	18	7	-	-	-	-	-	-
F.Y.R. of Macedonia	x	x	x	6644	7249	7516	6881	6724	5937	5152	5043
Georgia	x	x	x	529	34	7	5	105	306	297	272
Kazakhstan	x	x	x	3443	3740	2558	4409	7283	5526	5750	5739
Kosovo	x	x	x	..	..	4989	6554	8649	8241	8801	7575
Kyrgyzstan	x	x	x	2140	280	321	292	500	1584	1603	1603
Montenegro	x	x	x	..	..	..	1297	1938	1773	1398	1475
Romania	17679	27104	37924	33737	39973	29004	31074	31123	25483	22980	25675
Russian Federation	x	x	x	134385	83317	87786	73668	76121	73629	73485	75616
Serbia	x	x	x	45800	40540	36918	35076	37976	37826	38440	39759
Tajikistan	x	x	x	450	-	-	-	-	57	50	53
Ukraine ⁴	x	x	x	9280	2296	802	355	-	-	-	-
Uzbekistan	x	x	x	6200	2980	2501	3003	3565	3989	3989	3624
Former Soviet Union	157000	163000	157000	x	x	x	x	x	x	x	x
Former Yugoslavia	31874	40913	68072	x	x	x	x	x	x	x	x
Non-OECD Total	248073	274628	317779	331982	257413	253368	252675	274804	286381	294548	303864
World	839372	956462	1141237	1117581	858565	844150	848577	841403	823726	820695	831062

1. Some countries, most notably the People's Republic of China and Indonesia, produce and consume lignite, however these data are reported under other coal types included in steam coal and are not shown here.

2. Data before 1978 are brown coal, which may include sub-bituminous coal.

3. Brown coal data excludes sub-bituminous coal.

4. Data are reported as other coal types for at least some years.

For further information, see the explanatory notes and definitions in Part I.

Source: IEA/OECD World Energy Statistics

Table 1.4: World peat production¹
(thousand tonnes)

	1978	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p
Austria	-	-	1	1	1	1	1	1	1	-	-
Czech Republic	595	500	500	-	-	-	-	-	-	-	-
Estonia	x	x	x	901	483	353	378	361	118	14	50
Finland	2211	3626	3749	7154	8026	4421	9135	7490	3489	3031	3085
Germany	-	-	-	425	170	145	129	-	-	-	-
Ireland	5244	5209	3752	6515	8051	4808	3957	4992	3546	3187	3593
Latvia	-	-	-	253	325	68	12	10	-	4	2
Sweden	-	3	275	581	752	541	708	797	369	424	356
IEA Total	8050	9338	8277	15577	17483	10269	14308	13641	7523	6656	7084
OECD Total	8050	9338	8277	15830	17808	10337	14320	13651	7523	6660	7086
Other Africa	2	4	10	11	12	4	5	13	4	4	..
Oth. non-OECD Americas	12	12	15	15	15	12	13	13	13	13	..
Armenia	x	x	x	-	-	-	-	-	2	3	..
Belarus	x	x	x	3457	3145	2002	2308	2352	1015	1362	..
Lithuania	x	x	x	61	63	42	70	31	74	17	..
Romania	-	-	-	-	6	9	6	3	4	7	..
Russian Federation	x	x	x	4714	4041	1989	1645	1066	967	1197	923
Ukraine	x	x	x	6450	1577	487	639	430	491	539	..
Former Soviet Union	31184	24583	22762	x	x	x	x	x	x	x	x
Non-OECD Total	31198	24599	22787	14708	8859	4545	4686	3908	2570	3142	..
World	39248	33937	31064	30538	26667	14882	19006	17559	10093	9802	..

Table 1.5: World oil shale and oil sands production¹
(thousand tonnes)

	1978	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p
Estonia	x	x	x	22486	13310	11727	14591	17933	19616	15764	20006
Israel	-	-	-	303	470	390	429	432	420	423	449
IEA Total	-	-	-	22486	13310	11727	14591	17933	19616	15764	20006
OECD Total	-	-	-	22789	13780	12117	15020	18365	20036	16187	20455
World	-	-	-	22789	13780	12117	15020	18365	20036	16187	20455

1. For further information, see the explanatory notes and definitions in Part I.

Source: IEA/OECD World Energy Statistics

Table 1.6: OECD coke oven coke production¹
(thousand tonnes)

	1973	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p
Australia	4983	4991	3603	4495	4617	3739	3494	3166	2924	2660	2686
Austria	1719	1729	1751	1725	1448	1385	1404	1362	1327	1351	1355
Belgium	7774	6048	5964	5420	3696	3104	2856	1935	1230	1205	1194
Canada	5370	5250	4684	3708	3283	3242	3305	2720	2273	2194	2213
Chile	315	303	301	336	457	475	493	361	405	400	493
Czech Republic	9383	8725	8328	7125	4963	3411	3412	2548	2332	2209	2489
Denmark	-	-	-	-	-	-	-	-	-	-	-
Estonia	x	x	x	41	40	23	37	22	8	13	19
Finland	-	-	-	487	920	910	894	827	876	882	864
France	11881	11120	8691	7197	5566	5234	4445	3151	3214	3127	3250
Germany	41614	35492	30171	21926	11102	9115	8397	8150	8800	9387	8843
Greece	400	247	-	-	-	-	-	-	-	-	-
Hungary	1082	975	607	672	1033	937	614	1018	960	891	955
Iceland	-	-	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	-	-	-	-
Italy	7665	8264	7410	6356	5185	4504	4574	4110	1687	1740	1930
Japan	52300	47463	48621	47338	42279	38511	38009	36930	32371	33090	32533
Korea	318	2965	5253	8800	10593	12288	8935	13549	17521	15924	16073
Latvia	..	..	..	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-	-	-
Mexico	2021	2447	2924	2384	2148	2100	2002	2209	1796	1368	1295
Netherlands	2655	2455	2958	2736	2895	2127	2249	2030	2035	2034	1964
New Zealand	20	13	5	373	369	349	418	458	504	502	509
Norway	282	349	313	-	-	-	-	-	-	-	-
Poland	16938	19598	15828	13516	11578	8972	8404	9844	9792	9718	9431
Portugal	269	216	275	230	331	371	-	-	-	-	-
Slovak Republic	1500	1598	1909	2340	1861	1706	1846	1658	1636	1635	1582
Slovenia	x	x	x	-	-	-	-	-	-	-	-
Spain	4475	3900	3440	3211	2438	2470	2662	2051	1566	1978	2040
Sweden	533	1188	1203	1084	1149	1146	1411	1197	1187	1171	1155
Switzerland	-	-	-	-	-	-	-	-	-	-	-
Turkey	1251	1937	2711	3158	3131	2925	2992	4274	4523	4239	4310
United Kingdom	17776	10060	9276	8350	6274	6206	4364	4023	2734	1348	1379
United States	62803	41850	25992	25053	21545	18876	15168	13628	12478	10755	11746
IEA Americas	70194	49547	33600	31145	26976	24218	20475	18557	16547	14317	15254
IEA Asia Oceania	57621	55432	57482	61006	57858	54887	50856	54103	53320	52176	51801
IEA Europe	127197	113901	100835	85574	63610	54546	50561	48200	43907	42928	42760
OECD Americas	70509	49850	33901	31481	27433	24693	20968	18918	16952	14717	15747
OECD Asia Oceania	57621	55432	57482	61006	57858	54887	50856	54103	53320	52176	51801
OECD Europe	127197	113901	100835	85574	63610	54546	50561	48200	43907	42928	42760
IEA Total	255012	218880	191917	177725	148444	133651	121892	120860	113774	109421	109815
OECD Total	255327	219183	192218	178061	148901	134126	122385	121221	114179	109821	110308

1. Solid product obtained from carbonization of coal, principally coking coal, used mainly in the iron and steel industry.
Also includes coke and semi-coke made from lignite.

For further information, see the explanatory notes and definitions in Part I.

Source: IEA/OECD World Energy Statistics

2. CONSUMPTION

Table 2.1: World coking coal consumption
(thousand tonnes)

	1978	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p ¹
Australia	7216	7049	5476	5932	5874	4799	4462	5113	3947	3567	3602
Austria	2006	2371	2391	2337	1908	1877	1899	1838	1773	1816	1763
Belgium	7524	8010	8086	7157	4737	4045	3263	2627	1677	1638	1621
Canada	6776	7321	6483	5023	4417	4461	8122	4241	2739	2378	2283
Chile	385	454	427	492	715	714	703	509	566	467	575
Czech Republic	12567	12166	11365	9941	6648	4972	4334	3546	3704	3117	3402
Denmark	-	7	6	-	-	-	-	-	-	-	-
Finland	-	-	-	711	1650	1284	1401	1206	1254	1200	1187
France	12980	14570	11332	9669	7739	6543	6222	4504	4465	4343	4514
Germany	41881	50293	47825	42216	33993	24462	22193	15973	11719	15132	14652
Greece	213	384	-	-	-	-	-	-	-	-	-
Hungary	1740	1695	1043	971	1402	1280	808	1415	1327	1223	1316
Iceland	-	-	20	-	-	-	-	-	-	-	-
Ireland	-	-	7	14	-	-	-	-	-	-	-
Italy	9909	11237	10165	8633	6966	6658	5630	5145	2246	2440	2309
Japan	58724	70203	73456	65534	58247	55219	53535	54432	46838	48294	47347
Korea	2009	3987	6959	11735	16305	19415	20883	27210	33291	35758	36126
Mexico	4053	3973	3837	3406	3069	3000	5403	5440	5052	4852	4698
Netherlands	2953	3521	4061	4435	4893	4054	4682	3953	4470	4356	4394
New Zealand	-	8	6	243	140	1	115	67	27	74	64
Norway	414	432	394	-	-	-	-	-	-	-	-
Poland	25847	25272	17745	18127	17405	13332	11157	12336	13457	13178	13374
Portugal	423	363	370	313	455	497	-	-	-	-	-
Slovak Republic	2180	2336	2790	3136	2745	2597	2738	2490	2739	2718	2720
Slovenia	x	x	x	1	-	-	-	-	-	-	-
Spain	4863	5407	4908	4456	3312	3556	3463	2498	1834	1862	1746
Sweden	1227	1654	1620	1515	1646	1772	1847	1868	1592	1542	1513
Turkey	3429	3407	4825	5262	4571	7048	5585	6614	6654	6296	6390
United Kingdom	14988	11628	11122	10517	8487	8824	6569	6372	5069	2775	3029
United States	68885	61457	37246	35269	29934	25963	20893	19152	17708	14384	15916
IEA Americas	79714	72751	47566	43698	37420	33424	34418	28833	25499	21614	22897
IEA Asia Oceania	67949	81247	85897	83444	80566	79434	78995	86822	84103	87693	87139
IEA Europe	145144	154753	140055	129410	108557	92801	81791	72385	63980	63636	63930
OECD Americas	80099	73205	47993	44190	38135	34138	35121	29342	26065	22081	23472
OECD Asia Oceania	67949	81247	85897	83444	80566	79434	78995	86822	84103	87693	87139
OECD Europe excl Estonia	145144	154753	140075	129411	108557	92801	81791	72385	63980	63636	63930
IEA Total	292807	308751	273518	256552	226543	205659	195204	188040	173582	172943	173966
OECD Total	293192	309205	273965	257045	227258	206373	195907	188549	174148	173410	174541

Table 2.1: World coking coal consumption (continued)
(thousand tonnes)

	1978	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p ¹
Egypt	975	894	1192	1339	1540	1820	1810	987	341	257	598
Mozambique	-	-	-	-	-	-	-	-	727	-	-
South Africa	7018	7158	6000	5675	4220	2569	2975	4072	3348	3233	3263
Tanzania	-	-	-	1	1	-	-	-	-	-	-
Zimbabwe	946	991	269	612	621	856	692	370	450	451	466
Argentina	990	801	826	1121	589	558	789	686	671	551	559
Brazil	4869	6154	9602	10489	11093	9936	9742	10993	10379	10398	11666
Colombia	705	716	745	775	681	587	514	2621	3200	3147	3031
Peru	40	49	50	37	51	44	-	-	-	-	-
India	15757	15441	28149	39491	39409	35852	39041	74558	98635	101688	88515
Indonesia	-	-	-	-	-	140	98	55	3008	3899	3741
DPR of Korea	3857	4286	5000	5143	1040	-	-	-	-	-	-
Mongolia	-	-	-	-	-	-	-	153	105	41	43
Pakistan	16	98	716	1102	1085	950	565	429	-	-	-
Chinese Taipei	1386	1513	2562	4150	4208	5236	4919	5642	6581	6513	6599
Thailand	-	-	-	-	-	-	-	-	-	-	90
PR of China	52304	66822	62873	80140	139861	119123	310377	531049	646225	601236	607248
Albania	25	25	33	62	-	-	-	-	-	-	-
Bosnia and Herzegovina	x	x	x	-	-	-	592	1264	1274	1238	1379
Bulgaria	1921	1926	1553	1854	1693	1325	1051	-	-	-	-
Croatia	x	x	x	747	-	-	-	-	-	-	-
Georgia	x	x	x	686	6	-	-	-	-	-	-
Kazakhstan	x	x	x	29983	10853	10343	10734	11612	15553	14341	14341
F.Y.R. of Macedonia	x	x	x	117	70	67	-	-	-	-	-
Romania	5734	5228	7825	5082	5047	2257	2963	131	14	10	1
Russian Federation	x	x	x	53885	50669	43938	44991	49701	65160	62654	62733
Tajikistan	x	x	x	-	7	2	-	-	-	-	-
Ukraine	x	x	x	54508	31642	30581	29821	26369	16445	18278	17036
Former Soviet Union	129250	131534	123985	x	x	x	x	x	x	x	x
Former Yugoslavia	1447	3402	4689	x	x	x	x	x	x	x	x
Islam. Rep. of Iran	1107	1700	1344	986	1388	1626	1484	914	1106	1125	904
United Arab Emirates	-	-	-	-	-	-	-	946	2171	2172	1184
Non-OECD Total	228397	248831	258639	298990	306406	268499	464108	722552	875404	831232	823397
World	521589	558036	532604	556035	533664	474872	660015	911101	1049552	1004642	997938

1. Consumption data for 2017p are supplied by OECD member countries. Non-OECD country data are calculated from production and net trade data from varied sources. Stock changes are generally not accounted for, for non-OECD countries, but may be provided or sourced on an ad hoc basis.

Source: IEA/OECD World Energy Statistics

Table 2.2: World steam coal¹ consumption
(thousand tonnes)

	1973 ²	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p ³
Australia ⁴	27292	27373	34504	43367	45865	56031	64606	56375	47874	51626	56852
Austria	2856	500	787	1822	1484	1885	2209	1967	1978	1700	1652
Belgium ⁴	17169	8994	7490	8996	7657	7001	4288	3057	2479	2022	2098
Canada	17556	24269	31904	34765	37318	47299	42969	34553	27720	26023	25295
Chile ⁴	1711	1224	1365	3228	2676	3876	3868	7842	11627	12492	12122
Czech Republic	27780	11771	10665	10119	7532	5745	4887	4419	4177	4771	3573
Denmark	3146	9662	11929	9992	11003	6641	6293	6496	3136	3387	2652
Estonia	x	x	x	382	85	87	56	60	29	27	45
Finland ⁴	3035	5692	5318	4937	4890	3909	3197	5774	2798	3696	3197
France ⁴	40289	33510	25175	19122	14872	15258	14920	12829	8447	8391	9304
Germany	105801	46092	45641	44749	40231	44501	41840	45702	49830	45358	36157
Greece	651	161	1750	1380	1480	1121	563	614	281	333	373
Hungary	2137	3249	3456	1435	287	390	1269	653	216	312	323
Iceland ⁴	1	12	49	65	65	101	117	106	116	124	122
Ireland	822	1066	1579	3184	2689	2938	2988	2001	2315	2245	1788
Israel	-	-	2927	3720	6568	10591	12124	12310	11036	9185	8279
Italy	11603	5787	11729	12694	10480	11355	18610	16616	17210	14602	13023
Japan ⁴	81690	17496	35935	49433	75286	97968	124696	132122	143692	138962	141483
Korea ⁴	16329	23803	35546	33041	28329	52384	61389	92838	100599	99152	114335
Latvia	x	x	x	917	252	97	120	167	81	71	70
Luxembourg	305	346	199	197	217	172	122	102	73	81	68
Mexico ⁴	2810	-	1480	3970	7550	9566	15004	17194	13628	15087	15614
Netherlands	4794	2452	6215	8393	9362	8658	8296	7913	13528	12121	10276
New Zealand ⁴	1268	1760	1804	1841	1755	1882	3925	2286	2478	2022	2025
Norway	772	519	724	749	1018	999	795	706	788	712	832
Poland	122097	138506	138825	102104	90418	70039	69281	72452	58464	61540	61105
Portugal ⁴	805	241	680	4084	5253	5657	5476	2702	5504	4801	5450
Slovak Republic	5834	3037	3019	2743	2585	2059	2245	1673	1026	948	1084
Slovenia	x	x	x	262	328	446	612	498	372	383	414
Spain	13260	14715	26058	25788	28696	33695	33471	12163	22580	17330	20809
Sweden	1060	484	2538	2194	1798	1089	1223	991	1210	1131	1089
Switzerland	258	315	640	481	245	173	179	168	77	51	52
Turkey	4595	1781	1887	3219	4044	8500	14574	18956	29199	32285	34660
United Kingdom	133527	111982	94858	96205	67429	51015	55210	45005	32525	15108	11344
United States ⁴	492567	546581	645362	701657	752854	866163	932692	862251	633171	576096	560453
IEA Americas	512933	570850	678746	740392	797722	923028	990665	913998	674519	617206	601362
IEA Asia Oceania	126579	70432	107789	127682	151235	208265	254616	283621	294643	291762	314695
IEA Europe	502596	400862	401162	364969	313755	282887	291992	263019	257870	232952	220954
OECD Americas	514644	572074	680111	743620	800398	926904	994533	921840	686146	629698	613484
OECD Asia Oceania	126579	70432	110716	131402	157803	218856	266740	295931	305679	300947	322974
OECD Europe	502597	400874	401211	366213	314400	283531	292841	263790	258439	233530	221560
IEA Total	1142108	1042144	1187697	1233043	1262712	1414180	1537273	1460638	1227032	1141920	1137011
OECD Total	1143820	1043380	1192038	1241235	1272601	1429291	1554114	1481561	1250264	1164175	1158018

Table 2.2: World steam coal¹ consumption (continued)
(thousand tonnes)

	1973 ²	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p ³
Algeria	63	-	-	-	-	-	-	-	-	-	-
Benin	-	-	-	-	-	-	-	-	41	120	-
Botswana	..	..	466	815	912	1040	1002	932	1836	1672	2127
Dem. Rep. of Congo	170	167	156	169	-	-	-	-	-	-	-
Egypt	487	-	-	1	-	-	-	-	-	-	-
Ethiopia	-	-	-	-	-	-	-	50	411	442	487
Kenya	70	16	90	151	156	107	145	268	566	557	529
Mauritius	-	-	34	56	63	222	379	661	804	926	1431
Morocco	582	635	1110	1774	2665	4018	4762	4230	6734	6490	6745
Mozambique	587	288	106	58	56	-	-	10	14	17	17
Namibia	..	..	..	..	16	3	20	13	4	34	6
Nigeria	289	151	94	55	20	3	8	38	47	46	125
Senegal	-	-	-	-	-	-	152	287	606	737	613
South Africa	60408	79803	119870	119225	142985	154566	172428	185329	176766	182662	182879
Tanzania	-	1	15	3	43	79	31	-	257	276	563
Tunisia	33	21	21	15	-	-	-	-	-	-	-
Zambia	941	618	471	375	148	130	140	1	164	328	328
Zimbabwe	2758	1623	2757	4743	3873	3640	2981	2534	3030	2636	2186
Other Africa	233	648	361	351	373	597	638	896	799	815	778
Argentina	1072	624	421	246	850	500	594	818	908	686	617
Brazil	2842	2066	5212	2703	3375	7463	7686	9238	14316	12381	12869
Colombia	2859	2085	2397	4050	4927	3644	3659	3581	5989	6059	4063
Costa Rica	1	1	1	-	-	1	2	1	1	1	-
Cuba	63	95	126	153	77	22	22	23	7	2	2
Dominican Republic	-	-	224	17	80	90	787	829	1113	1085	1041
Guatemala	-	22	-	-	-	215	409	492	1535	1803	1996
Haiti	-	-	61	12	-	-	-	-	-	-	-
Honduras	-	-	-	-	-	135	241	107	113	164	172
Jamaica	-	-	-	52	55	53	58	51	98	73	122
Panama	13	-	32	32	51	60	-	-	339	300	87
Peru	86	25	57	112	338	664	1075	1182	1119	1150	1179
Uruguay	32	4	-	1	-	1	1	4	4	5	4
Venezuela	53	42	42	355	7	181	52	273	187	169	437
Oth. non-OECD Americas	1	1	-	-	-	125	148	155	206	210	744
Bangladesh	243	235	98	563	642	660	845	1622	4524	3403	3775
Cambodia	..	..	..	..	-	-	-	27	1235	1429	2382
Hong Kong (China)	12	3	5523	8928	9109	6058	10824	10324	11184	11161	10503
India	73410	87296	120167	166231	233168	296333	394230	570781	745153	755004	805639
Indonesia ⁵	129	236	925	6320	11892	22580	41933	60000	86819	90561	97030
DPR of Korea ⁵	23580	40170	49200	43310	30900	29383	31806	20947	8580	9714	9714
Malaysia	13	84	574	2150	2558	3661	10926	23161	27787	29861	33567
Mongolia	..	..	480	595	1290	70	1093	1374	1966	2367	2505
Myanmar	74	221	223	80	15	468	484	646	697	317	317
Nepal	78	83	17	81	123	430	413	505	929	1149	932
Pakistan	1270	1098	1567	2320	2546	2166	5139	6188	8274	8749	13271
Philippines ⁵	-	558	2415	2573	3001	8600	9909	13125	21757	24458	26938
Singapore	-	-	-	-	-	-	1	-	649	681	732
Sri Lanka	-	-	1	8	5	-	93	95	1966	2082	2270
Chinese Taipei	3572	4443	8523	13080	22021	41544	54797	57773	57321	58807	60991
Thailand	1	94	212	250	2305	3684	8479	17378	20431	17575	17701

Table 2.2: World steam coal¹ consumption (continued)
(thousand tonnes)

	1973 ²	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p ³
Viet Nam	2770	4052	4990	3951	5917	7808	14490	26146	44763	49808	54665
Other non-OECD Asia	342	657	345	303	244	530	632	1793	2424	2459	2578
PR of China ⁵	414180	559188	741034	975527	1172771	1170486	1996908	2913747	3141375	3041536	3046452
Albania	89	135	187	240	-	-	-	167	201	87	196
Armenia	x	x	x	552	3	-	-	1	1	2	-
Azerbaijan	x	x	x	200	6	-	-	-	-	-	-
Belarus	x	x	x	2389	1125	504	168	79	680	618	647
Bosnia and Herzegovina	x	x	x	-	-	4057	4556	5224	-	-	-
Bulgaria	6136	5073	6724	4192	4944	2054	3310	3153	1115	901	881
Croatia	x	x	x	403	143	623	1057	1112	951	1020	600
Cyprus ⁶	-	-	74	97	20	49	52	26	6	-	5
Georgia	x	x	x	546	4	12	13	8	121	95	162
Kazakhstan	x	x	x	55823	50342	31309	48836	61120	58262	61244	61118
Kosovo	x	x	x	..	..	9	12	34	12	2	2
Kyrgyzstan	x	x	x	4014	505	788	1009	1178	1515	911	1384
Lithuania	x	x	x	1303	372	130	284	299	252	247	252
F.Y.R. of Macedonia	x	x	x	12	72	-	97	155	156	204	155
Malta	-	-	192	300	52	-	-	-	-	-	-
Republic of Moldova	x	x	x	4510	1315	181	183	186	171	125	223
Romania	8490	6781	6880	4269	843	392	715	645	815	785	832
Russian Federation	x	x	x	186148	112597	98284	96447	74840	85805	85398	94861
Serbia	x	x	x	137	55	306	227	147	206	189	133
Tajikistan	x	x	x	1044	34	27	103	207	998	1321	1708
Turkmenistan	x	x	x	670	-	-	-	-	-	-	-
Ukraine ⁵	x	x	x	84932	55256	35306	33825	39726	33387	35570	29712
Uzbekistan	x	x	x	2740	81	69	73	65	367	360	376
Former Soviet Union	490220	397576	419445	x	x	x	x	x	x	x	x
Former Yugoslavia	2540	388	400	x	x	x	x	x	x	x	x
Islam. Rep. of Iran	948	83	100	75	158	155	590	111	204	221	221
Jordan	-	-	-	-	-	-	-	-	253	315	156
Lebanon	1	1	-	-	180	200	200	225	253	257	262
Syrian Arab Republic	1	1	-	-	-	-	-	-	-	-	-
United Arab Emirates	-	-	-	-	-	-	236	22	405	609	332
Yemen	-	-	-	-	-	-	-	170	134	121	409
Non-OECD Total	1101742	1197392	1504420	1716390	1887684	1946475	2972415	4126535	4592118	4523569	4608736
World	2245562	2240772	2696458	2957625	3160285	3375766	4526529	5608096	5842382	5687744	5766754

1. Steam coal is also commonly known as thermal coal. From 1978 onwards it comprises anthracite, bituminous coal and sub-bituminous coal. For further information, see the explanatory notes and definitions in Part I.
2. Data prior to 1978 are hard coal. Hard coal comprises anthracite, coking coal, other bituminous coal and for certain countries may still include sub-bituminous coal.
3. Consumption data for 2017p are supplied by OECD member countries. Non-OECD country data are calculated from production and net trade data from varied sources. Stock changes are generally not accounted for, for non-OECD countries, but may be provided or sourced on an ad hoc basis.
4. Includes sub-bituminous coal prior to 1978.
5. Data includes lignite for at least some years.
6. Please refer to the Geographical notes in Part I.

Source: IEA/OECD World Energy Statistics

Table 2.3: World lignite¹ consumption
(thousand tonnes)

	1973 ²	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p ³
Australia ⁴	24121	32894	38380	45990	50752	67293	70533	72547	65361	61473	57261
Austria	3328	3274	3868	2504	1743	1343	1211	35	11	10	10
Belgium ⁴	-	95	275	276	195	-	-	-	-	-	-
Canada	8058	5682	9788	9358	10899	11208	10614	9688	9036	8713	8832
Chile ⁴	61	40	35	-	-	-	-	-	-	-	-
Czech Republic	75965	79822	83854	71772	52300	50372	47622	44214	37821	38216	37727
France ⁴	2775	2570	2418	2094	1516	355	36	52	125	107	58
Germany	372497	391753	432521	364050	194811	169942	177885	169743	176970	171041	171367
Greece	13000	22692	36214	52053	56962	64564	70096	57704	44267	34230	37664
Hungary	26896	22600	21127	17899	15242	13503	9511	8921	9162	9046	7979
Italy	1299	1385	2041	1089	196	30	8	6	3	2	2
Japan ⁴	100	27	-	-	-	-	-	-	-	-	-
Latvia	x	x	x	3	-	-	-	-	-	-	-
Mexico ⁴	84	-	-	-	2	4	779	720	474	453	276
Netherlands	20	156	103	56	23	30	28	28	42	36	78
New Zealand	1192	208	264	159	243	213	246	292	327	307	322
Poland	34282	35308	57565	67391	63196	59488	61589	56593	63047	60390	61167
Slovak Republic	12784	16039	15784	12481	7221	4213	3307	3051	2598	2420	2281
Slovenia	x	x	x	5827	4911	4479	4580	4419	3212	3376	3339
Spain	3062	11100	17474	16579	10534	8403	7564	-	-	-	-
Switzerland	-	-	-	13	8	6	39	62	130	130	123
Turkey	7642	15243	34778	45891	52405	64384	56577	69239	56661	67950	71700
United States ⁴	12948	42129	62063	79023	80764	74265	76136	68299	67915	67218	64342
IEA Americas	21090	47811	71851	88381	91665	85477	87529	78707	77425	76384	73450
IEA Asia Oceania	25413	33129	38644	46149	50995	67506	70779	72839	65688	61780	57583
IEA Europe	553550	602065	708022	654148	456352	436633	435473	409648	390837	383578	390156
OECD Americas	21151	47851	71886	88381	91665	85477	87529	78707	77425	76384	73450
OECD Asia Oceania	25413	33129	38644	46149	50995	67506	70779	72839	65688	61780	57583
OECD Europe	553550	602065	708022	659978	461263	441112	440053	414067	394049	386954	393495
IEA Total	600053	683005	818517	788678	599012	589616	593781	561194	533950	521742	521189
OECD Total	600114	683045	818552	794508	603923	594095	598361	565613	537162	525118	524528

Table 2.3: World lignite¹ consumption (continued)
(thousand tonnes)

	1973 ²	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p ³
Niger	..	..	..	..	..	158	177	273	230	247	247
Brazil	1280	922	2047	2244	2652	2871	2575	1476	2718	2868	1492
Bangladesh	-	-	-	-	-	-	-	-	32	-	56
India	3762	5059	7913	14985	22298	24824	30239	37688	42208	45229	47452
DPR of Korea ⁵	7000	-	-	-	-	-	-	-	-	-	-
Mongolia	..	..	5687	6054	3914	5142	4380	5430	4997	5866	6209
Myanmar	-	27	43	38	23	112	70	40	54	657	521
Pakistan	-	471	671	824	1091	928	2010	1101	752	504	1209
Philippines ⁵	40	-	4	3	3	3	-	-	12	250	128
Singapore	1	1	2	2	-	-	-	-	-	-	-
Thailand	361	1525	5132	12457	18496	17586	21046	18041	15390	16942	16315
Viet Nam	-	-	-	-	-	-	322	-	-	-	-
Other non-OECD Asia	2206	4200	-	-	-	45	95	93	4658	14383	15374
Albania	810	1420	2150	1843	80	73	54	10	-	-	-
Bosnia and Herzegovina	x	x	x	19670	1640	3380	4309	5602	11720	13799	13950
Bulgaria	26311	29704	30657	31778	27679	25844	24870	29445	35742	31001	34255
Croatia	x	x	x	743	188	80	83	59	45	50	49
Cyprus ⁶	-	-	-	-	-	-	1	1	-	-	-
Georgia	x	x	x	91	34	15	5	105	303	287	270
Kazakhstan	x	x	x	3443	3630	2438	4197	5297	2673	3723	3512
Kosovo	x	x	x	..	..	5154	6607	8869	8324	9052	7726
Kyrgyzstan	x	x	x	2140	287	341	298	510	1106	1292	1634
Lithuania	x	x	x	-	-	1	3	1	-	-	-
F.Y.R. of Macedonia	x	x	x	6808	7293	7702	7376	6784	5899	5227	5243
Montenegro	x	x	x	..	..	..	1287	1908	1720	1361	1383
Romania	17690	27364	38404	36872	39810	29313	32324	30830	26203	23218	24783
Russian Federation	x	x	x	134047	82065	88257	73156	76276	72224	69430	70295
Serbia	x	x	x	45800	40550	37018	35164	37532	38435	38992	40166
Tajikistan	x	x	x	450	-	-	-	-	57	50	53
Ukraine ⁵	x	x	x	7983	3000	793	410	-	-	-	-
Uzbekistan	x	x	x	6200	2947	3474	3112	3648	3968	3968	3624
Former Soviet Union	157138	163030	157015	x	x	x	x	x	x	x	x
Former Yugoslavia	31356	40516	68217	x	x	x	x	x	x	x	x
United Arab Emirates	-	-	-	-	-	-	-	2	-	-	-
Non-OECD Total	247955	274239	317942	334475	257680	255552	254170	271021	279470	288396	295946
World	848069	957284	1136494	1128983	861603	849647	852531	836634	816632	813514	820474

1. Some countries, most notably the People's Republic of China and Indonesia, produce and consume lignite, however these data are reported under other coal types included in steam coal and not shown here.

2. Data before 1978 are brown coal, which may include sub-bituminous coal.

3. Consumption data for 2017p are supplied by OECD member countries. Non-OECD country data are calculated from production and net trade data from varied sources. Stock changes are generally not accounted for, for non-OECD countries, but may be provided or sourced on an ad hoc basis.

4. Brown coal data exclude sub-bituminous coal.

5. Data are reported as other coal types for at least some years.

6. Please refer to the Geographical notes in Part I.

For further information, see the explanatory notes and definitions in Part I.

Source: IEA/OECD World Energy Statistics

Table 2.4: OECD coke oven coke consumption¹
(thousand tonnes)

	1973	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p
Australia	4983	5077	3520	3300	3952	3456	2729	2801	2110	2137	2284
Austria	2681	2674	2993	2403	2354	2436	2673	2551	2344	2276	2298
Belgium	8429	6542	5789	5265	4287	3928	2951	1689	1320	1422	1454
Canada	5454	5519	5212	3412	3682	3429	3530	3061	2878	2957	3138
Chile	333	399	334	373	590	506	540	319	352	326	323
Czech Republic	5913	6244	6472	5713	3857	3144	2949	2668	2236	2162	2059
Denmark	96	116	68	40	43	40	34	23	17	12	12
Estonia	x	x	x	20	1	2	-	-	-	-	-
Finland	877	1224	1218	1272	1192	1429	1416	1270	1161	1068	1011
France	14783	13180	10353	7714	6219	6119	5043	4234	3464	3323	3514
Germany	37220	32691	29657	21127	14879	14982	12134	12299	11369	11060	10298
Greece	414	261	55	42	12	1	4	1	-	-	-
Hungary	2317	2243	2000	1183	990	804	751	754	699	505	727
Iceland	-	16	34	30	18	47	33	30	24	25	14
Ireland	13	8	22	29	6	-	-	-	-	-	-
Israel	2	1	1	-	-	-	-	-	-	-	-
Italy	7099	7379	7258	6413	5656	5041	5271	3938	2122	2451	2305
Japan	51800	45795	44859	45784	39141	38320	38283	37289	34242	33991	32598
Korea	356	3086	5359	8800	10593	12288	9276	14178	17910	16264	16407
Latvia	..	..	..	11	8	11	7	3	-	-	-
Luxembourg	3235	2282	1854	1447	521	1	1	1	1	1	1
Mexico	2173	2494	3022	2504	2584	2729	2390	2599	2497	2477	2383
Netherlands	2657	2363	2539	2339	2454	2027	2082	2144	1962	1979	1977
New Zealand	20	13	6	373	369	349	418	458	504	502	509
Norway	826	849	881	529	500	559	356	429	429	411	425
Poland	14212	17849	14671	9854	8294	5762	3399	3165	3329	2916	3244
Portugal	306	317	401	240	296	323	5	3	8	12	12
Slovak Republic	2422	1642	2126	2833	1964	1815	1984	2078	1661	1770	1792
Slovenia	x	x	x	70	57	72	60	33	29	27	30
Spain	5349	3917	3758	3365	3131	1923	2027	1841	1793	1922	2246
Sweden	1900	1618	1494	1422	1496	1495	1701	1424	1258	1262	1325
Switzerland	185	131	82	43	31	27	20	18	15	16	15
Turkey	1251	1954	2803	3256	3201	3592	3428	4454	4984	5056	5145
United Kingdom	17034	7296	9209	8244	6517	6114	5001	3424	3817	2461	2316
United States	64235	37446	26553	25230	22180	21085	16547	13469	11275	10810	10721
IEA Americas	71862	45459	34787	31146	28446	27243	22467	19129	16650	16244	16242
IEA Asia Oceania	57159	53971	53744	58257	54055	54413	50706	54726	54766	52894	51798
IEA Europe	129219	112780	105703	84793	67901	61564	53230	48408	43989	42085	42176
OECD Americas	72195	45858	35121	31519	29036	27749	23007	19448	17002	16570	16565
OECD Asia Oceania	57161	53972	53745	58257	54055	54413	50706	54726	54766	52894	51798
OECD Europe	129219	112796	105737	84904	67984	61694	53330	48474	44042	42137	42220
IEA Total	258240	212210	194234	174196	150402	143220	126403	122263	115405	111223	110216
OECD Total	258575	212626	194603	174680	151075	143856	127043	122648	115810	111601	110583

1. Solid product obtained from carbonization of coal, principally coking coal, used mainly in the iron and steel industry.

Also includes coke and semi-coke made from lignite.

For further information, see the explanatory notes and definitions in Part I.

Source: IEA/OECD World Energy Statistics

3. TRADE

Table 3.1: World and seaborne coal trade
(million tonnes)

	Steam coal		Coking coal		Total coal ¹	
	Total	Seaborne	Total	Seaborne	Total	Seaborne
1994	253.8	200.9	195.5	174.4	456.7	379.3
1995	299.6	243.1	195.1	173.2	504.1	423.7
1996	323.1	270.7	193.5	173.4	525.1	449.5
1997	347.8	287.1	197.0	178.1	550.9	470.4
1998	367.6	293.8	184.4	169.7	557.9	467.6
1999	369.5	309.3	179.2	167.0	553.9	480.4
2000	432.5	362.7	187.0	171.1	624.4	536.6
2001	478.3	400.3	195.1	177.6	678.5	581.6
2002	481.0	418.6	182.4	167.6	667.0	589.6
2003	535.0	460.5	186.5	172.4	724.9	637.0
2004	569.2	496.1	190.8	174.0	762.6	672.5
2005	610.0	536.1	206.5	186.8	819.7	723.8
2006	688.1	600.4	200.3	183.7	891.7	786.9
2007	709.5	627.5	215.1	196.5	928.5	827.0
2008	695.9	606.0	234.7	212.1	934.9	820.5
2009	718.1	642.8	210.3	190.5	932.0	834.3
2010	792.1	706.0	275.6	242.2	1072.5	949.5
2011	907.4	820.9	270.0	232.5	1181.1	1054.6
2012	987.7	896.3	283.9	247.9	1278.5	1148.0
2013	1059.0	951.4	294.8	261.3	1360.4	1214.6
2014	1054.0	941.0	314.6	286.1	1377.4	1230.1
2015	990.2	876.1	305.3	275.8	1305.0	1155.5
2016	1003.7	891.8	313.3	274.2	1326.9	1171.1
2017	1029.9	934.5	327.2	283.7	1370.3	1226.6

1. Total coal is steam coal + coking coal + lignite.

Table 3.2: World total coal trade
(million tonnes)

	Japan		Other Asia		OECD Europe		Oth. Eur. + Eurasia		Africa + Mid. East		North America		Latin America		Balancing item		World	
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
Australia	121.2	118.0	226.5	224.0	29.7	20.4	0.5	0.6	1.2	1.2	3.5	0.0	10.5	9.9	-3.8	4.8	389.3	378.9
Canada	7.7	7.7	15.1	16.3	5.2	4.9	1.0	0.9	0.2	0.1	1.0	1.0	1.6	1.2	-1.5	-1.0	30.3	31.1
Poland	-	-	-	-	8.8	7.1	0.6	0.7	1.1	-	-	-	-	-	-1.2	-0.5	9.3	7.3
United States	4.0	5.6	10.1	22.8	27.4	33.3	3.3	6.0	1.1	4.9	7.6	9.2	7.1	9.2	-5.9	-3.1	54.7	88.0
Other OECD	0.1	0.1	1.9	1.4	13.4	12.4	0.6	0.4	0.2	0.1	0.0	0.0	0.0	0.1	27.4	16.7	43.5	31.2
Total OECD	133.0	131.5	253.6	264.5	84.5	78.1	5.9	8.6	3.7	6.3	12.1	10.3	19.3	20.4	15.1	16.9	527.1	536.5
PR of China	2.6	2.1	6.0	5.0	0.1	0.1	-	-	-	0.0	0.0	0.0	0.0	0.1	-0.1	0.7	8.7	8.0
Colombia	0.6	2.1	10.0	11.6	59.1	50.4	0.3	0.1	4.9	4.2	10.5	13.8	14.1	15.5	-16.2	-11.5	83.3	86.1
Indonesia	31.3	32.3	331.0	360.5	5.8	5.8	0.0	0.1	0.3	0.3	0.6	0.6	-	0.1	3.9	-9.1	372.9	390.6
Kazakhstan	0.0	0.2	0.0	-	1.5	1.1	24.6	27.6	-	-	-	-	0.1	-	-0.2	-1.6	26.0	27.1
Russian Fed.	17.8	18.5	67.6	81.0	65.6	83.2	13.5	16.2	5.3	6.7	0.3	0.2	2.2	2.0	-1.2	-18.0	171.1	189.7
South Africa	0.1	0.1	48.5	64.9	11.7	11.2	1.0	0.9	8.1	8.8	0.0	0.0	1.0	0.9	-0.5	-15.8	69.9	71.0
Oth. non-OECD	0.5	0.8	66.1	54.9	10.6	4.6	2.8	3.9	2.1	0.4	0.1	0.0	0.9	1.1	-15.1	-4.5	67.9	61.2
Tot. Imp./Exp.	186.0	187.5	772.2	835.9	237.8	234.0	46.7	54.4	23.1	25.7	23.5	24.9	36.8	37.6	0.8	-29.7	1326.9	1370.3

Notes: The data in this table come from a variety of sources. The columns for OECD Europe, Japan and North America hold import statistics from those regions and countries. The data in the rows from Australia to Total OECD, except the data in the columns mentioned above, are export statistics from these countries and regions. The data in the World column are based on export statistics. Other data are based on national and international sources and estimates, with this itemised trade data stored in an independent database. Trade aggregates may differ from data reported elsewhere. There are additional uncertainties in the regional breakdown of the different types of coal. The Balancing item is used to account for this. In addition, the Balancing item accounts for regional differences in national methodologies countries use to classify their coal imports and exports, coal in-transit, coal that is unaccounted for, confidentiality, and reporting discrepancies by importing and exporting countries.

Table 3.3: World steam coal trade
(million tonnes)

Exporters	Japan		Other Asia		OECD Europe		Oth. Eur. + Eurasia		Africa + Mid. East		North America		Latin America		Balancing Item		World	
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
Australia	85.9	85.3	111.4	113.8	8.3	2.8	-	-	0.1	0.3	3.5	0.0	2.9	2.8	-10.7	-3.2	201.3	201.7
Canada	1.6	1.6	0.2	1.0	0.8	0.4	-	-	-	-	0.2	0.1	0.4	-	-1.0	-1.1	2.2	2.0
Poland	-	-	-	-	6.2	4.3	0.3	0.3	1.1	-	-	-	-	-	-1.0	-0.3	6.7	4.3
United States	0.8	1.7	4.0	13.1	15.3	18.9	0.0	0.1	0.3	3.1	3.6	5.4	0.8	2.0	-7.3	-6.5	17.5	37.8
Other OECD	-	-	0.9	0.5	9.8	9.7	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	28.1	17.1	39.1	27.6
Total OECD	88.3	88.6	116.4	128.5	40.5	36.0	0.7	0.7	1.5	3.4	7.3	5.6	4.1	4.7	8.0	6.0	266.8	273.5
PR of China	2.6	1.9	5.3	4.1	0.1	0.1	-	-	-	0.0	0.0	0.0	0.0	0.1	-0.6	-0.4	7.4	5.8
Colombia	-	0.7	9.9	11.5	58.8	49.9	0.3	0.1	4.9	4.2	10.3	13.8	14.1	15.5	-16.4	-12.6	82.1	83.2
Indonesia	31.1	31.9	330.1	359.3	5.5	5.6	0.0	-	0.2	0.3	0.6	0.6	-	0.1	2.1	-9.0	369.6	388.7
Kazakhstan	-	-	0.0	-	1.5	1.1	21.2	24.2	-	-	-	-	0.1	-	-0.1	-1.5	22.7	23.8
Russian Fed.	15.1	16.2	58.0	69.6	61.6	76.9	9.2	8.2	5.3	6.6	0.3	0.2	2.2	1.8	-7.5	-21.1	144.1	158.3
South Africa	0.1	0.1	48.3	64.8	11.5	11.0	1.0	0.9	6.4	8.8	0.0	0.0	1.0	0.9	0.6	-16.7	68.9	69.8
Oth. non-OECD	0.5	0.8	38.7	24.2	9.4	2.9	1.1	3.2	1.5	0.4	0.1	0.0	0.9	1.1	-10.1	-5.8	42.1	26.8
Tot. Imp./Exp.	137.7	140.2	619.4	671.9	188.0	183.0	33.7	38.1	19.8	23.8	18.7	20.2	25.1	24.6	-38.6	-71.9	1003.7	1029.9

Notes: The data in this table come from a variety of sources. The columns for OECD Europe, Japan and North America hold import statistics from those regions and countries. The data in the rows from Australia to Total OECD, except the data in the columns mentioned above, are export statistics from these countries and regions. The data in the World column are based on export statistics. Other data are based on national and international sources and estimates, with this itemised trade data stored in an independent database. Trade aggregates may differ from data reported elsewhere. There are additional uncertainties in the regional breakdown of the different types of coal. The Balancing item is used to account for this. In addition, the Balancing item accounts for regional differences in national methodologies countries use to classify their coal imports and exports, coal in-transit, coal that is unaccounted for, confidentiality, and reporting discrepancies by importing and exporting countries.

Table 3.4: World coking coal trade
(million tonnes)

Exporters	Japan		Other Asia		OECD Europe		Oth. Eur. + Eurasia		Africa + Mid. East		North America		Latin America		Balancing Item		World	
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
Australia ¹	35.2	32.7	115.1	110.3	21.3	17.6	0.5	0.6	1.1	1.0	-	-	7.6	7.1	7.0	7.9	188.0	177.2
Canada	6.2	6.1	14.9	15.2	4.3	4.5	1.0	0.9	0.2	0.1	0.7	0.8	1.2	1.2	-0.5	0.1	28.0	28.9
Poland	-	-	-	-	2.4	2.6	0.3	0.4	-	-	-	-	-	-	-0.3	-0.2	2.4	2.8
United States	3.2	3.9	6.1	9.6	12.1	14.4	3.3	5.9	0.8	1.8	3.9	3.8	6.3	7.3	1.4	3.4	37.1	50.1
Other OECD	0.1	0.1	1.0	0.9	2.7	1.8	0.0	0.1	0.1	-	-	0.0	-	0.1	-0.5	-0.3	3.3	2.6
Total OECD	44.7	42.9	137.2	136.0	42.8	40.8	5.0	7.8	2.2	2.9	4.6	4.6	15.2	15.7	7.1	10.9	258.9	261.7
PR of China	0.0	0.1	0.7	0.9	0.0	0.1	-	-	-	-	-	-	-	-	0.5	1.1	1.2	2.2
Colombia	0.6	1.4	0.0	0.1	0.3	0.4	-	-	-	-	0.2	-	-	-	0.2	1.1	1.2	3.0
Indonesia	0.2	0.4	0.7	0.8	0.3	0.2	-	0.1	0.1	-	-	-	-	-	2.0	0.4	3.3	1.8
Kazakhstan	0.0	0.2	0.0	-	-	0.0	1.1	1.0	-	-	-	-	-	-	-0.0	-0.1	1.1	1.1
Russian Fed.	2.7	2.3	9.6	11.3	3.9	6.2	4.3	8.0	-	0.1	-	-	-	0.2	1.2	-5.4	21.7	22.8
South Africa	-	-	0.1	0.0	0.2	0.2	-	-	1.7	-	-	-	-	-	-1.0	0.9	1.0	1.2
Oth. non-OECD	0.0	0.1	27.0	30.5	1.1	1.7	1.3	0.3	0.5	-	-	-	-	-	-5.2	0.9	24.8	33.5
Tot. Imp./Exp.	48.3	47.3	152.1	163.2	48.5	49.7	10.1	13.4	3.3	1.9	4.8	4.6	11.7	13.0	34.6	34.1	313.3	327.2

Notes: The data in this table come from a variety of sources. The columns for OECD Europe, Japan and North America hold import statistics from those regions and countries. The data in the rows from Australia to Total OECD, except the data in the columns mentioned above, are export statistics from these countries and regions. The data in the World column are based on export statistics. Other data are based on national and international sources and estimates, with this itemised trade data stored in an independent database. Trade aggregates may differ from data reported elsewhere. There are additional uncertainties in the regional breakdown of the different types of coal. The Balancing item is used to account for this. In addition, the Balancing item accounts for regional differences in national methodologies countries use to classify their coal imports and exports, coal in-transit, coal that is unaccounted for, confidentiality, and reporting discrepancies by importing and exporting countries.

1. Includes exports of soft and semi-soft coking coal used for pulverised coal injection (PCI).

Table 3.5: World coal imports - regional aggregates
(thousand tonnes)

	World	OECD	Non OECD	OECD			Non-OECD			
				Americas	Asia Oceania	Europe	Africa M. East	Americas	Asia	Europe Eurasia
1994	468199	345634	122565	18467	168607	158560	5181	13171	54715	49498
1995	501138	368306	132832	19297	180276	168733	5369	13467	61833	52163
1996	513639	380958	132681	23204	183652	174102	6607	14448	65862	45764
1997	540962	404750	136212	27064	197183	180503	6908	14348	72265	42691
1998	547714	410534	137180	32408	193266	184860	8207	14690	72125	42158
1999	550024	417110	132914	35561	202781	178768	7846	14580	80531	29957
2000	625532	466978	158554	41420	225166	200392	9386	15386	91115	42667
2001	668526	499046	169480	48655	232443	217948	10562	15013	99187	44718
2002	683621	500881	182740	47103	245862	207916	11614	15965	115799	39362
2003	727487	529138	198349	55451	252575	221112	11273	16665	121473	48938
2004	785842	565265	220577	52502	273486	239277	11375	17512	146494	45196
2005	805652	566014	239638	60018	267512	238484	11741	17677	166775	43445
2006	870967	601875	269092	66398	272826	262651	12290	16782	190949	49071
2007	921866	617292	304574	63548	289493	264251	11995	18759	221893	51927
2008	937127	615764	321363	63248	297065	255451	12167	19021	231454	58721
2009	956638	545279	411359	45774	279259	220246	10311	16143	344530	40375
2010	1095320	582027	513293	44968	316617	220442	10913	20134	435307	46939
2011	1179355	596128	583227	38387	316049	241692	10665	22547	494622	55393
2012	1302321	620332	681989	35276	320898	264158	13297	21426	592619	54647
2013	1394127	643873	750254	34424	335502	273947	11798	23862	662228	52366
2014	1417598	637388	780210	35175	328644	273569	14882	25821	689339	50168
2015	1305357	633780	671577	35438	334774	263568	14427	26241	583599	47310
2016	1318295	602657	715638	35119	329709	237829	15186	25262	628453	46737
2017p	1386855	614793	772062	36051	344783	233959	14213	26567	674855	56427

Table 3.6: World sub-bituminous and lignite imports - regional aggregates
(thousand tonnes)

	World	OECD	Non OECD	OECD			Non-OECD			
				Americas	Asia Oceania	Europe	Africa M. East	Americas	Asia	Europe/ Eurasia
1994	10840	10453	387	317	1947	8189	-	-	1	386
1995	11864	10393	1471	431	2438	7524	-	-	271	1200
1996	14242	10976	3266	1277	2518	7181	-	-	779	2487
1997	13928	11292	2636	1749	3491	6052	-	-	1514	1122
1998	15332	12352	2980	3111	4600	4641	-	-	2284	696
1999	17385	14200	3185	5347	4150	4703	-	-	2796	389
2000	22011	14537	7474	5205	5469	3863	-	-	5832	1642
2001	26486	16733	9753	6927	5907	3899	-	-	7769	1984
2002	28691	20222	8469	13973	3751	2498	-	-	6860	1609
2003	23901	13948	9953	10053	2070	1825	-	-	7280	2673
2004	23402	13144	10258	7891	3432	1821	-	-	7984	2274
2005	23783	15454	8329	9345	3884	2225	-	-	5722	2607
2006	28718	18197	10521	10761	4888	2548	-	-	7383	3138
2007	29116	17200	11916	10674	4095	2431	-	-	7961	3955
2008	40579	19235	21344	12556	3669	3010	-	-	18306	3038
2009	42102	13158	28944	6214	4201	2743	1	-	26910	2033
2010	53272	12886	40386	5302	5289	2295	2	257	37695	2432
2011	81099	8605	72494	1827	4518	2260	1	378	68180	3935
2012	115303	7357	107946	1342	2988	3027	-	353	103860	3733
2013	116936	7749	109187	2604	2433	2712	2	323	105776	3086
2014	142066	11393	130673	2472	5306	3615	1	376	126968	3328
2015	115105	14620	100485	4194	7229	3197	-	354	96477	3654
2016	110435	13909	96526	4986	6948	1975	-	212	92485	3829
2017p	119979	16395	103584	6541	7811	2043	-	205	99571	3808

Table 3.7: World coal imports - selected countries

(thousand tonnes)

	Belgium	France	Germany	Spain	UK	USA	Canada	Russian Fed.	India	PR of China	Chinese Taipei	Japan	Korea
1994	12871	12238	18106	11769	15088	6880	9366	27203	10556	1209	26721	121477	41009
1995	14294	13243	17184	13889	15896	6533	9735	22734	12512	1635	28757	127355	45831
1996	13041	15800	18298	12130	17799	6464	12207	20081	13175	3217	31148	130422	46074
1997	13015	13641	22182	11340	19757	6792	14469	20804	16440	2013	36219	136382	51997
1998	12830	18456	24193	14554	21244	7914	18657	21822	16535	1586	37093	130044	53586
1999	10995	17878	24731	20098	20293	8245	19759	16047	19700	1673	41104	138614	54569
2000	11347	19032	29744	21649	23446	11351	23231	25528	20930	2178	45409	150338	64895
2001	12681	16019	35508	18916	35542	18751	23627	28062	20548	2661	49091	154613	66381
2002	9906	18165	33455	24514	28687	16181	22061	20866	23260	11258	51814	161332	71708
2003	9390	16810	34774	21552	31891	22721	22568	25344	21683	11098	54670	166454	73405
2004	9790	19500	39553	24473	36153	24749	19223	22429	28950	18614	60483	180846	78963
2005	8804	19887	37114	24756	43968	27634	21086	22643	38586	26216	60252	176985	76758
2006	8056	20428	45329	23704	50528	32882	20866	26083	43081	38222	62311	179126	79707
2007	7415	19009	46314	24439	43364	32973	18467	23711	49794	51602	65232	186996	88285
2008	7431	21355	45455	20967	43876	31032	20561	31267	65201	43626	63840	184108	99584
2009	4806	15459	38485	17038	38167	20538	12975	24146	96161	131880	58635	163732	102982
2010	6275	17631	45725	12817	26540	17556	12617	25540	121849	184352	63155	185413	118591
2011	5937	15469	47845	16168	32528	11873	9442	32392	135750	222242	66589	174057	129150
2012	5374	16766	49034	22414	44816	8308	9816	30275	164228	288786	64629	182563	124268
2013	5363	17452	54337	13662	50611	8078	8553	29403	191211	327182	65951	195607	126507
2014	5229	13233	53753	16394	42225	10297	7819	26843	244425	291586	65781	186009	131032
2015	4064	12624	54548	18735	22518	10269	7568	24140	212105	204132	64759	189267	133904
2016	3513	11823	57783	13830	8494	8935	6319	24020	193642	255604	65627	185970	134461
2017p	3570	14083	47950	19177	8494	7055	7478	29034	208272	271104	67591	187510	148235

Table 3.8: World sub-bituminous and lignite imports - selected countries

(thousand tonnes)

	Belgium	France	Germany	Spain	UK	USA	Canada	Russian Fed.	India	PR of China	Chinese Taipei	Japan	Korea
1994	212	48	2623	265	-	316	-	5	-	-	-	-	1947
1995	195	53	2132	481	-	429	-	-	-	-	59	-	2438
1996	227	42	1950	136	-	808	467	-	-	-	241	-	2518
1997	219	37	2151	-	-	782	965	89	-	-	442	-	3491
1998	196	32	1944	-	-	946	2163	22	-	-	2010	-	4600
1999	159	37	2053	-	-	580	3630	3	-	-	2435	-	4150
2000	-	52	1796	-	-	124	4441	10	-	-	4701	-	5469
2001	-	59	1997	-	-	880	3486	242	-	-	6017	-	5906
2002	-	23	848	-	-	994	8074	-	-	-	5244	-	3751
2003	-	42	35	-	-	932	9117	127	-	-	5141	-	1741
2004	-	40	17	-	-	1461	6426	170	-	-	5726	-	2610
2005	-	36	9	-	-	1625	7716	253	-	-	4797	-	2862
2006	-	37	53	-	-	2264	8494	341	-	-	5250	-	3706
2007	-	51	27	-	-	2483	8188	270	-	-	5888	-	3486
2008	-	67	28	-	-	3179	9374	275	10591	-	5821	-	3160
2009	-	51	10	-	-	1595	4615	338	20841	-	5800	-	3562
2010	-	52	-	-	-	1503	3795	681	30590	-	4244	-	5090
2011	-	83	-	-	-	524	1300	2048	52382	-	12945	-	4215
2012	-	76	-	-	-	386	953	1673	85155	-	16085	-	2834
2013	-	144	18	-	-	312	2289	1530	89764	-	13318	-	1803
2014	-	155	13	-	-	774	1695	1552	111092	-	13247	-	4865
2015	-	118	20	-	-	2214	1518	1531	79173	-	11429	-	6824
2016	-	99	26	-	-	2090	1272	2296	70824	-	12532	-	6569
2017p	-	61	30	-	-	1467	1404	2321	76987	-	12304	-	7423

Table 3.9: World coking coal imports - regional aggregates
(thousand tonnes)

	World	OECD	Non OECD	OECD			Non-OECD			
				Americas	Asia Oceania	Europe	Africa M. East	Americas	Asia	Europe Eurasia
1994	173177	132400	40777	5425	76030	50945	3421	11517	16646	9193
1995	178841	133776	45065	5662	75398	52716	2960	11572	15893	14640
1996	180469	136871	43598	6493	76156	54222	3305	11932	15559	12802
1997	182656	136927	45729	6167	74664	56096	3409	11401	19292	11627
1998	176514	135987	40527	7546	69941	58500	4116	11062	16798	8551
1999	168044	130382	37662	7196	70354	52832	3771	10336	17587	5968
2000	178212	139204	39008	8353	74794	56057	4217	10446	17650	6695
2001	170639	132488	38151	7673	72675	52140	4113	10363	17704	5971
2002	172886	132060	40826	8184	75039	48837	5071	10029	19616	6110
2003	174534	129501	45033	6720	75403	47378	4979	10338	21690	8026
2004	196687	139748	56939	7457	80056	52235	5102	10359	30202	11276
2005	192787	135356	57431	8267	74162	52927	5063	10184	29729	12455
2006	194305	139160	55145	8100	75015	56045	5119	9947	27848	12231
2007	205814	143933	61881	7083	77939	58911	4610	11059	33337	12875
2008	211848	144894	66954	7438	78476	58980	4912	11483	38844	11715
2009	205358	114799	90559	4249	69946	40604	3851	9902	70181	6625
2010	255273	141943	113330	6458	82607	52878	4084	11458	87816	9972
2011	258667	142976	115691	7421	82962	52593	3648	12450	85659	13934
2012	262322	136982	125340	6795	81123	49064	4574	11263	94764	14739
2013	287980	137585	150395	7099	81941	48545	3577	11284	125627	9907
2014	293414	139518	153896	8005	81387	50126	3954	11692	125932	12318
2015	261263	134129	127134	7870	80872	45387	3410	10975	104857	7892
2016	278739	137330	141409	5244	83568	48518	3278	11249	116828	10054
2017p	293980	137883	156097	5155	83065	49663	2000	12125	127273	14699

Table 3.10: World steam coal imports - regional aggregates
(thousand tonnes)

	World	OECD	Non OECD	OECD			Non-OECD			
				Americas	Asia Oceania	Europe	Africa M. East	Americas	Asia	Europe Eurasia
1994	287333	205932	81401	13041	92577	100314	1760	1654	38068	39919
1995	314556	228177	86379	13633	104878	109666	2409	1895	45728	36347
1996	324487	237915	86572	16709	107496	113710	3302	2516	50279	30475
1997	351976	262487	89489	20895	122519	119073	3499	2947	52873	30170
1998	366483	270563	95920	24814	123325	122424	4091	3628	55289	32912
1999	377759	282925	94834	28319	132427	122179	4075	4244	62914	23601
2000	442710	324730	117980	32983	150372	141375	5169	4940	73422	34449
2001	492743	363305	129438	40897	159768	162640	6449	4650	81473	36866
2002	507576	367056	140520	38794	170823	157439	6543	5936	96183	31858
2003	549546	398602	150944	48618	177172	172812	6294	6327	99783	38540
2004	586669	424612	162057	44926	193430	186256	6273	7153	116289	32342
2005	610371	429614	180757	51619	193350	184645	6678	7493	137046	29540
2006	673458	461280	212178	58104	197811	205365	7171	6835	163101	35071
2007	712998	471983	241015	56354	211554	204075	7385	7700	188553	37377
2008	722402	469258	253144	55687	218589	194982	7255	7538	192610	45741
2009	748709	429028	319681	41389	209313	178326	6459	6241	274349	32632
2010	837428	438873	398555	38367	234010	166496	6827	8676	347491	35561
2011	916271	451760	464511	30827	233087	187846	7016	10097	408930	38468
2012	1035628	481474	554154	28335	239775	213364	8723	10163	497840	37428
2013	1102224	504645	597579	27191	253561	223893	8219	12578	536571	40211
2014	1118972	495258	623714	27047	247257	220954	10927	14129	563407	35251
2015	1038920	497384	541536	27452	253902	216030	11017	15266	478698	36555
2016	1034401	463941	570460	29775	246141	188025	11908	14013	510883	33656
2017p	1087764	475463	612301	30788	261718	182957	12213	14442	546930	38716

Notes: Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

Table 3.11: World coking coal imports - selected countries

(thousand tonnes)

	Belgium	France	Germany	Spain	UK	USA	Canada	Russian Fed.	India	PR of China	Chinese Taipei	Japan	Korea
1994	4444	6747	1093	3893	8065	-	4467	3237	9874	-	4032	59128	16902
1995	5267	7300	1427	3244	7754	-	4129	2215	9378	-	4390	58247	17151
1996	5325	7387	2189	3318	8245	-	4833	1708	10617	-	3946	57930	18226
1997	4328	7235	2536	3745	8072	-	4301	1274	11745	398	6033	57269	17395
1998	4195	7052	4299	3905	8646	1050	4597	292	10023	103	5636	51962	17979
1999	3953	6950	3519	3548	8020	1065	4041	2	10992	263	5375	53127	17227
2000	3818	6543	4608	3755	8462	1547	4296	200	11063	339	5158	55219	19575
2001	4169	6942	3984	3424	7723	2091	3987	-	11107	277	5373	54776	17899
2002	3363	6405	5174	3425	6315	2207	4315	-	12947	256	5272	55036	20003
2003	3220	5577	5504	3321	6474	1556	3272	-	12992	2605	5274	55088	20315
2004	3577	6798	6875	4043	6345	1987	3429	-	16925	6830	5078	58248	21808
2005	3533	6255	7152	3571	6551	1603	4199	866	16891	7207	4968	53535	20627
2006	3490	5995	8692	3622	6774	1533	4252	167	17877	4677	4872	54933	20081
2007	3247	6191	9627	3682	7481	1515	3352	-	22029	6291	4483	55406	22532
2008	2993	7239	9255	3371	6349	1580	3286	1450	25364	7416	4757	54392	24083
2009	1666	3581	6448	2058	5264	947	2200	225	31145	34417	4119	49287	20659
2010	2801	4615	7793	2777	6634	1385	3092	847	34726	47082	5524	54432	28160
2011	2704	3946	8778	2505	5908	1446	3770	2485	34652	44654	6036	50671	32234
2012	2455	5143	9256	2260	5071	1015	4382	1903	35293	53610	5519	49540	31545
2013	2191	5634	7790	2527	6246	876	3378	1846	42725	75421	6727	51706	30194
2014	1921	5351	9710	1631	6344	1448	3907	1181	53698	62440	6870	48130	33176
2015	1694	4332	7845	1721	4750	1558	3872	771	47445	47999	6405	46838	33933
2016	1477	4463	12320	1767	2781	870	3451	633	47041	59307	6581	48294	35254
2017p	1635	4287	12847	1767	2692	654	3794	978	47003	69899	6599	47347	35676

Table 3.12: World steam coal imports - selected countries

(thousand tonnes)

	Belgium	France	Germany	Spain	UK	USA	Canada	Russian Fed.	India	PR of China	Chinese Taipei	Japan	Korea
1994	8215	5443	14390	7876	7023	6880	4899	23961	682	1209	22689	62349	24107
1995	8832	5890	13625	10645	8142	6533	5606	20519	3134	1635	24367	69108	28680
1996	7489	8371	14159	8812	9554	6464	7374	18373	2558	3217	27202	72492	27848
1997	8468	6369	17495	7595	11685	6792	10168	19441	4695	1615	30186	79113	34602
1998	8439	11372	17950	10649	12598	6818	14060	21508	6512	1483	31457	78082	35607
1999	6883	10891	19159	16550	12273	7139	15718	16042	8708	1410	35729	85487	37342
2000	7529	12437	23340	17894	14984	9724	18935	25318	9867	1839	40251	95119	45320
2001	8512	9018	29527	15492	27819	16581	19636	27820	9441	2384	43718	99837	48482
2002	6543	11737	27433	21089	22372	13853	17744	20866	10313	11002	46542	106296	51705
2003	6170	11191	29235	18231	25417	21058	19294	25217	8691	8493	49396	111366	53090
2004	6213	12662	32661	20430	29808	22648	15793	22259	12025	11784	55405	122598	57155
2005	5271	13596	29953	21185	37417	25903	16886	21524	21695	19009	55284	123450	56131
2006	4566	14396	36584	20082	43754	31158	16614	25575	25204	33545	57439	124193	59626
2007	4168	12767	36660	20757	35883	31350	15115	23441	27765	45311	60749	131590	65753
2008	4438	14049	36172	17596	37527	29333	17274	29542	39837	36210	59083	129716	75501
2009	3140	11827	32027	14980	32903	19461	10773	23583	65016	97463	54516	114445	82323
2010	3474	12964	37932	10040	19906	16036	9521	24012	87123	137270	57631	130981	90431
2011	3233	11440	39067	13663	26620	10298	5665	27859	101098	177588	60553	123386	96916
2012	2919	11547	39778	20154	39745	7161	5423	26699	128935	235176	59110	133023	92723
2013	3172	11674	46529	11135	44365	7090	5156	26027	148486	251761	59224	143901	96313
2014	3308	7727	44030	14763	35881	8748	3893	24110	190727	229146	58911	137879	97856
2015	2370	8174	46683	17014	17768	8611	3684	21838	164660	156133	58354	142429	99971
2016	2036	7261	45437	12063	5713	7978	2858	21091	146601	196297	59046	137676	99207
2017p	1935	9735	35073	17410	5802	6314	3666	25735	161269	201205	60992	140163	112559

Notes: Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal for all countries.

Table 3.13: OECD coke oven coke¹ imports
(thousand tonnes)

	1973	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p
Australia	-	-	-	-	-	-	22	14	130	189	186
Austria	1055	986	1274	815	718	981	1402	1252	959	842	943
Belgium	1110	1261	676	822	1259	1108	152	60	107	205	267
Canada	357	267	340	339	818	631	948	760	924	979	846
Chile	11	148	53	44	51	27	68	1	3	-	-
Czech Republic	-	-	-	-	320	602	510	885	396	498	229
Denmark	129	112	75	41	45	47	36	22	15	11	12
Estonia	x	x	x	12	-	1	-	-	-	-	-
Finland	832	1229	1231	786	274	505	505	441	446	323	253
France	3646	3000	2147	1109	885	1448	1525	1270	470	370	494
Germany	4497	4202	2693	2001	2601	5987	3793	4310	2893	2388	2297
Greece	45	35	53	32	11	1	4	1	-	-	-
Hungary	1207	1468	1486	478	351	5	205	10	34	26	105
Iceland	-	16	34	30	18	47	33	25	24	25	14
Ireland	13	8	22	29	6	-	-	-	-	-	-
Israel	2	1	1	-	-	-	-	-	-	-	-
Italy	82	101	134	115	745	506	848	18	682	985	684
Japan	-	-	-	261	493	2467	2500	878	2655	1987	1213
Korea	38	121	106	-	-	-	341	629	389	340	334
Latvia	x	x	x	12	8	11	8	3	-	-	-
Luxembourg	3247	2292	1854	1447	521	1	1	1	1	1	1
Mexico	150	122	121	124	437	631	390	391	701	1109	1187
Netherlands	677	832	405	360	722	515	341	242	322	735	1069
New Zealand	-	-	-	-	-	-	-	-	-	-	-
Norway	577	531	700	534	522	543	382	434	427	426	411
Poland	-	-	-	-	34	16	117	137	94	123	209
Portugal	38	102	157	13	34	-	6	3	8	13	11
Slovak Republic	922	130	268	456	178	155	260	610	191	153	245
Slovenia	x	x	x	68	57	72	56	29	31	28	30
Spain	459	553	209	172	846	137	136	204	337	186	261
Sweden	1495	453	386	318	484	328	393	247	87	103	96
Switzerland	158	127	77	27	24	27	20	18	15	16	15
Turkey	-	-	40	-	182	722	414	173	568	590	630
United Kingdom	53	-	374	304	640	483	909	113	1112	1222	943
United States	978	598	524	694	1648	3430	3202	1101	127	207	53
IEA Americas	1485	987	985	1157	2903	4692	4540	2252	1752	2295	2086
IEA Asia Oceania	38	121	106	261	493	2467	2863	1521	3174	2516	1733
IEA Europe	20242	17422	14261	9871	11402	14118	11959	10451	9164	9216	9175
OECD Americas	1496	1135	1038	1201	2954	4719	4608	2253	1755	2295	2086
OECD Asia Oceania	40	122	107	261	493	2467	2863	1521	3174	2516	1733
OECD Europe	20242	17438	14295	9981	11485	14248	12056	10508	9219	9269	9219
IEA Total	21765	18530	15352	11289	14798	21277	19362	14224	14090	14027	12994
OECD Total	21778	18695	15440	11443	14932	21434	19527	14282	14148	14080	13038

1. Solid product obtained from carbonization of coal, principally coking coal, used mainly in the iron and steel industry.

Also includes coke and semi-coke made from lignite.

For further information, see the explanatory notes and definitions in Part I.

Source: IEA/OECD World Energy Statistics

Table 3.14: World coal exports - regional aggregates
(thousand tonnes)

	World	OECD	Non OECD	OECD			Non-OECD			
				Americas	Asia Oceania	Europe	Africa M. East	Americas	Asia	Europe Eurasia
1994	456706	277202	179504	96483	132247	48472	55115	22613	47710	54066
1995	504149	305601	198548	114322	138038	53241	59896	22553	63917	52182
1996	525126	307530	217596	116550	142448	48532	60410	28398	77419	51369
1997	550898	320005	230893	112320	158802	48883	64672	32685	81454	52082
1998	557940	324762	233178	106576	167899	50287	61833	35969	84367	51009
1999	553939	303545	250394	86656	173316	43573	66798	36760	98202	48634
2000	624395	318417	305978	85147	188516	44754	70446	43321	116996	75215
2001	678451	320575	357876	73853	193897	52825	69924	46428	163249	78275
2002	667044	313189	353855	62854	206267	44068	69896	43854	165303	74802
2003	724904	317345	407559	67405	210961	38979	72087	52392	190809	92271
2004	762575	331643	430932	69407	221253	40983	68608	57650	206675	97999
2005	819707	346067	473640	73598	234664	37805	71977	60834	225513	115316
2006	891716	346259	545457	72713	235187	38359	69284	68849	282601	124723
2007	928522	370127	558395	84471	246408	39248	67486	70977	290594	129338
2008	934863	392477	542386	106108	254753	31616	58441	72537	274865	136543
2009	931953	372879	559074	82236	263856	26787	52516	69764	295956	140838
2010	1072512	431019	641493	107683	295041	28295	67926	70726	331705	171136
2011	1181099	448754	732345	131277	286672	30805	69790	81366	418339	162850
2012	1278484	490969	787515	150111	303729	37129	79805	84411	451967	171332
2013	1360383	534116	826267	147105	338294	48717	78707	75571	488095	183894
2014	1377379	553118	824261	124764	376786	51568	74516	88329	467010	194406
2015	1304965	547050	757915	98424	393719	54907	81546	73698	414448	188223
2016	1326942	527088	799854	85878	390490	50720	79972	84081	437354	198447
2017p	1370272	536475	833797	119932	380126	36417	83546	86727	445255	218269

Table 3.15: World sub-bituminous and lignite exports - regional aggregates
(thousand tonnes)

	World	OECD	Non OECD	OECD			Non-OECD			
				Americas	Asia Oceania	Europe	Africa M. East	Americas	Asia	Europe/ Eurasia
1994	16732	9107	7625	2221	-	6886	-	-	7127	498
1995	23788	9944	13844	3086	-	6858	-	-	11273	2571
1996	25029	9134	15895	3334	-	5800	-	-	13094	2801
1997	22186	5962	16224	1100	-	4862	-	-	15017	1207
1998	24693	5690	19003	1881	-	3809	-	-	17226	1777
1999	28769	6773	21996	3484	-	3289	-	-	20266	1730
2000	22528	4009	18519	1134	-	2875	-	-	16646	1873
2001	33363	12196	21167	9155	-	3041	-	-	19443	1724
2002	33489	9407	24082	7373	-	2034	-	-	22853	1229
2003	40824	9762	31062	8567	-	1195	-	-	28905	2157
2004	37837	8084	29753	6819	-	1265	-	-	28588	1165
2005	44965	8819	36146	7179	-	1640	-	-	34949	1197
2006	57300	8178	49122	6242	-	1936	-	-	47852	1270
2007	67129	9499	57630	7947	-	1552	-	-	55989	1641
2008	84966	9505	75461	7861	-	1644	-	-	73262	2199
2009	95307	7221	88086	5817	73	1331	-	-	86427	1659
2010	114178	8370	105808	7166	-	1204	-	-	102634	3174
2011	143810	7489	136321	6192	9	1288	-	-	134408	1913
2012	241592	11101	230491	9357	-	1744	-	-	225946	4545
2013	271657	13228	258429	11480	-	1748	-	-	254006	4423
2014	280064	8772	271292	5987	22	2763	-	-	265786	5506
2015	247212	7858	239354	5458	43	2357	-	-	232665	6689
2016	260218	4270	255948	2992	-	1278	-	-	247932	8016
2017p	275682	9216	266466	7966	44	1206	-	-	255033	11433

Table 3.16: World coal exports - selected countries

(thousand tonnes)

	Poland	Canada	USA	Aus- tralia	Co- lombia	Vene- zuela	Russian Fed.	Kazakh- stan	Ukraine	PR of China	India	Indo- nesia	South Africa
1994	28414	31746	64736	131201	18437	4135	23332	26266	4106	24194	673	20214	54838
1995	32236	33993	80329	136702	18274	4242	28434	20970	2400	28617	651	31308	59676
1996	28965	34459	82076	140856	24781	3617	27400	21072	2290	36485	478	36370	60224
1997	29503	36530	75790	157557	27580	5105	24376	25080	2374	35331	540	41714	64200
1998	28078	34183	72391	166796	30061	5908	25662	23403	1881	32297	823	47600	61300
1999	24115	33539	53048	171861	29932	6828	29313	17098	2138	37437	1156	55750	66235
2000	23254	32082	53061	186962	35391	7930	38329	34428	2329	55057	1292	56797	69910
2001	23044	29696	44149	192178	38868	7560	42798	31567	3729	90125	1903	66344	69210
2002	22664	26924	35927	204334	36510	7344	44280	27062	3095	83887	1517	72981	69231
2003	20155	28389	39016	208750	45644	6748	55942	32756	2914	93986	1627	87888	71531
2004	19711	25863	43543	219343	50902	6748	68931	24537	3885	86613	1374	105121	67946
2005	19377	28288	45306	232330	53607	7143	86558	24658	3666	71682	1989	128608	71442
2006	16735	27671	45039	232465	61968	6739	91930	28853	3457	63213	1554	183188	68747
2007	11900	30790	53673	244390	64575	6355	98638	26178	3621	53116	1627	194885	66963
2008	8462	32065	73953	252189	67761	4729	98119	32912	4794	45434	1655	199947	57891
2009	8464	28582	53612	261747	66756	2957	106445	28604	5290	22352	2450	233431	51977
2010	10080	33441	74132	292617	68148	2457	132801	31296	6194	19033	1875	265000	67230
2011	7152	33732	97303	284510	79273	1819	124593	30350	6991	14511	2014	353398	68807
2012	7204	34805	115089	301516	83295	911	131690	32661	6114	9138	2512	388138	76009
2013	11064	39097	106745	336196	74757	659	140754	33811	8537	7354	2190	426354	74565
2014	9259	34308	88229	375044	87117	930	155504	30945	7076	5604	1241	411483	69029
2015	9389	30484	67093	392348	72788	643	155241	31222	494	5197	1576	367953	75830
2016	9308	30330	54676	389301	83325	580	171108	25993	520	8651	939	372916	69944
2017p	7321	31060	87955	378938	86118	312	189719	27136	636	8045	1503	390577	70965

Table 3.17: World sub-bituminous and lignite exports - selected countries

(thousand tonnes)

	Poland	Canada	USA	Aus- tralia	Co- lombia	Vene- zuela	Russian Fed.	Kazakh- stan	Ukraine	PR of China	India	Indo- nesia	South Africa
1994	719	51	2170	-	-	-	232	266	-	-	-	7127	-
1995	368	-	3086	-	-	-	2171	202	-	-	-	11271	-
1996	45	11	3323	-	-	-	2059	232	1	-	-	13093	-
1997	37	-	1100	-	-	-	883	223	-	-	-	15017	-
1998	23	-	1881	-	-	-	1620	109	-	-	-	17136	-
1999	13	-	3484	-	-	-	1604	73	-	-	-	20070	-
2000	9	-	1134	-	-	-	1592	147	9	-	-	16471	-
2001	15	78	9077	-	-	-	1245	299	-	-	-	19240	-
2002	41	120	7253	-	-	-	783	87	3	-	-	22624	-
2003	36	109	8458	-	-	-	1317	184	2	-	-	28734	-
2004	27	117	6702	-	-	-	315	211	2	-	-	28383	-
2005	8	139	7040	-	-	-	552	212	-	-	-	34724	-
2006	-	248	5994	-	-	-	539	248	-	-	-	47629	-
2007	-	217	7730	-	-	-	584	225	-	-	-	54568	-
2008	1	200	7661	-	-	-	649	867	-	-	-	71981	-
2009	68	133	5647	-	-	-	893	309	-	-	-	84035	-
2010	115	139	7027	-	-	-	526	1924	-	-	-	98050	-
2011	145	139	6053	-	-	-	831	286	-	-	-	131111	-
2012	134	156	9201	-	-	-	1422	2339	-	-	69	221925	-
2013	218	108	11372	-	-	-	1775	2049	-	-	2	250038	-
2014	303	100	5887	-	-	-	2404	2474	-	-	3	259688	-
2015	198	114	5344	-	-	-	3371	2357	-	-	1	229253	-
2016	212	99	2893	-	-	-	5272	2204	-	-	1	240530	-
2017p	256	133	7833	-	-	-	8701	2227	-	-	-	248795	-

Table 3.18: World coking coal exports - regional aggregates
(thousand tonnes)

	World	OECD	Non OECD	OECD			Non-OECD			
				Americas	Asia Oceania	Europe	Africa M. East	Americas	Asia	Europe Eurasia
1994	195475	158391	37084	7008	72540	15843	5764	1102	5370	24848
1995	195133	169662	25471	75819	75625	18218	6305	1159	7314	10693
1996	193529	170157	23372	76773	78558	14826	6133	1183	7978	8078
1997	197040	175094	21946	77406	84706	12982	5650	1224	5207	9865
1998	184410	165764	18646	71077	84414	10273	5167	1231	5525	6723
1999	179219	162067	17152	58161	93450	10456	2517	1179	6855	6601
2000	186980	168629	18351	58170	100712	9747	1744	1231	7710	7666
2001	195070	164921	30149	49975	106645	8301	1086	1252	13064	14747
2002	182403	156607	25796	42506	106458	7643	759	1283	14284	9470
2003	186472	160526	25946	43755	110004	6767	584	1333	14207	9822
2004	190791	168593	22198	48196	113640	6757	917	1624	7056	12601
2005	206452	186708	19744	52799	127246	6663	524	937	7544	10739
2006	200283	180875	19408	49584	123199	8092	672	729	7181	10826
2007	215100	197171	17929	55958	133979	7234	910	688	5865	10466
2008	234725	211096	23629	65607	139482	6007	1266	762	7461	14140
2009	210311	188518	21793	55330	127272	5916	638	764	6363	14028
2010	275616	243625	31991	78568	159566	5491	946	1216	11196	18633
2011	269982	237933	32049	90979	142568	4386	917	1461	14864	14807
2012	283914	243670	40244	94326	144573	4771	3961	1555	16493	18235
2013	294846	255435	39411	94605	156289	4541	3985	1347	11107	22972
2014	314644	272293	42351	85558	182177	4558	4621	1438	11855	24437
2015	305303	262975	42328	69786	188990	4199	4661	1418	15772	20477
2016	313296	258886	54410	65170	189185	4531	5005	1205	24994	23206
2017p	327245	261656	65589	79071	178341	4244	8329	2951	29867	24442

Table 3.19: World steam coal exports - regional aggregates
(thousand tonnes)

	World	OECD	Non OECD	OECD			Non-OECD			
				Americas	Asia Oceania	Europe	Africa M. East	Americas	Asia	Europe Eurasia
1994	253804	111882	141922	26424	59707	25751	49351	21511	42340	28720
1995	299587	129083	170504	38503	62413	28167	53591	21394	56601	38918
1996	323083	131661	191422	39766	63890	28005	54277	27215	69440	40490
1997	347791	140051	207740	34912	74096	31043	59022	31461	76247	41010
1998	367565	154900	212665	35206	83485	36209	56666	34738	78752	42509
1999	369459	138143	231316	28448	79866	29829	64281	35581	91151	40303
2000	432510	146919	285591	26922	87804	32193	68702	42090	109111	65688
2001	478293	152490	325803	23717	87252	41521	68838	45176	149982	61807
2002	480988	154342	326646	20107	99809	34426	69137	42571	150790	64148
2003	535049	155443	379606	23423	100957	31063	71503	51059	176431	80613
2004	569179	161577	407602	20907	107613	33057	67691	56026	199414	84471
2005	610020	157425	452595	20460	107418	29547	71453	59897	217744	103501
2006	688058	163210	524848	22841	111988	28381	68612	68120	275197	112919
2007	709520	170982	538538	28089	112429	30464	66576	70289	284107	117566
2008	695858	179353	516505	40117	115271	23965	57175	71775	267016	120539
2009	718067	182668	535399	26544	136584	19540	51878	69000	289195	125326
2010	792051	185855	606196	28780	135475	21600	66980	69510	320024	149682
2011	907443	209235	698208	40000	144104	25131	68873	79905	402914	146516
2012	987706	245393	742313	55623	159156	30614	75844	82856	434628	148985
2013	1058979	276798	782181	52365	182005	42428	74722	74224	476421	156814
2014	1054022	277949	776073	39093	194609	44247	69895	86891	454824	164463
2015	990192	281598	708594	28518	204729	48351	76885	72280	398369	161060
2016	1003682	266819	736863	20603	201305	44911	74967	82876	411793	167227
2017p	1029877	273508	756369	40756	201785	30967	75217	83776	414980	182396

Notes: Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

Table 3.20: World coking coal exports - selected countries
(thousand tonnes)

	Poland	Canada	USA	Australia	Colombia	Venezuela	Russian Fed.	Kazakhstan	Ukraine	PR of China	India	Indonesia	South Africa
1994	10694	27066	42941	71496	1102	-	17367	3375	4106	4906	254	210	5764
1995	12296	28564	47255	74291	1159	-	8693	1999	-	6744	329	241	6305
1996	9886	28722	48036	76968	1183	-	6538	1509	31	7487	188	303	6133
1997	9138	30092	47314	83462	1224	-	8450	1371	44	4601	272	334	5650
1998	6506	28353	42722	83312	1231	-	6440	271	12	4855	385	285	5167
1999	6635	28946	29146	91996	1179	-	6400	184	17	5246	774	835	2517
2000	5290	28386	29780	99161	1231	-	7300	344	22	6470	624	616	1744
2001	3813	26914	23053	104935	1252	-	14431	316	-	11445	879	740	970
2002	3521	22964	19539	104526	1283	-	9196	271	3	13295	163	826	759
2003	2710	23716	20039	107794	1333	-	9470	328	24	13135	158	914	584
2004	3036	23847	24349	111732	1624	-	11935	245	417	5757	240	1059	917
2005	3151	26798	26001	124915	937	-	9983	247	509	5260	46	1222	524
2006	3601	24638	24946	120479	729	-	10007	289	530	4344	107	1550	672
2007	2363	26760	29198	131965	688	-	10019	262	118	2543	36	1736	910
2008	1683	26925	38599	136921	762	-	13614	329	197	3468	109	1922	1266
2009	1725	21527	33803	125238	764	-	13276	283	453	636	270	2049	616
2010	1815	27557	50906	157265	1216	-	18030	294	261	1139	111	1947	834
2011	1670	27668	63078	140455	1461	-	14182	301	286	3594	97	3258	456
2012	1587	30725	63390	142363	1555	-	17732	303	189	1308	56	4237	707
2013	2252	35020	59585	154193	1347	-	21528	318	1124	1111	8	2244	572
2014	2141	31063	54495	180458	1438	-	21082	1901	1448	797	42	3300	783
2015	2303	28049	41737	187664	1418	-	18480	1467	494	969	64	2230	419
2016	2438	28039	37131	187998	1205	-	21743	1127	336	1203	27	3340	1039
2017p	2753	28945	50126	177199	2951	-	22755	1127	560	2229	68	1840	1153

Table 3.21: World steam coal exports - selected countries
(thousand tonnes)

	Poland	Canada	USA	Australia	Colombia	Venezuela	Russian Fed.	Kazakhstan	Ukraine	PR of China	India	Indonesia	South Africa
1994	17001	4629	21795	59705	17335	4135	5733	22625	-	19288	419	20004	49074
1995	19572	5429	33074	62411	17115	4242	17570	18769	2400	21873	322	31067	53371
1996	19034	5726	34040	63888	23598	3617	18803	19331	2258	28998	290	36067	54091
1997	20328	6438	28474	74095	26356	5105	15043	23486	2330	30730	268	41380	58550
1998	21549	5830	29376	83484	28830	5908	17602	23023	1869	27442	438	47315	56133
1999	17467	4593	23855	79865	28753	6828	21309	16841	2121	32191	382	54915	63718
2000	17955	3696	23226	87801	34160	7930	29437	33937	2298	48587	668	56181	68166
2001	19216	2704	21013	87243	37616	7560	27122	30952	3729	78680	1024	65604	68240
2002	19102	3841	16266	99808	35227	7344	34301	26704	3089	70592	1354	72155	68472
2003	17409	4566	18857	100956	44311	6748	45155	32244	2888	80851	1469	86974	70947
2004	16648	1904	19002	107611	49278	6748	56681	24081	3466	80856	1134	104062	67029
2005	16218	1362	19094	107415	52670	7143	76023	24199	3157	66422	1943	127386	70918
2006	13134	2924	19914	111986	61239	6739	81384	28316	2927	58869	1447	181638	68075
2007	9537	3920	24161	112425	63887	6355	88035	25691	3503	50573	1591	193149	66053
2008	6778	5021	35089	115268	66999	4729	83856	31716	4597	41966	1546	198025	56625
2009	6671	6926	19576	136509	65992	2957	92276	28012	4837	21716	2180	231382	51361
2010	8150	5752	23023	135352	66932	2457	114245	29078	5933	17894	1764	263053	66396
2011	5337	5934	34057	144055	77812	1819	109580	29763	6705	10917	1917	350140	68351
2012	5483	3970	51647	159153	81740	911	112536	30019	5925	7830	2387	383901	75302
2013	8594	3975	47127	182003	73410	659	117451	31444	7413	6243	2180	424110	73993
2014	6815	3153	33713	194586	85679	930	132018	26570	5628	4807	1196	408183	68246
2015	6888	2337	25334	204684	71370	643	133390	27398	-	4228	1511	365723	75411
2016	6658	2205	17526	201303	82120	580	144093	22662	184	7448	911	369576	68905
2017p	4312	2031	37808	201739	83167	312	158263	23782	76	5816	1435	388737	69812

Notes: Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal for all countries.

Table 3.22: OECD coke oven coke¹ exports
(thousand tonnes)

	1973	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017p
Australia	-	122	11	574	334	22	c	379	944	712	588
Austria	82	2	5	1	1	1	4	3	-	-	-
Belgium	469	768	847	915	557	293	20	441	5	7	9
Canada	368	80	22	193	334	300	363	83	77	44	5
Chile	-	45	34	-	19	41	39	-	39	146	46
Czech Republic	3467	2450	1927	1451	1409	948	913	888	516	543	631
Denmark	-	-	1	-	-	-	-	-	-	-	-
Estonia	x	x	x	35	39	20	37	21	8	13	19
Finland	24	5	13	1	2	-	-	5	83	54	100
France	1012	870	553	383	307	711	643	122	27	83	6
Germany	10197	7692	6038	2945	287	75	75	189	348	715	842
Greece	31	-	-	-	-	-	-	-	-	-	-
Hungary	103	-	-	-	420	183	53	300	298	424	327
Iceland	-	-	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-	-	-
Israel	-	-	-	-	-	-	-	-	-	-	-
Italy	628	747	451	201	130	123	229	303	307	374	327
Japan	600	2068	4055	1880	3428	2593	1674	652	787	1014	1223
Korea	-	-	-	-	-	-	-	-	-	-	-
Latvia	x	x	x	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-	-	-
Mexico	-	79	95	4	1	2	2	1	-	-	99
Netherlands	680	702	880	829	1098	562	357	148	470	766	1144
New Zealand	-	-	-	-	-	-	-	-	-	-	-
Norway	51	36	122	5	-	2	2	-	-	-	-
Poland	2780	1770	1639	3662	3331	3691	4624	6347	6459	6970	6513
Portugal	16	-	-	11	74	80	-	-	-	-	-
Slovak Republic	-	13	23	-	58	59	138	324	1	13	4
Slovenia	x	x	x	-	-	-	-	-	-	-	-
Spain	2	3	11	42	81	744	610	370	144	137	132
Sweden	11	114	77	41	67	29	35	33	81	28	30
Switzerland	-	-	-	4	-	-	-	-	-	-	-
Turkey	-	-	-	-	-	-	-	-	2	5	5
United Kingdom	665	1265	1163	435	264	381	119	483	90	-	-
United States	1266	1879	1018	519	680	1039	1585	1327	777	907	1097
IEA Americas	1634	2038	1135	716	1015	1341	1950	1411	854	951	1201
IEA Asia Oceania	600	2190	4066	2454	3762	2615	1674	1031	1731	1726	1811
IEA Europe	20218	16437	13750	10961	8125	7902	7859	9977	8839	10132	10089
OECD Americas	1634	2083	1169	716	1034	1382	1989	1411	893	1097	1247
OECD Asia Oceania	600	2190	4066	2454	3762	2615	1674	1031	1731	1726	1811
OECD Europe	20218	16437	13750	10961	8125	7902	7859	9977	8839	10132	10089
IEA Total	22452	20665	18951	14131	12902	11858	11483	12419	11424	12809	13101
OECD Total	22452	20710	18985	14131	12921	11899	11522	12419	11463	12955	13147

1. Solid product obtained from carbonization of coal, principally coking coal, used mainly in the iron and steel industry. Also includes coke and semi-coke made from lignite.

For further information, see the explanatory notes and definitions in Part I.

Source: IEA/OECD World Energy Statistics

4. USES OF COAL

Table 4.1: OECD coal-fired and total electricity generating capacity, 1990 to 2016
(GW)

	Coal					Total				
	1990	2000	2010	2015	2016	1990	2000	2010	2015	2016
Australia	24.92	28.65	30.32	28.57	27.63	38.45	46.20	61.29	67.03	65.56
Austria	2.10	2.24	2.02	2.07	1.62	16.69	17.80	21.19	24.44	24.79
Belgium	4.90	2.47	..	..	..	14.14	15.69	18.69	21.16	21.55
Canada	19.24	..	14.12	9.77	9.28	104.14	111.32	132.38	148.15	144.02
Chile	0.89	1.93	2.53	4.45	4.94	5.10	9.89	16.23	21.44	24.53
Czech Republic	12.11	11.47	12.04	12.96	13.09	15.28	15.32	20.07	21.87	21.99
Denmark	7.54	5.60	5.90	4.59	4.58	9.12	12.32	13.44	14.00	14.34
Estonia	..	2.79	2.63	2.27	1.97	..	2.80	2.75	2.86	2.57
Finland	5.79	7.71	6.45	6.15	5.66	13.22	16.26	15.68	16.61	16.27
France	14.23	14.34	13.70	7.83	7.72	103.34	114.52	124.14	129.94	130.79
Germany	42.73	51.59	..	..	..	99.08	118.88	162.87	203.42	208.50
Greece	3.89	4.49	4.79	4.30	4.25	8.51	10.90	15.31	18.94	19.17
Hungary	2.24	2.02	1.52	1.44	1.55	7.18	8.28	8.99	8.64	8.75
Iceland	..	..	..	..	..	0.94	1.38	2.58	2.77	2.77
Ireland	0.87	0.87	0.85	0.86	0.86	3.81	4.71	8.02	9.56	9.95
Israel	2.19	4.29	4.84	4.84	4.84	5.07	9.13	13.06	17.22	17.59
Italy	9.03	12.56	11.19	10.92	10.79	56.56	75.51	106.61	116.96	114.16
Japan	40.47	51.78	47.23	55.20	86.55	194.73	260.36	288.33	323.92	335.64
Korea	..	14.44	29.41	33.59	34.78	2.34	53.69	84.70	103.20	111.20
Latvia	0.13	0.13	..	0.01	..	2.09	2.09	2.56	2.93	2.93
Luxembourg	0.09	..	..	..	..	1.24	1.22	1.71	2.02	1.71
Mexico	1.61	5.11	5.87	6.05	6.27	27.38	40.35	61.39	67.50	72.41
Netherlands	3.77	4.18	..	..	7.13	17.60	21.06	26.69	33.87	34.18
New Zealand	1.09	1.11	1.16	0.66	0.66	7.18	8.39	9.46	9.45	9.30
Norway	0.05	0.08	0.01	..	..	27.13	28.42	31.69	33.84	33.83
Poland	25.99	27.80	28.40	27.45	27.10	27.88	30.56	33.36	37.33	38.11
Portugal	1.47	1.99	2.38	2.28	2.31	7.41	10.91	18.93	19.63	20.56
Slovak Republic	..	..	1.52	1.40	1.16	..	7.45	7.87	7.78	7.74
Slovenia	..	1.03	0.85	0.71	0.89	0.76	2.61	3.19	3.36	3.54
Spain	10.41	11.36	..	..	..	42.84	53.92	101.79	106.90	106.19
Sweden	..	..	1.46	1.53	1.57	34.19	33.72	36.45	39.71	40.32
Switzerland	0.13	0.20	0.14	0.26	0.26	15.39	17.26	18.09	19.62	20.84
Turkey	5.58	7.40	12.40	16.11	17.94	16.32	27.26	49.52	73.15	78.50
United Kingdom	41.17	33.37	30.77	20.70	16.43	73.21	78.39	93.69	97.30	97.64
United States	307.96	321.06	318.96	281.47	269.08	733.59	811.35	1041.01	1072.47	1086.85

Notes: Includes multi-fired units.

Includes autoproducers for all countries except Japan.

For further information, see the explanatory notes and definitions in Part I.

Source: IEA/OECD Electricity Information

Table 4.2: OECD coal, peat and oil shale use for electricity production and heat sold

(Mtce)

	1973	1980	1985	1990	1995	2000	2005	2010	2014	2015	2016
Australia	19.7	28.8	33.7	41.3	46.3	58.8	64.9	64.0	53.3	55.4	56.9
Austria	1.2	1.2	1.7	2.4	2.0	2.0	2.6	2.0	1.5	1.6	1.2
Belgium	3.9	5.5	5.3	6.5	6.3	4.6	3.4	1.9	1.3	1.3	0.8
Canada	11.9	21.5	28.3	28.5	29.7	38.5	33.3	27.3	21.9	21.6	20.7
Chile	0.4	0.7	0.7	2.4	2.0	3.0	2.4	5.5	8.1	9.4	9.9
Czech Republic	11.9	15.5	16.5	20.5	21.3	21.3	20.6	20.6	17.4	17.3	17.4
Denmark	2.3	8.0	9.7	8.1	8.7	5.2	4.9	5.4	3.5	2.4	2.8
Estonia	..	..	..	6.8	3.4	3.2	3.7	4.6	4.2	3.5	3.8
Finland	1.7	4.9	4.5	4.7	5.9	5.0	4.9	8.0	4.9	3.9	4.5
France	14.8	24.4	15.0	12.0	9.5	10.8	10.3	8.3	4.7	4.5	3.7
Germany	104.2	115.9	123.3	115.6	103.2	98.8	97.8	90.4	92.2	90.5	87.3
Greece	2.0	3.8	6.9	9.8	11.1	11.8	12.4	10.9	9.0	7.7	6.5
Hungary	5.8	6.9	6.0	4.5	4.0	4.1	3.0	2.6	2.4	2.3	2.3
Iceland	-	-	-	-	-	-	-	-	-	-	-
Ireland	0.9	0.8	1.2	2.6	3.0	2.7	2.7	1.9	2.1	2.4	2.3
Israel	-	-	2.6	3.4	5.9	9.2	10.6	10.6	9.4	9.2	7.8
Italy	1.9	6.0	9.9	11.4	8.8	9.6	16.5	14.5	15.0	14.9	12.6
Japan	17.1	15.0	30.0	38.4	53.3	68.8	89.6	88.4	101.3	101.8	102.2
Korea	0.5	1.2	6.9	8.5	16.9	38.7	51.9	74.9	77.4	80.5	80.3
Latvia	..	..	..	0.6	0.2	0.1	-	-	-	-	-
Luxembourg	0.4	0.2	0.2	0.2	0.1	-	-	-	-	-	-
Mexico	0.1	-	1.0	2.5	5.3	6.8	12.0	11.9	12.6	12.7	12.9
Netherlands	1.1	2.6	5.3	7.5	9.1	7.9	8.0	7.5	9.6	12.4	11.2
New Zealand	0.4	0.2	0.3	0.2	0.3	0.5	2.0	0.7	0.7	0.6	0.4
Norway	-	-	-	-	-	-	-	-	0.1	0.1	0.1
Poland	52.9	77.0	82.9	74.9	60.0	56.3	56.5	54.8	50.2	50.4	50.3
Portugal	0.3	0.1	0.3	2.9	4.2	4.6	4.8	2.3	3.8	4.6	4.0
Slovak Republic	2.7	4.1	4.1	3.3	3.1	2.4	2.5	1.8	1.5	1.5	1.4
Slovenia	..	..	..	1.9	1.8	1.8	2.0	2.0	1.4	1.5	1.6
Spain	4.3	11.2	17.2	20.3	21.9	26.7	25.7	8.7	14.7	17.0	12.2
Sweden	0.1	0.1	1.9	1.6	1.4	1.1	1.2	1.2	0.7	0.7	0.6
Switzerland	-	-	-	-	-	-	-	-	-	-	-
Turkey	1.8	2.6	6.0	7.8	10.5	14.1	13.5	19.8	26.4	26.3	31.2
United Kingdom	65.0	74.3	61.4	68.8	49.7	41.1	46.0	34.9	32.7	25.2	10.9
United States	309.9	417.2	501.8	565.7	636.7	716.6	718.7	661.1	565.7	486.8	451.4
IEA Americas	321.8	438.7	531.0	596.7	671.7	761.9	764.0	700.3	600.2	521.1	484.9
IEA Asia Oceania	37.7	45.2	70.9	88.5	116.8	166.9	208.4	228.0	232.6	238.3	239.9
IEA Europe	279.3	365.1	379.1	392.6	347.3	333.5	341.2	302.2	297.9	290.7	267.3
OECD Americas	322.2	439.3	531.7	599.1	673.7	764.8	766.5	705.8	608.3	530.5	494.9
OECD Asia Oceania	37.7	45.2	73.6	91.9	122.7	176.1	219.1	238.6	242.0	247.5	247.7
OECD Europe	279.3	365.1	379.1	395.1	349.3	335.4	343.2	304.2	299.4	292.1	268.9
IEA Total	638.8	849.0	981.1	1077.8	1135.8	1262.3	1313.7	1230.5	1130.8	1050.1	992.1
OECD Total	639.2	849.6	984.4	1086.1	1145.7	1276.3	1328.8	1248.6	1149.7	1070.1	1011.4

Note: "Coal" refers to all coal types, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite), and derived fuels (including patent fuel, coke oven coke, gas coke, coal tar, BKB, coke oven gas, blast furnace gas and other recovered gases). Peat, peat briquettes, and oil shale and oil sands are included here for display purposes. Quantities have been converted to Mtce units using calorific values largely submitted in annual questionnaires to the IEA Secretariat by OECD member countries.

For further information, see the explanatory notes and definitions in Part I.

Source: IEA/OECD World Energy Balances

Table 4.3: World coal¹ use in coke ovens
(million tonnes)

	1973	1980	1985	1990	1995	2000	2005	2010	2014	2015	2016
Australia	9.5	7.0	5.5	5.9	5.9	4.8	4.5	5.1	3.9	3.9	3.6
Austria	2.3	2.4	2.4	2.3	1.9	1.9	1.9	1.8	1.8	1.8	1.8
Belgium	9.9	7.9	7.8	7.2	4.7	3.9	3.4	2.6	2.0	1.7	1.6
Canada	7.7	7.3	6.3	5.0	4.2	4.2	4.3	3.9	3.0	2.9	2.8
Chile	0.5	0.5	0.4	0.5	0.7	0.7	0.7	0.5	0.6	0.5	0.5
Czech Republic	18.6	12.2	10.6	8.5	6.6	4.6	4.3	3.2	3.3	3.0	2.9
Finland	-	-	-	0.7	1.7	1.3	1.3	1.2	1.2	1.2	1.2
France	15.3	14.6	11.3	9.5	7.7	6.5	5.8	4.3	4.5	4.5	4.3
Germany	46.3	38.7	31.5	24.1	13.7	11.4	10.7	11.2	11.8	12.0	12.9
Greece	0.5	0.4	-	-	-	-	-	-	-	-	-
Hungary	1.6	1.4	0.9	1.0	1.4	1.3	0.8	1.4	1.3	1.3	1.2
Italy	10.4	11.2	10.1	8.6	6.7	6.4	5.1	4.9	2.3	2.2	2.4
Japan	62.3	65.7	67.6	66.1	60.0	55.6	56.1	54.7	49.6	47.5	48.5
Korea	0.4	4.0	7.0	11.7	14.1	16.4	15.4	19.5	27.2	26.8	27.3
Mexico	2.8	4.0	3.8	3.4	3.1	3.0	2.9	3.2	3.2	2.6	2.0
Netherlands	3.4	3.7	4.1	3.8	4.0	3.0	3.2	2.9	2.9	3.0	2.9
New Zealand	-	-	-	0.6	0.7	0.7	0.8	0.8	0.9	0.9	0.9
Norway	0.4	0.4	0.4	-	-	-	-	-	-	-	-
Poland	21.6	25.3	20.5	18.2	15.4	12.4	11.3	13.0	12.7	13.0	12.8
Portugal	0.4	0.3	0.4	0.3	0.5	0.5	-	-	-	-	-
Slovak Republic	2.8	2.1	2.5	2.9	2.4	2.2	2.4	2.1	2.0	2.1	2.1
Spain	6.4	5.2	4.9	4.5	3.3	3.6	3.6	2.6	2.0	2.0	2.1
Sweden	0.7	1.7	1.6	1.5	1.6	1.8	1.8	1.8	1.5	1.6	1.5
Turkey	2.0	2.6	3.7	4.7	4.2	4.2	4.2	5.3	5.7	6.0	5.7
United Kingdom	24.0	13.5	9.7	10.1	8.1	8.2	5.6	5.4	5.0	3.7	1.8
United States	87.3	60.5	37.2	35.3	29.9	26.0	18.4	19.1	19.3	17.9	15.0
<i>IEA Americas</i>	<i>97.8</i>	<i>71.8</i>	<i>47.4</i>	<i>43.7</i>	<i>37.2</i>	<i>33.2</i>	<i>25.6</i>	<i>26.2</i>	<i>25.5</i>	<i>23.4</i>	<i>19.7</i>
<i>IEA Asia Oceania</i>	<i>72.2</i>	<i>76.7</i>	<i>80.0</i>	<i>84.4</i>	<i>80.7</i>	<i>77.5</i>	<i>76.8</i>	<i>80.2</i>	<i>81.6</i>	<i>79.1</i>	<i>80.3</i>
<i>IEA Europe</i>	<i>166.3</i>	<i>143.6</i>	<i>122.4</i>	<i>107.9</i>	<i>84.0</i>	<i>73.1</i>	<i>65.3</i>	<i>63.9</i>	<i>60.0</i>	<i>59.0</i>	<i>57.3</i>
<i>OECD Americas</i>	<i>98.3</i>	<i>72.2</i>	<i>47.8</i>	<i>44.2</i>	<i>37.9</i>	<i>33.9</i>	<i>26.3</i>	<i>26.7</i>	<i>26.2</i>	<i>23.9</i>	<i>20.3</i>
<i>OECD Asia Oceania</i>	<i>72.2</i>	<i>76.7</i>	<i>80.0</i>	<i>84.4</i>	<i>80.7</i>	<i>77.5</i>	<i>76.8</i>	<i>80.2</i>	<i>81.6</i>	<i>79.1</i>	<i>80.3</i>
<i>OECD Europe</i>	<i>166.3</i>	<i>143.6</i>	<i>122.4</i>	<i>107.9</i>	<i>84.0</i>	<i>73.1</i>	<i>65.3</i>	<i>63.9</i>	<i>60.0</i>	<i>59.0</i>	<i>57.3</i>
IEA Total	336.3	292.1	249.8	236.1	201.9	183.8	167.7	170.3	167.1	161.5	157.4
OECD Total	336.8	292.5	250.2	236.5	202.6	184.5	168.4	170.8	167.8	162.1	157.9
Algeria	0.1	0.1	1.2	1.0	0.6	0.7	1.0	-	-	-	-
Egypt	0.5	0.9	1.2	1.3	1.5	1.7	1.7	0.9	0.4	0.3	0.2
South Africa	5.5	7.2	6.0	5.7	4.2	2.6	3.0	4.1	3.3	3.3	3.2
Zimbabwe	0.8	0.9	0.3	0.6	0.6	0.8	0.7	0.4	0.4	0.5	0.5
Argentina	0.6	0.8	0.8	1.1	0.6	0.6	0.8	0.7	0.7	0.7	0.6
Brazil	2.5	5.7	9.5	10.3	11.0	9.9	9.7	11.0	10.9	10.4	10.4
Colombia	0.5	0.7	0.7	0.8	0.7	0.6	0.5	2.0	2.4	2.3	2.2
Peru	-	-	0.1	-	0.1	-	-	-	-	-	-
India	11.1	13.6	13.9	17.3	21.3	19.7	25.3	30.0	41.6	43.0	48.5
DPR of Korea	3.3	4.3	5.0	5.1	1.0	-	-	-	-	-	-
Mongolia	..	..	-	-	-	-	-	0.2	0.2	0.1	-
Pakistan	-	0.1	0.7	1.1	1.1	1.0	0.6	0.4	0.4	-	-
Chinese Taipei	0.3	1.5	2.6	4.1	4.2	5.8	5.8	7.0	8.7	8.6	8.8
Other non-OECD Asia	-	-	-	-	-	-	-	0.1	0.1	0.1	0.1
PR of China	38.4	66.8	73.0	107.0	184.0	165.0	334.5	499.5	628.9	606.4	606.5

Table 4.3: World coal¹ use in coke ovens (continued)
(million tonnes)

	1973	1980	1985	1990	1995	2000	2005	2010	2014	2015	2016
Albania	-	-	-	0.1	-	-	-	-	-	-	-
Bosnia and Herzegovina	x	x	x	-	-	-	0.6	1.2	1.3	1.2	1.2
Bulgaria	1.6	1.9	1.6	1.9	1.7	1.3	1.1	-	-	-	-
Croatia	x	x	x	0.7	-	-	-	-	-	-	-
Kazakhstan	x	x	x	0.6	3.7	7.2	6.7	6.6	10.5	8.7	9.2
Romania	2.3	5.2	7.8	4.8	4.6	2.2	2.4	-	-	-	-
Russian Federation	x	x	x	53.9	42.0	42.1	45.0	49.7	56.4	65.2	62.7
Ukraine	x	x	x	54.5	31.6	30.6	29.8	26.4	17.0	16.4	18.1
Former Soviet Union	129.6	131.5	124.0	x	x	x	x	x	-	-	-
Former Yugoslavia	1.8	3.3	4.7	x	x	x	x	x	-	-	-
Islam. Rep. of Iran	0.9	1.7	1.3	1.0	1.4	1.6	1.4	1.2	1.6	1.6	1.6
Non-OECD Total	200.0	246.4	254.4	272.9	315.8	293.3	470.5	641.2	784.7	768.8	773.8
World	536.8	538.9	504.6	509.4	518.5	477.8	638.8	812.0	952.5	930.9	931.7

1. Primary coal only. Coal products such as briquettes are not included. This only covers inputs to coke ovens. Fuels used in support for coke oven coke transformation are not included. For further information, see the explanatory notes and definitions in Part I.

Source: IEA/OECD World Energy Statistics

Table 4.4: World consumption of pulverised coal injection (PCI) coals
(thousand tonnes)

	1990	1995	2000	2005	2010	2011	2012	2013	2014	2015	2016
Australia	..	..	..	881	697	760	538	206	190	60	73
Austria	..	..	..	1	143	158	121	187	230	764	805
Belgium	513	859	1458	522	920	892	1066	1087	1080	1035	1243
Czech Republic	..	..	..	..	..	..	..	..	276	300	319
Finland	..	..	..	..	..	..	..	..	..	53	304
France	1310	2305	2462	2936	2410	2277	2278	2598	2840	2423	2359
Germany	1730	1843	2530	2770	3959	3772	4157	4460	4650	4881	4841
Italy	170	1230	1198	1678	1459	1328	1421	815	1021	672	855
Japan	5237	8286	10936	10297	11641	12671	13811	14681	14207	14005	14043
Korea	..	2181	3031	5481	7695	9414	9286	9092	8827	9592	8266
Netherlands	665	845	1040	1522	1018	1284	1434	1299	1398	1496	1459
Norway	..	..	..	..	2	111	113	115	106	74	55
Poland	..	..	..	..	32	80	194	141	184	270	283
Slovak Republic	219	313	390	388	356	421	605	576	655	608	586
Spain	..	..	681	717	681	708	617	759	780	879	819
Sweden	210	245	277	506	413	438	356	443	396	313	441
Turkey	..	..	..	..	553	459	676	744	651	690	660
United Kingdom	767	585	456	1039	978	995	987	1411	1513	1544	1364
United States	200	2300	2924	1519	1964	2046	1423	1461	1207	870	1462
India	..	..	2111	2161	2807	2860	3023	3037	3237	3390	3390
Chinese Taipei	130	472	801	1156	1109	1845	1121	1765	2190	2161	2066
Russian Federation	..	..	319	2683	3821	4605	3885	3831	4020	5080	6264
Serbia	..	..	..	..	..	..	40	25	37	56	74
Total World¹	11151	21464	30614	36257	42658	47124	47152	48733	49695	51216	52031

1. Note that PCI data are not available for all countries, most notably the People's Republic of China. Please see the explanatory notes and definitions in Part I. Data are as reported for OECD countries and have not undergone blast furnace normalisation unless submitted on that basis.

Source: IEA/OECD World Energy Statistics

Table 4.5: Coal-fired heat and electricity generation efficiency and share - 2016

	Coal ¹ (Mtce)	Electricity / Heat (TWh)	Efficiency (PJ)	Efficiency	Share of total generation from coal					
					1971	1985	1995	2005	2015	2016
Australia	56.94	163.13	-	35.2%	71.0%	74.9%	80.2%	79.5%	63.1%	63.6%
Austria	1.23	3.97	3.62	49.8%	13.1%	11.5%	10.2%	11.7%	7.2%	5.6%
Belgium	0.76	2.64	-	42.4%	26.9%	26.2%	26.0%	11.4%	5.4%	2.8%
Canada	20.68	62.13	0.02	36.9%	18.8%	17.0%	15.4%	15.9%	9.6%	9.2%
Chile	9.94	30.23	-	37.4%	16.1%	12.3%	22.8%	13.7%	37.1%	38.1%
Czech Republic	17.42	44.64	78.17	46.8%	84.8%	70.7%	72.8%	64.0%	55.8%	56.3%
Denmark	2.84	8.87	24.92	68.2%	18.6%	75.2%	61.2%	34.6%	22.0%	23.1%
Estonia	0.16	0.53	1.82	79.0%	x	x	2.4%	3.5%	7.4%	5.5%
Finland	2.88	7.60	34.72	73.5%	14.9%	28.6%	23.1%	13.4%	11.4%	14.0%
France	3.74	10.52	6.21	40.2%	28.9%	13.1%	5.3%	5.7%	2.4%	2.0%
Germany	87.26	273.20	140.76	44.0%	73.6%	62.9%	53.5%	45.9%	42.4%	40.4%
Greece	6.51	18.88	2.12	36.7%	43.2%	64.1%	69.5%	60.2%	43.3%	35.4%
Hungary	2.27	5.76	5.35	39.2%	60.3%	34.6%	27.1%	18.3%	16.6%	15.5%
Ireland	1.57	4.70	-	36.7%	1.2%	0.9%	39.9%	24.9%	17.3%	15.6%
Israel	7.74	24.16	-	38.3%	-	54.4%	62.1%	74.4%	45.4%	36.1%
Italy	12.60	38.40	7.29	39.4%	4.7%	16.5%	11.6%	14.5%	13.8%	11.5%
Japan	102.23	349.42	-	42.0%	11.9%	14.9%	17.4%	27.3%	34.0%	33.0%
Korea	80.32	234.70	90.07	39.7%	6.9%	30.4%	25.8%	35.9%	42.4%	41.9%
Latvia	0.01	-	0.15	61.4%	-	-	2.9%	0.4%	0.2%	0.3%
Luxembourg	-	-	-	-	63.2%	72.3%	38.8%	-	-	-
Mexico	12.88	34.59	-	33.0%	0.5%	4.1%	10.1%	13.1%	10.9%	10.8%
Netherlands	11.22	39.42	3.86	44.3%	12.4%	27.3%	28.6%	21.4%	30.1%	27.3%
New Zealand	0.40	1.06	-	32.2%	4.8%	2.9%	2.5%	13.6%	4.2%	2.4%
Norway	0.06	0.15	0.24	43.6%	0.0%	0.1%	0.2%	0.2%	0.1%	0.1%
Poland	50.32	132.93	252.13	49.5%	90.6%	92.3%	96.7%	91.7%	82.7%	82.0%
Portugal	4.05	12.63	-	38.3%	3.6%	5.0%	40.1%	30.5%	26.0%	19.6%
Slovak Republic	1.39	3.27	8.11	48.8%	37.2%	26.9%	29.4%	19.6%	14.2%	14.8%
Slovenia	1.57	5.01	5.06	50.3%	x	x	39.9%	39.3%	33.4%	34.3%
Spain	12.21	37.45	-	37.7%	21.7%	44.1%	40.5%	27.9%	19.0%	13.8%
Sweden	0.46	0.84	8.52	84.7%	0.3%	7.2%	3.6%	2.4%	1.8%	1.5%
Switzerland	-	-	-	-	-	0.4%	0.0%	-	-	-
Turkey	31.25	92.27	1.61	36.4%	30.5%	43.9%	32.5%	25.2%	28.0%	32.1%
United Kingdom	10.86	31.48	4.59	37.0%	63.9%	60.5%	46.7%	33.7%	22.2%	9.3%
United States	451.37	1354.03	30.95	37.1%	44.8%	56.7%	50.8%	50.0%	33.6%	30.7%
IEA Total	985.89	2969.20	705.08	39.4%	41.8%	44.4%	38.5%	36.9%	29.2%	27.2%
<i>IEA Americas</i>	<i>484.93</i>	<i>1450.76</i>	<i>30.96</i>	<i>37.0%</i>	<i>41.1%</i>	<i>49.4%</i>	<i>44.8%</i>	<i>44.1%</i>	<i>29.3%</i>	<i>26.8%</i>
<i>IEA Asia Oceania</i>	<i>239.90</i>	<i>748.30</i>	<i>90.07</i>	<i>39.6%</i>	<i>18.3%</i>	<i>23.8%</i>	<i>26.0%</i>	<i>35.6%</i>	<i>39.7%</i>	<i>39.1%</i>
<i>IEA Europe</i>	<i>261.07</i>	<i>770.14</i>	<i>584.05</i>	<i>43.9%</i>	<i>49.1%</i>	<i>45.2%</i>	<i>35.5%</i>	<i>28.3%</i>	<i>24.2%</i>	<i>22.1%</i>
OECD Total	1005.15	3028.60	710.28	39.4%	41.6%	44.4%	38.5%	36.8%	29.3%	27.3%
<i>OECD Americas</i>	<i>494.86</i>	<i>1480.99</i>	<i>30.96</i>	<i>37.0%</i>	<i>41.0%</i>	<i>49.2%</i>	<i>44.6%</i>	<i>43.8%</i>	<i>29.4%</i>	<i>27.0%</i>
<i>OECD Asia Oceania</i>	<i>247.64</i>	<i>772.46</i>	<i>90.07</i>	<i>39.6%</i>	<i>18.0%</i>	<i>24.3%</i>	<i>26.8%</i>	<i>36.6%</i>	<i>39.9%</i>	<i>39.0%</i>
<i>OECD Europe</i>	<i>262.64</i>	<i>775.15</i>	<i>589.25</i>	<i>43.9%</i>	<i>49.1%</i>	<i>45.1%</i>	<i>35.2%</i>	<i>28.2%</i>	<i>24.0%</i>	<i>22.0%</i>

Table 4.5: Coal-fired heat and electricity generation efficiency and share - 2016 (continued)

	Coal ¹ (Mtce)	Electricity / Heat (TWh)	Efficiency (PJ)	Share of total generation from coal						
				1971	1985	1995	2005	2015	2016	
Africa	96.20	253.52	-	32.4%	61.5%	54.3%	51.3%	44.5%	32.5%	31.6%
Botswana	1.30	2.68	-	25.2%	..	95.3%	98.0%	99.4%	96.3%	99.7%
Mauritius	0.62	1.27	-	25.2%	-	11.5%	4.5%	26.8%	39.4%	41.7%
Morocco	6.09	16.99	-	34.2%	13.4%	15.6%	49.4%	66.0%	55.5%	53.5%
Mozambique	-	-	-	-	-	19.6%	-	-	-	-
Namibia	0.03	0.05	-	24.7%	-	-	2.1%	0.2%	0.5%	3.7%
Niger	0.09	0.22	-	27.9%	..	..	..	69.0%	41.6%	40.9%
Nigeria	-	-	-	-	-	0.0%	-	-	-	-
Senegal	0.20	-	-	-	-	-	-	-	-	-
South Africa	84.99	226.48	-	32.7%	99.8%	95.8%	93.4%	94.6%	92.6%	90.8%
United Rep. of Tanzania	-	-	-	-	-	-	3.9%	1.2%	-	-
Zambia	0.13	0.33	-	29.9%	20.3%	0.4%	0.2%	0.2%	-	2.8%
Zimbabwe	2.18	3.91	-	22.0%	32.7%	40.3%	70.7%	47.3%	46.8%	55.4%
Other Africa	0.56	1.61	-	35.0%	0.5%	5.9%	6.0%	11.3%	8.6%	8.6%
Non-OECD Americas	15.15	42.60	-	34.5%	2.8%	2.4%	1.9%	2.1%	3.7%	3.5%
Argentina	0.92	2.55	-	34.0%	3.1%	1.3%	2.8%	2.1%	2.3%	1.7%
Brazil	8.60	25.75	-	36.8%	3.3%	2.6%	2.0%	2.7%	4.7%	4.4%
Colombia	2.25	6.21	-	33.9%	13.1%	11.7%	10.0%	4.9%	9.1%	8.1%
Dominican Republic	0.85	2.43	-	35.0%	-	13.5%	3.7%	10.2%	12.8%	12.5%
Guatemala	1.59	3.96	-	30.7%	-	-	-	13.2%	29.0%	31.8%
Honduras	0.07	0.22	-	36.0%	-	-	-	-	1.0%	2.5%
Panama	0.26	0.66	-	30.7%	-	-	-	-	6.9%	6.1%
Peru	0.43	0.83	-	23.8%	-	-	-	3.2%	0.8%	1.6%
Non-OECD Asia excl. China	539.49	1592.41	45.15	36.5%	31.0%	39.4%	43.3%	45.8%	54.5%	54.5%
Bangladesh	0.39	1.10	-	35.0%	-	-	-	0.6%	1.7%	1.7%
Cambodia	0.95	2.55	-	33.1%	..	..	-	-	48.4%	45.6%
Hong Kong (China)	8.01	24.77	-	38.0%	-	77.9%	97.3%	70.3%	65.3%	64.7%
India	364.36	1104.83	-	37.2%	49.1%	62.4%	69.9%	66.9%	75.2%	74.8%
Indonesia	48.32	135.36	-	34.4%	-	2.4%	24.3%	40.6%	55.8%	54.4%
DPR of Korea	1.01	3.18	-	38.9%	36.0%	47.9%	36.8%	39.0%	21.3%	18.8%
Malaysia	24.43	69.15	-	34.8%	-	-	7.6%	24.2%	42.3%	44.1%
Mongolia	3.97	5.25	45.15	55.0%	..	93.1%	97.2%	98.9%	97.4%	97.6%
Myanmar	0.00	0.01	-	34.9%	3.9%	2.0%	-	9.8%	1.8%	0.1%
Pakistan	0.18	0.16	-	10.7%	1.2%	0.2%	0.8%	0.1%	0.1%	0.1%
Philippines	15.77	43.30	-	33.7%	0.1%	14.7%	6.3%	27.0%	44.5%	47.7%
Singapore	0.37	0.62	-	20.5%	-	-	-	-	1.2%	1.2%
Sri Lanka	2.00	5.05	-	30.9%	-	-	-	-	33.7%	35.3%
Chinese Taipei	38.43	121.94	-	39.0%	12.3%	26.8%	39.5%	55.4%	46.7%	46.7%
Thailand	13.33	36.92	-	34.0%	6.1%	23.0%	18.5%	15.5%	19.5%	19.3%
Viet Nam	18.86	53.73	-	35.0%	73.3%	45.5%	13.8%	22.7%	34.4%	32.6%
Other non-OECD Asia	7.12	9.26	-	16.0%	-	-	-	2.2%	9.7%	21.8%
PR of China	1466.81	4241.79	3768.63	44.3%	70.1%	65.6%	76.6%	82.1%	73.0%	71.6%

Table 4.5: Coal-fired heat and electricity generation efficiency and share - 2016 (continued)

	Coal ¹ (Mtce)	Electricity / Heat (TWh)	Efficiency (PJ)	Efficiency	Share of total generation from coal					
					1971	1985	1995	2005	2015	2016
Non-OECD Europe and Eurasia	175.34	394.27	1486.67	56.6%	43.4%	27.2%	23.1%	21.7%	22.6%	22.1%
Belarus	0.00	-	0.04	71.2%	x	x	1.8%	0.4%	0.0%	0.0%
Bosnia and Herzegovina	4.74	12.02	2.91	33.3%	x	x	16.4%	49.6%	62.8%	66.3%
Bulgaria	7.49	19.36	16.81	39.4%	82.6%	42.0%	33.9%	41.6%	44.4%	41.4%
Croatia	0.83	2.60	-	38.2%	x	x	1.9%	13.9%	16.1%	16.4%
F.Y.R. of Macedonia	1.07	2.89	-	33.3%	x	x	71.3%	69.5%	52.7%	46.3%
Georgia	0.02	0.02	-	12.5%	x	x	0.2%	-	-	0.1%
Kazakhstan	27.69	70.57	351.40	74.6%	x	x	81.9%	87.0%	85.3%	81.3%
Kosovo	2.27	5.72	-	31.0%	x	x	..	94.5%	95.0%	92.2%
Kyrgyzstan	0.57	1.56	6.52	72.3%	x	x	8.3%	19.8%	30.8%	21.0%
Lithuania	0.00	-	0.06	80.9%	x	x	0.3%	0.2%	0.1%	0.1%
Malta	-	-	-	-	-	43.6%	5.5%	-	-	-
Republic of Moldova	0.00	-	0.06	68.6%	x	x	16.7%	0.3%	0.2%	0.2%
Montenegro	0.41	1.30	-	38.8%	x	x	..	34.8%	50.3%	41.3%
Romania	6.30	15.98	19.17	41.5%	30.5%	39.4%	27.1%	32.9%	28.7%	24.8%
Russian Federation	86.57	170.76	987.81	63.2%	x	x	22.6%	19.2%	17.2%	17.2%
Serbia	9.70	27.32	8.53	37.6%	x	x	54.8%	53.3%	62.1%	61.0%
Ukraine	26.00	61.20	87.01	40.3%	x	x	14.9%	14.0%	27.0%	29.7%
Uzbekistan	1.48	2.38	4.71	30.6%	x	x	3.4%	4.2%	4.0%	4.0%
Former Soviet Union	x	x	x	x	36.9%	27.0%	x	x	x	x
Former Yugoslavia	x	x	x	x	43.3%	42.8%	x	x	x	x
Middle East	0.24	0.49	-	25.1%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%
Islam. Rep. of Iran	0.24	0.49	-	25.1%	0.3%	0.2%	0.1%	0.3%	0.2%	0.2%
Non-OECD Total	2301.24	6549.85	5300.46	42.8%	41.3%	31.2%	33.3%	41.7%	47.1%	46.8%
World	3306.39	9578.45	6010.73	41.8%	39.9%	38.7%	36.1%	39.2%	39.7%	38.8%

1. "Coal" refers to all types of coal, primary (anthracite, coking coal, other bituminous coal, sub-bituminous coal and lignite), and derived fuels (including patent fuel, BKB, coke oven coke, gas coke, coal tar, coke oven gas, gas works gas, blast furnace gas and other recovered gases). For display reasons, peat, peat briquettes, and oil shale and oil sands are also incorporated here. Quantities have been converted to Mtce using calorific values reported by the respective countries.

Please refer to the explanatory notes and definitions in Part I.

Source: IEA/OECD World Energy Balances

Table 4.6: World braunkohlebrikett (BKB) inputs¹
(thousand tonnes of coal equivalent)

	1973	1980	1985	1990	1995	2000	2005	2010	2014	2015	2016
Australia (coal)	1033	1110	666	565	449	297	335	159	192	32.4	-
(all fuels)	1033	1117	674	570	456	305	365	177	197	34.5	-
Austria	134	-	-	-	-	-	-	-	-	-	-
	134	-	-	-	-	-	-	-	-	-	-
Czech Republic	985	860	857	833	452	196	250	194	128	111	110
	985	860	857	833	501	220	278	195	128	111	110
Estonia	x	x	x	-	-	-	-	-	-	-	-
	x	x	x	132	109	68.9	42.0	51.4	35.5	5.5	0.7
Finland	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	14.5	5.5	-	-
Germany	38681	39320	44434	32852	7684	4225	4276	4746	5485	5470	5419
	39203	39935	45697	33947	8575	4825	4901	5361	6277	6446	6375
Greece	175	118	61.6	100	73.7	87.8	133	-	-	-	-
	175	118	61.6	100	73.7	87.8	133	-	-	-	-
Hungary	396	528	708	-	-	-	-	-	-	-	-
	397	530	710	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-	-	-
	-	190	451	282	237	194	137	177	168	119	146
Latvia	x	x	x	-	-	-	-	-	-	-	-
	x	x	x	40.8	28.8	2.2	-	-	-	-	-
Poland	136	79.0	75.3	66.7	54.2	12.8	-	-	-	-	-
	165	93.2	92.9	78.3	64.1	15.4	-	-	-	-	-
Turkey	4.0	23.6	28.6	15.0	0.9	0.9	68.6	-	-	-	-
	4.0	23.6	28.6	15.0	0.9	0.9	68.6	-	-	-	-
IEA Total	41543	42039	46830	34432	8715	4819	5062	5098	5805	5614	5529
	42097	42867	48572	35958	10017	5716	5924	5976	6811	6716	6631
OECD Total	41543	42039	46830	34432	8715	4819	5062	5098	5805	5614	5529
	42097	42867	48572	35999	10046	5718	5924	5976	6811	6716	6631
Niger	..	..	..	..	..	0.4	0.4	7.7	1.6	0.4	1.6
	..	..	..	..	..	0.4	0.4	7.7	1.6	0.4	1.6
India	116	392	753	836	819	619	519	658	520	203	217
	116	392	753	836	819	619	519	658	520	203	217
Indonesia	-	-	-	-	3.8	27.8	21.0	82.6	14.7	11.5	26.3
	-	-	-	-	3.8	27.8	21.0	82.6	14.7	11.5	26.3
Albania	-	-	-	216	4.7	-	-	-	-	-	-
	-	-	-	216	4.7	-	-	-	-	-	-
Belarus	x	x	x	-	-	-	-	-	-	-	-
	x	x	x	1347	973	780	750	794	481	386	513
Bulgaria	695	998	1030	930	649	617	678	626	725	545	595
	695	998	1030	1165	792	749	805	882	958	731	765
Lithuania	x	x	x	-	-	-	-	-	-	-	-
	x	x	x	12.9	8.9	6.9	7.6	4.2	4.8	3.4	4.3
Romania	700	638	678	389	-	-	-	-	-	-	-
	700	638	678	389	-	-	-	-	-	-	-
Russian Federation	x	x	x	2766	1002	2.7	-	-	-	-	-
	x	x	x	2938	1137	62.6	33.3	38.1	52.0	29.6	27.9
Serbia	x	x	x	939	662	625	549	459	179	250	314
	x	x	x	939	662	625	549	489	206	284	353
Ukraine	x	x	x	-	-	-	24.6	-	-	-	-
	x	x	x	12.4	6.4	2.6	150	173	137	142	154
Former Yugoslavia	x	x	649	x	x	x	x	x	x	x	x
	x	x	649	x	x	x	x	x	x	x	x
Islam. Rep. of Iran	-	-	-	-	-	-	-	-	-	-	0.0
	-	-	-	-	-	-	-	-	-	-	0.0
Non-OECD Total	1510	2029	3110	6076	3140	1892	1792	1834	1441	1009	1154
	1510	2029	3110	7856	4407	2873	2835	3128	2375	1791	2062

1. Shows inputs of coal and all energy forms (barring unsold BKB and peat products) used as transformation feedstock or for providing energy support to the braunkohlebrikett transformation process. Inputs for peat briquettes are also included, but not under coal.

Source: IEA/OECD World Energy Balances

Table 4.7: Coal use in iron and steel production¹
(thousand tonnes of coal equivalent² / share of coal in the sector)

	1973	1980	1985	1990	1995	2000	2005	2010	2014	2015	2016
Australia	8278	6909	5379	4706	4970	4264	4144	5059	3107	2971	2852
	83.6%	81.2%	81.6%	76.0%	74.7%	71.6%	77.1%	83.4%	78.0%	76.5%	76.3%
Austria	2212	2442	2780	2364	2410	2591	2939	3012	3093	3309	3304
	63.9%	74.4%	79.3%	80.2%	77.2%	71.7%	72.5%	72.7%	71.7%	77.7%	79.3%
Belgium	10120	8246	7270	7371	5988	5987	3928	3087	3002	2805	3143
	77.0%	79.7%	81.6%	84.0%	80.3%	75.3%	70.9%	70.4%	76.7%	73.9%	75.6%
Canada	6560	6909	6178	4384	4358	4523	4317	4117	3656	3277	3479
	81.7%	60.9%	64.9%	58.2%	52.9%	52.3%	53.3%	55.6%	53.3%	50.2%	52.0%
Chile	396	440	454	439	567	622	702	397	512	448	427
	63.1%	63.3%	76.8%	82.1%	84.9%	78.9%	82.3%	74.7%	81.8%	75.3%	81.0%
Czech Republic	14625	9461	8884	8211	5464	4645	4167	2888	2971	2839	2820
	100.0%	100.0%	100.0%	95.8%	84.4%	83.7%	83.3%	81.6%	86.4%	85.8%	85.9%
Denmark	15.8	25.8	2.0	1.0	-	1.2	0.2	-	-	-	-
	5.5%	9.1%	1.5%	0.6%	-	0.5%	0.2%	-	-	-	-
Estonia	x	x	x	-	4.2	-	-	-	-	-	-
	x	x	x	-	14.3%	-	-	-	-	-	-
Finland	856	1115	1215	1473	1757	1605	1566	1422	1280	1256	1438
	65.1%	59.0%	65.5%	74.8%	76.9%	66.1%	59.9%	60.8%	60.6%	57.0%	64.1%
France	18085	16297	12759	11108	10237	8642	8587	7243	7211	6764	6369
	73.0%	75.3%	77.2%	79.4%	76.5%	76.6%	75.7%	77.5%	75.3%	74.6%	73.2%
Germany	32873	30732	27617	22614	16012	17098	14830	16494	16346	17106	17044
	65.6%	69.8%	71.8%	72.2%	64.2%	68.3%	67.7%	69.1%	72.0%	74.5%	74.8%
Greece	468	377	7.0	-	-	-	-	-	-	-	-
	52.7%	51.7%	2.4%	-	-	-	-	-	-	-	-
Hungary	2321	2317	2006	1369	1370	1149	921	1144	810	1003	865
	60.0%	56.2%	53.1%	51.3%	71.7%	83.5%	79.8%	94.7%	93.0%	93.8%	89.4%
Iceland	-	25.0	74.0	78.8	71.9	126	129	119	124	133	141
	-	42.9%	52.3%	53.1%	47.9%	51.0%	49.7%	50.7%	44.1%	48.8%	50.6%
Ireland	12.4	7.7	28.0	46.2	6.7	-	-	-	-	-	-
	51.9%	25.5%	34.2%	43.2%	9.7%	-	-	-	-	-	-
Israel	1.9	1.0	1.0	-	-	-	-	-	-	-	-
	100.0%	100.0%	100.0%	-	-	-	-	-	-	-	-
Italy	8225	9778	10008	8813	8211	8013	7736	6233	4419	3211	3795
	60.5%	58.7%	66.0%	64.9%	63.3%	62.3%	61.8%	61.6%	54.2%	45.5%	49.8%
Japan	62228	66271	64324	66430	60183	59478	59996	60943	60703	58523	57299
	70.5%	79.2%	81.5%	84.9%	84.1%	83.6%	83.3%	83.7%	83.7%	84.1%	83.3%
Korea	925	4320	6960	11206	15372	18872	20119	26465	34262	34470	33644
	85.2%	88.0%	81.2%	86.0%	83.8%	78.0%	76.5%	79.2%	83.1%	83.8%	84.0%
Latvia	x	x	x	1.8	5.4	9.0	5.5	3.6	-	-	-
	x	x	x	0.7%	4.6%	4.6%	2.8%	2.0%	-	-	-
Luxembourg	3259	2387	1842	1404	572	39.3	30.1	24.7	11.0	11.0	11.0
	71.4%	79.8%	84.0%	69.6%	54.7%	8.1%	6.1%	4.3%	2.8%	2.8%	2.6%
Mexico	2431	3186	3093	3220	3219	3348	3010	3296	3378	3011	2799
	61.6%	58.3%	46.7%	40.8%	43.7%	42.4%	38.9%	41.6%	40.9%	38.3%	35.6%
Netherlands	2741	2977	3703	3511	3984	3610	4180	3763	4033	4146	4056
	60.9%	69.6%	82.8%	90.1%	90.5%	89.6%	93.5%	93.8%	91.8%	92.2%	92.0%
New Zealand	60.6	110	85.0	309	354	480	546	585	616	627	607
	19.1%	23.0%	13.3%	54.8%	57.3%	71.9%	74.7%	75.6%	73.2%	80.8%	77.3%
Norway	990	1002	1098	853	842	908	634	478	542	537	562
	48.9%	47.7%	47.2%	44.9%	47.7%	48.0%	47.4%	44.8%	45.3%	46.2%	46.7%
Poland	10427	13956	11306	10432	9950	8178	5511	4892	5828	5926	5732
	64.2%	66.1%	64.0%	71.3%	81.5%	81.2%	80.8%	82.9%	85.0%	86.7%	84.6%
Portugal	316	376	319	284	376	372	-	6.1	7.4	5.7	9.9
	80.4%	77.2%	73.6%	64.5%	73.1%	68.4%	-	3.0%	3.0%	2.2%	3.7%
Slovak Republic	2771	2477	2968	3409	2807	2719	2971	2926	3056	2883	2950
	100.0%	97.0%	96.7%	96.8%	86.1%	82.8%	86.2%	85.5%	83.8%	84.3%	84.8%

Table 4.7: Coal use in iron and steel production¹ (continued)
(thousand tonnes of coal equivalent² / share of coal in the sector)

	1973	1980	1985	1990	1995	2000	2005	2010	2014	2015	2016
Slovenia	x	x	x	58	31	38	8	8	9	8	8
	x	x	x	17.4%	12.3%	15.8%	3.5%	3.9%	4.5%	4.0%	3.8%
Spain	7118	5671	5346	4703	3858	3587	3630	2714	2478	2411	2223
	70.8%	63.7%	67.3%	69.0%	61.2%	50.8%	46.1%	50.8%	53.6%	48.3%	46.4%
Sweden	1620	1677	1625	1754	1993	2204	2471	2438	1804	1856	1858
	43.6%	52.4%	56.3%	66.1%	65.3%	68.6%	71.5%	75.7%	70.2%	71.6%	73.7%
Switzerland	26.4	-	-	-	22.0	15.1	14.5	13.9	15.7	15.7	13.9
	100.0%	-	-	-	100.0%	6.5%	5.0%	4.5%	5.2%	5.1%	4.5%
Turkey	1679	2069	2933	4653	4464	4655	4794	6711	6951	7469	7535
	88.1%	75.9%	78.4%	76.6%	68.4%	70.9%	67.3%	69.2%	63.8%	65.1%	64.6%
United Kingdom	17655	7623	8723	9378	8229	7870	6990	5615	6860	6097	4286
	65.6%	62.5%	70.9%	72.9%	64.3%	68.8%	79.0%	83.4%	87.6%	85.9%	84.7%
United States	95634	58535	40205	36577	34683	32579	23768	20083	19019	18395	17080
	86.9%	80.3%	84.8%	80.3%	59.3%	53.4%	53.1%	51.1%	46.7%	48.6%	50.4%
IEA Americas	104625	68631	49476	44180	42260	40450	31095	27496	26052	24683	23358
	85.8%	76.5%	77.9%	72.5%	57.1%	52.2%	51.3%	50.3%	46.7%	47.3%	48.2%
IEA Asia Oceania	71492	77610	76748	82651	80878	83093	84804	93053	98689	96592	94403
	71.8%	79.6%	81.0%	84.3%	83.2%	81.5%	81.2%	82.3%	83.2%	83.7%	83.3%
IEA Europe	138415	121013	112439	103710	88520	83865	75864	71084	70695	69642	68002
	69.5%	69.9%	72.7%	74.5%	70.9%	70.2%	69.6%	71.3%	71.9%	71.8%	71.5%
OECD Americas	105020	69071	49930	44618	42827	41071	31797	27893	26564	25132	23785
	85.7%	76.4%	77.9%	72.6%	57.3%	52.4%	51.8%	50.5%	47.1%	47.6%	48.6%
OECD Asia Oceania	71494	77611	76749	82651	80878	83093	84804	93053	98689	96592	94403
	71.8%	79.6%	81.0%	84.3%	83.1%	81.4%	81.1%	82.2%	83.2%	83.7%	83.2%
OECD Europe	138415	121038	112513	103848	88629	84038	76005	71215	70828	69783	68152
	69.5%	69.9%	72.7%	74.2%	70.7%	69.9%	69.3%	70.9%	71.6%	71.6%	71.3%
IEA Total	314532	267254	238663	230541	211658	207408	191763	191633	195436	190917	185763
	74.8%	74.2%	76.3%	77.3%	71.5%	69.4%	70.0%	71.6%	71.6%	72.2%	72.3%
OECD Total	314929	267719	239191	231118	212333	208203	192607	192161	196081	191506	186339
	74.7%	74.2%	76.3%	77.1%	71.4%	69.3%	69.9%	71.5%	71.6%	72.1%	72.2%
Algeria	260	144	983	770	780	612	924	364	168	162	-
	92.8%	28.5%	68.7%	61.7%	59.3%	54.7%	61.3%	37.3%	27.2%	32.4%	-
Dem. Rep. of Congo	80.8	86.6	86.6	94.3	-	-	-	-	-	-	-
	100.0%	100.0%	100.0%	100.0%	-	-	-	-	-	-	-
Egypt	362	717	976	1069	973	1223	1195	651	558	503	497
	100.0%	75.6%	80.3%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Morocco	10.6	18.3	28.9	24.1	-	-	-	-	-	-	-
	100.0%	100.0%	100.0%	100.0%	-	-	-	-	-	-	-
Nigeria	1.9	3.9	1.9	7.7	-	-	-	-	-	-	-
	100.0%	100.0%	2.4%	9.7%	-	-	-	-	-	-	-
South Africa	10745	13930	13033	12383	7938	6968	8073	8104	6908	6183	6102
	98.3%	97.3%	96.5%	96.2%	92.5%	93.0%	93.3%	90.3%	89.6%	88.8%	89.0%
Tanzania	-	1.0	4.8	1.9	1.9	-	-	-	-	-	-
	-	100.0%	100.0%	100.0%	100.0%	-	-	-	-	-	-
Tunisia	76.0	72.2	78.9	104	102	113	-	-	-	-	-
	100.0%	84.2%	85.3%	84.5%	82.8%	81.9%	-	-	-	-	-
Zimbabwe	464	421	747	724	633	643	533	166	203	207	207
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	98.7%	98.7%	98.7%
Argentina	597	844	873	1116	682	267	649	637	724	664	545
	66.3%	69.9%	84.0%	61.6%	26.6%	9.8%	20.1%	21.3%	17.0%	14.1%	12.7%
Bolivia	-	-	86.6	-	-	-	-	-	-	-	-
	-	-	100.0%	-	-	-	-	-	-	-	-

Table 4.7: Coal use in iron and steel production¹ (continued)
(thousand tonnes of coal equivalent² / share of coal in the sector)

	1973	1980	1985	1990	1995	2000	2005	2010	2014	2015	2016
Brazil	2335	5517	8606	9467	11686	13120	13071	14707	14916	15193	13830
	36.8%	42.1%	49.0%	48.6%	55.3%	56.6%	50.0%	56.3%	59.1%	60.8%	60.7%
Colombia	460	1019	1135	1099	1369	1134	1032	1436	1726	1522	1514
	94.4%	89.5%	82.4%	80.0%	78.4%	75.5%	72.0%	75.5%	77.3%	70.9%	70.6%
Costa Rica	-	-	-	-	-	-	49.1	91.4	113	110	119
	-	-	-	-	-	-	100.0%	100.0%	100.0%	100.0%	100.0%
Cuba	56.8	51.0	61.6	61.6	20.2	18.3	7.7	6.7	1.0	1.0	1.0
	100.0%	100.0%	92.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
El Salvador	-	1.0	-	-	1.0	1.0	1.0	-	-	-	-
	-	100.0%	-	-	100.0%	100.0%	100.0%	-	-	-	-
Honduras	-	-	-	1.0	1.0	-	-	-	-	-	-
	-	-	-	100.0%	100.0%	-	-	-	-	-	-
Peru	201	203	155	135	178	397	385	145	210	176	140
	22.9%	17.0%	12.5%	13.4%	14.0%	21.6%	21.6%	8.1%	9.9%	8.1%	5.7%
Uruguay	-	-5.8	-1.0	-	-	-	-	-	-	-	-
	-	-308.7%	-748.9%	-	-	-	-	-	-	-	-
Venezuela	335	180	212	315	-	-	-	-	-	-	-
	44.9%	9.4%	7.0%	7.0%	-	-	-	-	-	-	-
Bangladesh	-	9.6	-	-	-	-	-	-	-	-	-
	-	100.0%	-	-	-	-	-	-	-	-	-
Hong Kong (China)	3.9	5.8	3.9	1.9	1.0	-	-	-	-	-	-
	13.0%	11.5%	7.0%	2.8%	100.0%	-	-	-	-	-	-
India	9692	12320	13646	18355	24644	24483	36749	59520	89092	91388	97109
	94.2%	90.8%	95.1%	95.9%	95.9%	95.7%	97.1%	88.0%	91.1%	91.6%	91.6%
Indonesia	4.8	31.8	28.9	45.2	-	27.3	195	295	262	351	343
	3.5%	14.4%	4.1%	2.4%	-	1.7%	14.1%	12.7%	18.3%	24.8%	31.8%
DPR of Korea	3110	4413	5100	5237	1265	182	220	201	192	169	191
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Mongolia	..	..	-	-	-	-	-	46.2	46.2	31.8	12.5
	..	..	-	-	-	-	-	100.0%	100.0%	100.0%	100.0%
Myanmar	1.9	12.5	9.6	9.6	-	-	-	-	-	-	67.2
	100.0%	100.0%	100.0%	100.0%	-	-	-	-	-	-	88.2%
Pakistan	29.1	92.1	673	1036	1020	893	531	403	362	-	-
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	51.9%	51.5%	59.9%	-	-
Philippines	8.7	321	83.7	320	306	265	237	302	565	551	649
	2.7%	34.2%	16.9%	45.8%	36.4%	31.7%	37.9%	32.8%	45.6%	43.2%	46.1%
Sri Lanka	2.9	1.9	1.9	-	1.0	1.0	1.0	-	-	-	-
	100.0%	100.0%	100.0%	-	100.0%	100.0%	100.0%	-	-	-	-
Chinese Taipei	286	1444	2323	4099	4283	6463	6525	7454	10950	10383	10380
	36.7%	55.4%	68.6%	75.5%	69.7%	72.4%	72.9%	76.1%	83.8%	84.4%	84.8%
Thailand	17.3	-	46.2	70.2	96.2	77.9	66.4	260	177	104	63.5
	24.5%	-	21.6%	14.7%	11.3%	8.1%	3.7%	14.1%	7.7%	4.8%	2.7%
Viet Nam	1.0	7.7	14.4	14.4	16.4	-	-	517	618	616	652
	100.0%	100.0%	100.0%	100.0%	100.0%	-	-	48.0%	43.6%	41.4%	40.5%
Other non-OECD Asia	-	-	-	-	-	-	-	10.2	11.9	11.5	11.4
	-	-	-	-	-	-	-	100.0%	100.0%	100.0%	100.0%
PR of China	22965	71353	53272	69076	119240	130830	276033	483344	587424	582174	562006
	88.0%	86.1%	86.2%	81.9%	85.1%	85.4%	88.4%	89.4%	89.7%	90.5%	90.5%

Table 4.7: Coal use in iron and steel production¹ (continued)(thousand tonnes of coal equivalent² / share of coal in the sector)

	1973	1980	1985	1990	1995	2000	2005	2010	2014	2015	2016
Albania	33.1	32.8	40.3	57.6	-	-	-	-	-	-	-
	100.0%	100.0%	100.0%	100.0%	-	-	-	-	-	-	-
Belarus	x	x	x	-	-	22.8	20.8	13.7	17.8	14.9	10.9
	x	x	x	-	-	7.0%	5.5%	3.2%	4.1%	3.4%	2.6%
Bosnia and Herzegovina	x	x	x	-	-	-	194	790	766	748	716
	x	x	x	-	-	-	100.0%	87.7%	85.5%	84.9%	84.5%
Bulgaria	1562	1453	1524	1140	1675	1339	1089	-	-	-	-
	100.0%	100.0%	81.3%	49.6%	68.8%	69.6%	65.8%	-	-	-	-
Croatia	x	x	x	412	19.2	12.0	4.9	4.0	3.9	3.8	-
	x	x	x	59.3%	15.1%	16.6%	9.1%	7.4%	11.6%	11.2%	-
Georgia	x	x	x	-	-	-	-	6.8	134	109	126
	x	x	x	-	-	-	-	4.4%	41.5%	38.8%	39.6%
Kazakhstan	x	x	x	1335	3035	4639	4481	7670	9942	7758	9889
	x	x	x	89.2%	71.5%	81.8%	88.8%	52.7%	62.4%	65.2%	72.8%
Kosovo	x	x	x	..	..	6.7	9.0	17.3	26.2	23.6	29.8
	x	x	x	..	..	65.9%	65.3%	23.0%	26.0%	21.1%	27.4%
Lithuania	x	x	x	-	-	1.0	2.0	1.0	1.0	1.0	1.0
	x	x	x	-	-	12.2%	27.5%	28.3%	28.7%	29.2%	29.4%
F.Y.R. of Macedonia	x	x	x	54.2	73.4	70.5	163	151	141	117	114
	x	x	x	14.9%	31.2%	29.6%	33.8%	32.4%	31.0%	30.4%	35.3%
Montenegro	x	x	x	..	..	..	10.0	2.8	3.1	7.5	6.9
	x	x	x	..	..	..	23.4%	7.7%	47.4%	48.1%	61.7%
Romania	3162	6569	7440	4763	3955	2290	3157	1246	903	1068	1092
	90.4%	89.7%	58.6%	48.8%	55.3%	50.0%	58.7%	45.3%	37.8%	41.4%	44.4%
Russian Federation	x	x	x	50909	45551	37500	42031	47931	55352	64934	63522
	x	x	x	58.5%	57.7%	55.1%	54.2%	59.3%	62.2%	66.1%	65.7%
Serbia	x	x	x	57.1	45.9	266	674	689	296	496	655
	x	x	x	100.0%	52.9%	86.3%	71.8%	93.4%	75.6%	78.2%	81.1%
Ukraine	x	x	x	46806	30847	28923	27548	23382	19858	17521	18225
	x	x	x	88.3%	91.8%	91.1%	70.6%	69.5%	76.8%	76.0%	79.7%
Former Soviet Union	94694	94047	76736	x	x	x	x	x	x	x	x
	66.5%	60.5%	55.0%	x	x	x	x	x	x	x	x
Former Yugoslavia	2161	3005	4547	x	x	x	x	x	x	x	x
	67.2%	77.8%	74.3%	x	x	x	x	x	x	x	x
Islam. Rep. of Iran	606	1188	940	689	975	1279	1265	1264	1704	1550	1516
	101.2%	101.2%	101.2%	101.2%	99.2%	84.4%	85.3%	82.5%	93.5%	93.4%	91.2%
Lebanon	0.9	0.9	-	-	-	-	-	-	-	-	-
	100.0%	100.0%	-	-	-	-	-	-	-	-	-
Syrian Arab Republic	3.8	3.8	1.9	-	1.9	3.8	3.8	3.8	1.0	1.0	1.0
	100.0%	100.0%	100.0%	-	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Non-OECD Total	154330	219515	193499	231860	261416	264070	427131	661832	804371	804854	790344
	72.2%	70.9%	66.7%	72.6%	74.7%	75.0%	77.7%	81.2%	83.6%	84.5%	84.7%
World	469259	487235	432690	462978	473749	472273	619738	853993	1000452	996360	976683
	73.9%	72.7%	71.7%	74.8%	73.2%	72.4%	75.1%	78.8%	80.9%	81.8%	82.0%

1. Coal covers all coal types and coal products, but excludes peat, peat products and oil shale and oil sands. Consumption in the iron and steel industry also includes transformation and energy support for coke ovens and blast furnaces. Electricity and heat generation from coke oven gas, blast furnace gas and coal tar is similarly included. The electricity and heat generated is excluded to avoid double counting. Please see the explanatory notes and definitions in Part I.

2. Some portions of data may be reported in non-specified industry for some countries for some years instead.

Source: IEA/OECD World Energy Statistics

Table 4.8: Coal use in non-metallic mineral industries¹
(thousand tonnes of coal equivalent² / share of coal in the sector)

	1973	1980	1985	1990	1995	2000	2005	2010	2014	2015	2016
Australia	896	778	925	794	751	691	929	724	612	570	531
	100.0%	26.6%	30.9%	26.0%	25.6%	23.8%	26.6%	19.9%	19.9%	18.1%	16.9%
Austria	63.9	34.3	224	217	162	199	152	112	96.1	92.9	76.4
	4.2%	3.6%	31.6%	22.1%	15.8%	18.8%	11.9%	9.1%	7.5%	7.2%	5.6%
Belgium	988	1478	899	837	523	479	246	387	492	505	473
	31.9%	43.6%	46.1%	39.1%	25.9%	22.7%	13.8%	23.0%	24.1%	25.5%	23.9%
Canada	666	341	711	543	641	819	945	712	660	556	511
	22.4%	14.4%	31.4%	26.9%	29.4%	37.6%	26.7%	26.8%	20.6%	17.0%	15.5%
Chile	184	173	128	184	305	228	181	74.5	-	0.6	6.3
	65.7%	68.7%	60.3%	81.0%	83.5%	70.3%	46.4%	17.7%	-	0.1%	1.5%
Czech Republic	545	670	621	521	364	330	207	276	307	280	289
	100.0%	100.0%	100.0%	62.4%	19.4%	19.6%	12.4%	17.8%	20.1%	17.6%	17.9%
Denmark	140	360	157	208	295	239	217	85.1	82.8	81.1	80.1
	11.6%	35.6%	16.6%	29.9%	32.7%	27.2%	24.3%	14.9%	13.1%	13.0%	12.1%
Estonia	x	x	x	-	11.8	33.5	8.3	41.7	59.3	20.4	18.5
	x	x	x	-	4.5%	20.9%	4.5%	26.4%	32.3%	19.4%	18.5%
Finland	-	459	778	686	500	203	200	146	95.9	95.6	105
	-	53.1%	65.6%	61.8%	58.1%	36.8%	33.5%	31.6%	23.0%	23.4%	24.1%
France	494	588	1709	975	438	230	346	591	369	380	355
	10.4%	12.7%	27.2%	16.9%	8.3%	4.3%	5.7%	11.0%	7.4%	7.9%	7.5%
Germany	1844	2981	3544	3476	3555	2816	1883	1933	2030	1972	1920
	13.6%	24.5%	35.4%	34.1%	31.4%	27.6%	19.6%	20.9%	21.6%	21.0%	20.6%
Greece	6.0	5.0	1273	1205	1172	972	375	244	98.9	71.6	47.1
	0.8%	0.3%	69.9%	66.1%	60.0%	52.9%	23.4%	17.6%	9.1%	6.8%	4.2%
Hungary	460	289	211	79.1	70.3	99.2	168	57.2	40.0	49.0	41.4
	32.0%	16.6%	13.7%	5.4%	8.3%	12.1%	18.1%	9.1%	6.2%	7.1%	5.5%
Iceland	-	-	18.9	12.9	6.7	13.4	13.4	9.6	-	-	-
	-	-	100.0%	75.5%	52.7%	70.8%	70.8%	77.2%	-	-	-
Ireland	-	-	-	171	61.7	92.3	211	132	123	120	128
	-	-	-	40.4%	17.1%	17.2%	27.8%	32.3%	22.9%	21.1%	21.2%
Italy	214	547	2130	1327	702	531	507	89.7	444	197	322
	1.8%	4.4%	21.1%	12.5%	7.1%	4.6%	4.0%	1.1%	6.9%	2.8%	4.9%
Japan	-	4333	7802	9049	8865	7008	6192	4896	5105	4836	4775
	-	27.3%	53.0%	43.8%	42.7%	40.5%	41.3%	40.2%	41.5%	40.7%	39.6%
Korea	-	657	2190	2928	4541	4387	4037	3827	4085	3913	3829
	-	67.2%	60.4%	55.1%	57.0%	55.5%	53.1%	47.3%	50.3%	48.2%	48.2%
Latvia	x	x	x	6.4	3.9	1.0	23.3	60	43	33	23
	x	x	x	1.3%	2.6%	1.0%	13.8%	31.3%	19.2%	17.0%	14.4%
Luxembourg	-	106	117	132	102	107	74.9	63.3	61.6	51.6	58.3
	-	100.0%	100.0%	100.0%	87.6%	37.4%	31.0%	28.8%	27.3%	24.3%	27.1%
Mexico	-	-	-	-	-	-	132	147	210	224	236
	-	-	-	-	-	-	1.9%	2.2%	2.9%	2.9%	3.0%
Netherlands	20.8	152	146	114	71.5	77.5	49.5	51.9	48.5	49.5	51.6
	1.3%	10.1%	12.7%	8.6%	6.2%	6.3%	4.7%	5.0%	6.1%	6.2%	6.0%
New Zealand	-	98.8	164	-	-	-	-	114	118	111	74.4
	-	77.2%	81.3%	-	-	-	-	66.8%	54.0%	55.0%	47.6%
Norway	111	89.7	170	142	203	176	128	133	114	107	106
	53.4%	15.2%	43.1%	43.0%	50.2%	42.7%	34.1%	28.5%	25.0%	22.8%	23.2%
Poland	5598	5101	4394	3122	3140	2059	1195	1102	953	886	837
	78.0%	66.5%	67.3%	63.2%	65.5%	55.6%	33.2%	28.4%	25.4%	24.1%	20.6%

Table 4.8: Coal use in non-metallic mineral industries¹ (continued)
(thousand tonnes of coal equivalent² / share of coal in the sector)

	1973	1980	1985	1990	1995	2000	2005	2010	2014	2015	2016
Portugal	12.9	16.4	316	704	578	415	1.7	48.2	5.8	6.0	8.3
	1.1%	1.0%	20.5%	36.4%	28.8%	13.8%	0.1%	2.1%	0.3%	0.4%	0.6%
Slovak Republic	-	184.7	197	187	256	203	182	175	78.6	78.5	75.2
	-	57.0%	52.1%	32.9%	31.0%	19.8%	25.6%	32.7%	13.0%	12.6%	11.5%
Slovenia	x	x	x	18.1	18.0	32.0	54.0	29.6	20.4	16.2	14.3
	x	x	x	11.4%	15.5%	10.2%	15.7%	10.5%	7.9%	6.4%	5.7%
Spain	-	321	2268	1637	401	421	145	32.3	11.5	9.8	12.3
	-	4.8%	43.7%	25.2%	6.7%	4.6%	1.3%	0.5%	0.2%	0.2%	0.3%
Sweden	256	242	334	409	309	264	248	228	206	245	210
	14.9%	21.9%	40.5%	45.4%	42.6%	37.1%	39.4%	37.3%	46.5%	48.8%	45.2%
Switzerland	19.1	177	422	381	194	132	127	182	176	159	140
	100.0%	57.1%	57.0%	47.7%	32.2%	18.5%	20.5%	25.3%	25.1%	25.4%	20.8%
Turkey	-	-	-	1776	1766	1784	2758	4604	3967	3963	4263
	-	-	-	69.8%	60.6%	56.3%	63.8%	59.0%	49.8%	50.4%	51.2%
United Kingdom	3492	2539	1716	1355	878	1075	1007	966	1120	947	733
	41.1%	42.3%	34.8%	27.0%	23.0%	27.2%	23.4%	26.8%	33.4%	27.7%	22.6%
United States	5196	9976	12149	11053	10649	11438	10589	7316	8472	8122	6546
	60.7%	66.5%	75.1%	72.4%	33.6%	32.6%	30.0%	27.8%	32.7%	30.3%	24.9%
IEA Americas	5863	10318	12859	11596	11290	12257	11665	8175	9342	8902	7293
	47.3%	55.0%	56.3%	54.1%	30.1%	28.6%	25.6%	23.0%	25.7%	23.6%	19.5%
IEA Asia Oceania	896	5867	11080	12771	14157	12086	11158	9562	9920	9430	9210
	5.0%	29.4%	51.4%	43.9%	44.6%	42.9%	42.6%	39.7%	41.8%	40.4%	39.5%
IEA Europe	14265	16340	21626	19663	15754	12937	10437	11682	10980	10366	10350
	21.8%	24.8%	37.6%	32.1%	26.3%	20.2%	15.5%	19.8%	20.4%	19.1%	19.0%
OECD Americas	6047	10490	12987	11780	11595	12485	11846	8250	9342	8903	7300
	47.7%	55.2%	56.4%	54.4%	30.6%	28.9%	25.7%	22.9%	25.5%	23.4%	19.3%
OECD Asia Oceania	896	5867	11080	12771	14157	12086	11158	9562	9920	9430	9210
	5.0%	29.4%	51.4%	43.8%	44.5%	42.7%	42.5%	39.6%	41.8%	40.4%	39.5%
OECD Europe	14265	16340	21645	19700	15783	12984	10528	11781	11044	10415	10387
	21.8%	24.8%	37.6%	31.8%	26.2%	20.2%	15.5%	19.8%	20.3%	19.1%	19.0%
IEA Total	21024	32525	45566	44029	41201	37281	33261	29419	30242	28699	26854
	21.9%	31.1%	44.7%	39.4%	31.9%	27.6%	23.9%	24.8%	26.6%	24.9%	23.3%
OECD Total	21208	32697	45713	44250	41535	37555	33532	29592	30306	28748	26897
	22.1%	31.2%	44.7%	39.3%	32.0%	27.6%	23.9%	24.8%	26.4%	24.8%	23.2%
Botswana	..	..	-	-	-	-	9.7	-	-	-	-
	..	..	-	-	-	-	88.7%	-	-	-	-
Ethiopia	-	-	-	-	-	-	-	44.0	357	362	389
	-	-	-	-	-	-	-	28.1%	52.4%	61.1%	61.1%
Kenya	-	-	79.2	133	137	94.2	128	236	469	498	490
	-	-	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Morocco	71.8	-	-	-	-	-	-	-	-	-	-
	77.4%	-	-	-	-	-	-	-	-	-	-
Nigeria	108	133	82.8	48.4	17.6	2.6	7.0	33.5	40.5	41.4	40.5
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Senegal	-	-	-	-	-	-	134	254	415	433	455
	-	-	-	-	-	-	86.9%	83.7%	82.9%	83.3%	84.4%
South Africa	2061	2250	2124	1987	1660	1324	1992	1743	1321	1559	1833
	93.9%	93.9%	93.3%	93.1%	86.9%	90.3%	86.2%	69.4%	63.2%	66.6%	70.2%
Tanzania	-	-	4.4	0.9	-	-	-	-	-	-	-
	-	-	100.0%	100.0%	-	-	-	-	-	-	-

Table 4.8: Coal use in non-metallic mineral industries¹ (continued)
(thousand tonnes of coal equivalent² / share of coal in the sector)

	1973	1980	1985	1990	1995	2000	2005	2010	2014	2015	2016
Zambia	84.3	61.5	46.4	-	-	-	-	-	-	-	-
	100.0%	100.0%	100.0%	-	-	-	-	-	-	-	-
Zimbabwe	170	104	111	-	-	123	41.5	39.6	73.7	74.6	75.5
	100.0%	100.0%	100.0%	-	-	100.0%	100.0%	89.9%	89.2%	89.3%	89.4%
Brazil	-	435	1397	871	610	254	164	140	359	294	213
	-	5.8%	21.6%	13.4%	8.9%	2.8%	1.9%	1.2%	2.5%	2.3%	1.8%
Colombia	-	910	890	1210	944	1209	901	552	1429	1318	1416
	-	55.4%	54.8%	57.6%	47.7%	55.5%	40.1%	28.1%	71.0%	69.6%	69.7%
Costa Rica	-	-	-	-	-	-	-	0.9	8.8	0.9	0.9
	-	-	-	-	-	-	-	100.0%	100.0%	100.0%	100.0%
Dominican Republic	-	-	-	-	-	116	271	461	530	624	552
	-	-	-	-	-	34.2%	52.3%	55.1%	63.0%	70.4%	61.2%
Jamaica	-	-	-	45.8	48.4	46.7	51.9	47.5	73.9	85.4	64.3
	-	-	-	100.0%	100.0%	100.0%	100.0%	100.0%	88.6%	91.2%	85.2%
Venezuela	54.2	43.8	43.8	346	7.3	189	53.2	285	282	195	176
	100.0%	6.1%	5.6%	28.9%	0.7%	14.4%	4.0%	16.7%	26.0%	19.3%	22.1%
Bangladesh	171	168	70.0	402	458	471	603	799	918	2840	2027
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cambodia	..	..	..	..	-	-	-	6.4	12.3	17.4	22.6
	..	..	..	..	-	-	-	100.0%	100.0%	100.0%	100.0%
India	2424	4517	5544	8746	9804	13368	13432	16657	24897	21857	22255
	76.8%	88.2%	87.8%	88.8%	87.8%	76.8%	68.8%	66.4%	69.2%	65.0%	65.3%
Indonesia	2.7	-	-	-	-	1673	3867	4735	4605	4601	6754
	100.0%	-	-	-	-	47.4%	68.5%	75.1%	74.8%	72.6%	86.8%
Malaysia	10.0	-	-	-	-	-	-	-	-	-	-
	100.0%	-	-	-	-	-	-	-	-	-	-
Myanmar	-	-	-	-	-	109	202	319	411	455	167
	-	-	-	-	-	100.0%	100.0%	100.0%	100.0%	100.0%	95.6%
Pakistan	708	857	1233	1793	1820	1635	4686	5495	6326	7018	7303
	45.4%	47.6%	55.0%	52.8%	49.4%	46.2%	78.6%	85.9%	89.4%	82.9%	82.7%
Philippines	0.4	118	511	653	1012	979	1451	2346	2415	2530	2941
	0.5%	24.1%	71.0%	55.1%	53.9%	59.4%	70.7%	82.9%	85.5%	83.5%	84.9%
Sri Lanka	-	-	-	7.0	5.0	-	93.0	95.0	98.0	87.0	78.0
	-	-	-	100.0%	100.0%	-	100.0%	100.0%	100.0%	100.0%	100.0%
Chinese Taipei	993	1245	2191	2544	2412	1951	2300	1961	1885	1909	1970
	50.6%	32.7%	66.2%	61.6%	55.4%	55.2%	60.3%	59.7%	58.9%	59.7%	63.0%
Thailand	-	1.5	241	1205	3808	3970	7688	10875	7625	9772	7285
	-	0.1%	22.6%	48.5%	69.5%	77.6%	74.2%	84.3%	74.3%	78.0%	70.9%
Viet Nam	-	-	-	-	-	-	-	6471	7739	7721	8176
	-	-	-	-	-	-	-	100.0%	79.9%	78.2%	77.3%
PR of China	-	32530	59446	70433	95714	73788	173537	224270	246887	233376	219873
	-	90.6%	90.0%	87.4%	86.5%	78.5%	84.0%	82.3%	80.3%	80.4%	79.4%
Albania	-	-	-	-	-	8.7	9.1	155	116	132	67.3
	-	-	-	-	-	10.4%	17.5%	51.6%	54.9%	67.5%	39.7%
Belarus	x	x	x	52.1	27.9	19.7	15.0	20.2	623	567	504
	x	x	x	2.1%	2.7%	1.7%	1.0%	1.1%	33.8%	40.0%	37.7%
Bosnia and Herzegovina	x	x	x	-	-	-	21.1	57.9	103	89.1	83.9
	x	x	x	-	-	-	100.0%	61.8%	74.5%	69.3%	68.5%
Bulgaria	0	-	-	101	103	134	201	172	103	105	89.4
	0	-	-	6.3%	7.4%	18.6%	22.7%	19.8%	13.7%	13.7%	11.1%

Table 4.8: Coal use in non-metallic mineral industries¹ (continued)
(thousand tonnes of coal equivalent² / share of coal in the sector)

	1973	1980	1985	1990	1995	2000	2005	2010	2014	2015	2016
Croatia	x	x	x	145	53.6	56.2	156	176	118	90.0	68.7
	x	x	x	20.2%	12.9%	9.0%	20.9%	31.4%	24.4%	18.9%	15.0%
Cyprus ³	-	-	65.1	91.5	18.9	46.2	50.8	23.8	3.2	5.3	-
	-	-	79.5%	57.1%	6.1%	14.5%	16.8%	10.3%	1.4%	2.5%	-
Georgia	x	x	x	-	-	-	-	-	276	274	226
	x	x	x	-	-	-	-	-	81.8%	75.2%	70.7%
Kazakhstan	x	x	x	-	-	-	-	-	6.0	18.0	3.0
	x	x	x	-	-	-	-	-	5.0%	3.1%	0.7%
Kyrgyzstan	x	x	x	-	-	-	-	-	223	280	42.5
	x	x	x	-	-	-	-	-	80.7%	83.0%	48.4%
Lithuania	x	x	x	21.4	11.1	5.0	114	116	161	132	120
	x	x	x	1.3%	2.8%	2.3%	43.0%	61.5%	64.8%	62.6%	59.3%
F.Y.R. of Macedonia	x	x	x	-	-	-	-	-	-	19.7	55.5
	x	x	x	-	-	-	-	-	-	17.7%	52.6%
Republic of Moldova	x	x	x	-	4.0	0.6	0.6	35.3	41.1	54.1	30.1
	x	x	x	-	2.1%	4.3%	0.3%	29.7%	40.5%	45.6%	31.7%
Montenegro	x	x	x	..	..	..	0.4	-	-	-	-
	x	x	x	..	..	..	11.4%	-	-	-	-
Romania	-	-	-	97.4	14.5	9.4	50.2	81.4	104	106	109
	-	-	-	67.1%	0.9%	0.6%	3.3%	9.6%	8.7%	8.1%	7.8%
Russian Federation	x	x	x	477	903	753	992	1609	1456	1392	1305
	x	x	x	13.9%	8.8%	5.8%	5.1%	7.3%	6.3%	6.4%	6.6%
Serbia	x	x	x	-	-	-	96.8	153	108	143	196
	x	x	x	-	-	-	53.5%	20.1%	29.0%	29.8%	35.9%
Ukraine	x	x	x	37.3	28.9	22.4	175	893	720	701	816
	x	x	x	3.6%	6.6%	6.5%	4.2%	35.2%	40.3%	41.9%	47.5%
Former Soviet Union	12522	12686	12948	x	x	x	x	x	x	x	x
	22.9%	18.4%	17.3%	x	x	x	x	x	x	x	x
Former Yugoslavia	x	x	348	x	x	x	x	x	x	x	x
	x	x	13.5%	x	x	x	x	x	x	x	x
Jordan	-	-	-	-	-	-	-	-	516	250	314
	-	-	-	-	-	-	-	-	77.4%	47.3%	49.3%
Lebanon	-	-	-	-	170	189	189	212	236	239	243
	-	-	-	-	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
United Arab Emirates	-	-	-	-	-	-	208	23.1	121	359	539
	-	-	-	-	-	-	100.0%	100.0%	100.0%	100.0%	100.0%
Yemen	-	-	-	-	-	-	-	150	165	118	107
	-	-	-	-	-	-	-	100.0%	100.0%	100.0%	100.0%
Non-OECD Total	19381	56058	87373	91448	119793	102546	213890	281746	314373	302742	289476
	27.1%	42.7%	51.3%	71.7%	70.6%	62.2%	70.2%	71.1%	70.0%	69.7%	69.2%
World	40590	88755	133086	135698	161327	140101	247422	311339	344679	331491	316372
	24.2%	37.6%	48.8%	56.5%	53.9%	46.6%	55.6%	60.4%	61.1%	60.2%	59.2%

1. Industries classified as using non-metallic mineral products include glass, bricks, ceramics and cement manufacture. Coal covers all coal types and derived coal products, but excludes peat, peat products and oil shale and oil sands. See the explanatory notes and definitions in Part I.

2. Some portions of data may be reported in non-specified industry for some countries for some years instead.

3. Please refer to the Geographical notes in Part I.

Source: IEA/OECD World Energy Statistics

Energy Data Officer/Statistician

Possible staff vacancies

International Energy Agency, Paris, France

The IEA

The International Energy Agency, based in Paris, acts as energy policy advisor to 30 member countries in their effort to ensure reliable, affordable and clean energy for their citizens. Founded during the oil crisis of 1973-74, the initial role of the IEA was to co-ordinate measures in times of oil supply emergencies. As energy markets have changed, so has the IEA. Its mandate has broadened to incorporate the “Three E’s” of balanced energy policy making: energy security, economic development and environmental protection. Current work focuses on climate change policies, market reform, energy technology collaboration and outreach to the rest of the world, especially major consumers and producers of energy like China, India, Russia and the OPEC countries.

The Energy Data Centre, with a staff of around 30 people, provides a dynamic environment for young people just finishing their studies or with one to two years of work experience.

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The data officers/statisticians compile, verify and disseminate information on all aspects of energy including production, transformation and consumption of all fuels, energy efficiency indicators, CO₂ emissions, and energy prices and taxes. The data officers are responsible for the production of data sets through receiving, reviewing and inputting data submissions from member countries and other sources. They check for completeness, correct calculations, internal consistency, accuracy and consistency with definitions. Often this entails proactively investigating and helping to resolve anomalies in collaboration with national administrations. The data officers/statisticians also design and implement computer macros used in the preparation of their energy statistics publication(s) alongside analysis of the data.

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- University degree in a topic relevant to energy, or statistics. We currently have staff with degrees in mathematics, statistics, information technology, economics, engineering, physics, environmental studies, etc.
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- Ability to work accurately, pay attention to detail and work to deadlines; ability to deal simultaneously with a wide variety of tasks and to organise work efficiently.
- Good communication skills; ability to work well in a team and in a multicultural environment, particularly in liaising with contacts in national administrations and industry; ability to understand, and communicate data.
- An excellent written and oral command of English; knowledge of other languages would be an asset.
- Some knowledge of energy industry operations and terminology would also be an advantage, but is not required.

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Office of Management and Administration
International Energy Agency
31-35 rue de la Fédération
75739 Paris Cedex 15, France

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Users can instantly access not only all the data published in this book, but also all the time series used for preparing this publication and all the other statistics publications of the IEA. The data are available online, either through annual subscription or pay-per-view access. More information on this service can be found on our website at <http://data.iea.org>.

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