Statistics report

Key World Energy Statistics 2020

August 2020

KEY WORLD ENERGY STATISTICS

INTERNATIONAL ENERGY AGENCY

The IEA examines the full spectrum of energy issues including oil, gas and coal supply and demand, renewable energy technologies, electricity markets, energy efficiency, access to energy, demand side management and much more. Through its work, the IEA advocates policies that will enhance the reliability, affordability and sustainability of energy in its 30 member countries, 8 association countries and beyond.

IEA member countries

Australia	Greece	Norway
Austria	Hungary	Poland
Belgium	Ireland	Portugal
Canada	Italy	Slovak Republic
Czech Republic	Japan	Spain
Denmark	Korea	Sweden
Estonia	Luxembourg	Switzerland
Finland	Mexico	Turkey
France	Netherlands	United Kingdom
Germany	New Zealand	United States

* The European Commission also participates in the work of the IEA

IEA association countries

Brazil	Indonesia	South Africa
China	Morocco	Thailand
India	Singapore	

Foreword

The International Energy Agency (IEA) was established in 1974 to promote energy security and provide authoritative analysis on energy for its member countries and beyond. Energy statistics have always been and remain at the heart of the work of the IEA. They provide a comprehensive view on energy production, transformation and final use for all forms of energy as well as the factors that influence energy choices such as prices and RD&D and the wider impact of energy use on CO_2 emissions. Over the years with input from energy statisticians all around the world, the IEA has gained recognition as the world's most authoritative source for energy statistics.

Energy statistics are produced to be used: to monitor changes in energy production and use; inform debate; and provide a wider understanding of energy, including helping countries understand their energy transitions. In *Key World Energy Statistics (KWES)*, we look to highlight some of the key facts and trends from across the vast number of datasets the IEA produces to enable everyone to know more about energy. As part of the IEA modernisation programme, *KWES* contains more information on energy efficiency and renewables, more geographic data – including on the "IEA Family", created through our "Open Doors" policy – and more of the key data to better understand energy security – the heart of our work.

Because energy plays such a vital role in our lives today, I hope that these statistics will not only inform but also help policy makers and others to make wise decisions so that energy is produced and consumed in a secure, affordable, efficient, and sustainable manner. As I like to say, in the world of energy, data always wins. This has never been more true than it is today, with the world economy undergoing significant structural change as a consequence of Covid-19. I would therefore like to thank the whole team in the IEA's Energy Data Centre under the outstanding leadership of Nick Johnstone for their work in ensuring we all have the data needed to gain a comprehensive understanding of energy today so that we can better plan for tomorrow.

Dr. Fatih Birol
Executive Director, International Energy Agency

KWES is a summary of the comprehensive data made available by the IEA via its website: www.iea.org/statistics/.

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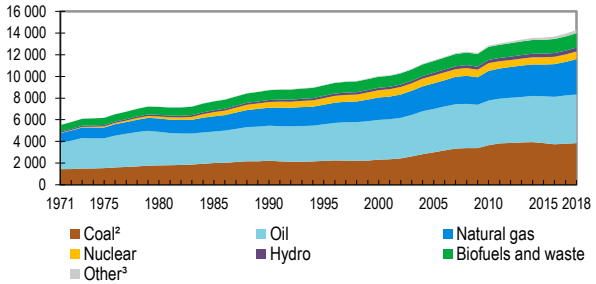
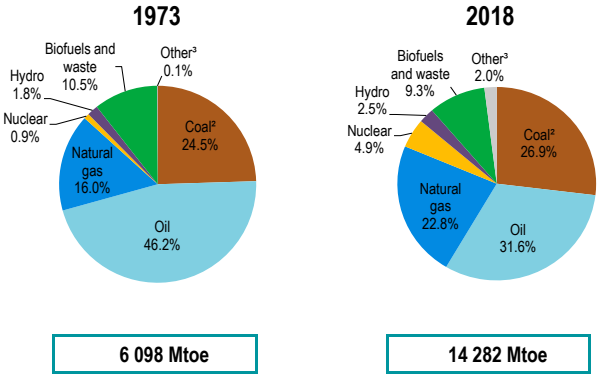
World total energy supply (TES) by source

World[1] TES from 1971 to 2018 by source (Mtoe)



1973 and 2018 source shares of TES



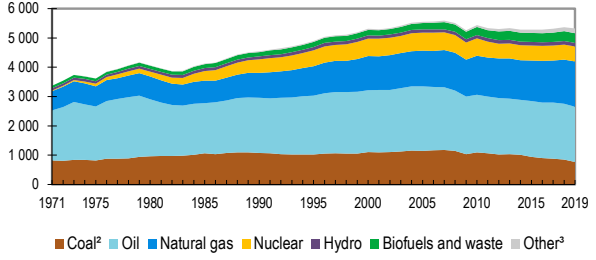
6 098 Mtoe **14 282 Mtoe**

1. World includes international aviation and international marine bunkers.
2. In these graphs, peat and oil shale are aggregated with coal.
3. Includes geothermal, solar, wind, tide/wave/ocean, heat and other sources.

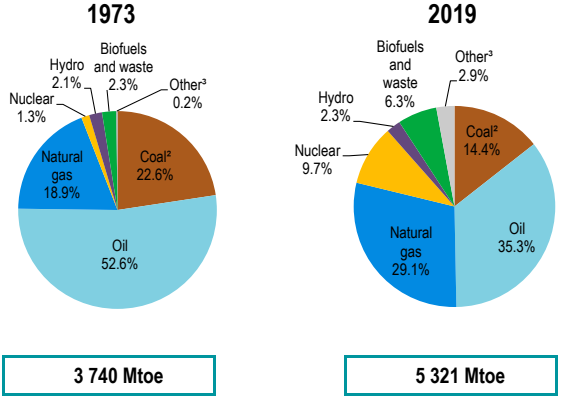
Source: IEA, World Energy Balances, 2020.

OECD total energy supply by source

OECD TES[1] from 1971 to 2019 by source (Mtoe)



1973 and 2019 source shares of TES[1]



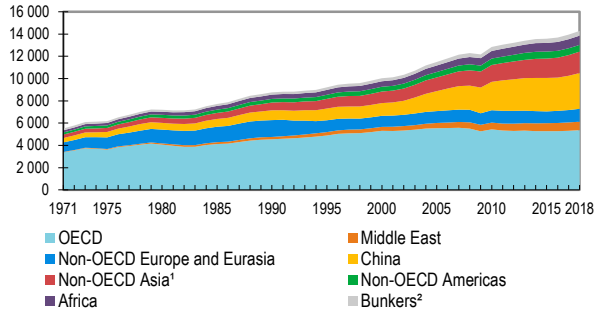
3 740 Mtoe **5 321 Mtoe**

1. Excludes electricity trade.
2. In these graphs, peat and oil shale are aggregated with coal.
3. Includes geothermal, solar, wind, tide/wave/ocean, heat and other sources.

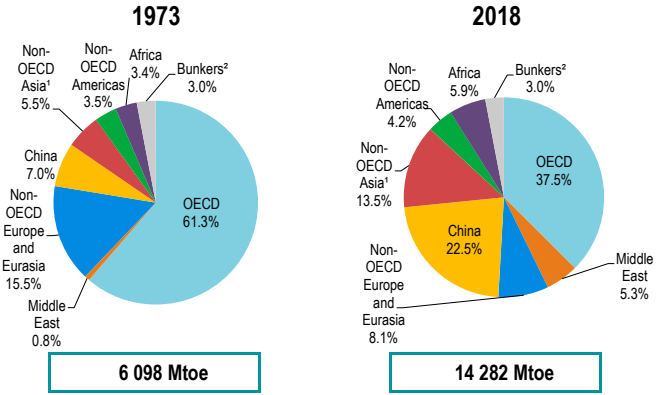
Source: IEA, World Energy Balances, 2020.

World total energy supply by region

World TES from 1971 to 2018 by region (Mtoe)



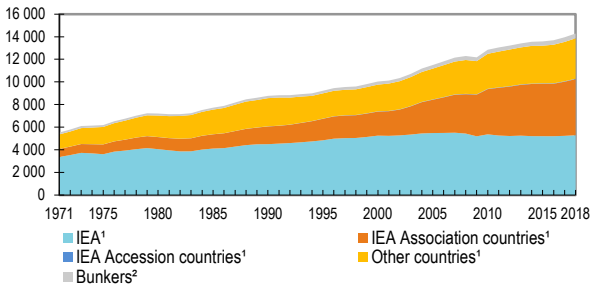
1973 and 2018 regional shares of TES



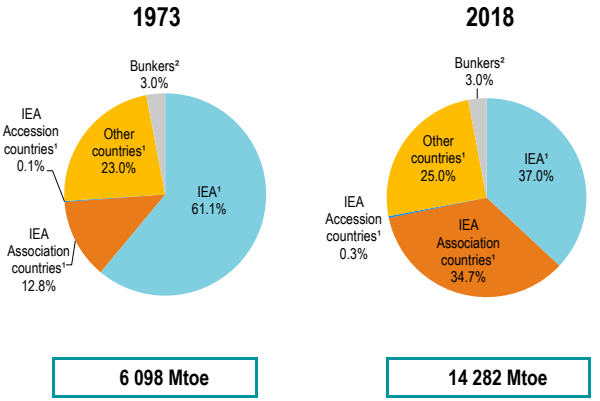
1. Non-OECD Asia excludes China.
2. Includes international aviation and international marine bunkers.
Source: IEA, World Energy Balances, 2020.

World total energy supply by region

World TES from 1971 to 2018 by region (Mtoe)



1973 and 2018 regional shares of TES



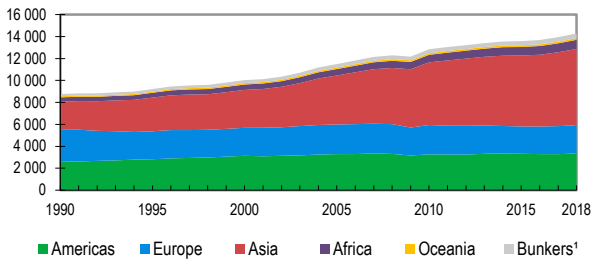
6 098 Mtoe **14 282 Mtoe**

1. Please see geographical coverage for the list of IEA Accession, Association and other countries.
2. Includes international aviation and international marine bunkers.

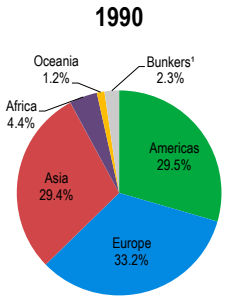
Source: IEA, World Energy Balances, 2020.

World total energy supply by geographical region

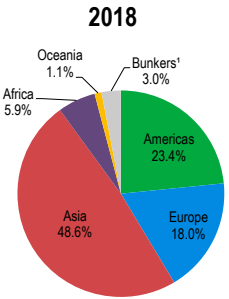
World TES from 1990 to 2018 by region (Mtoe)



1990 and 2018 regional shares of TES



8 767 Mtoe



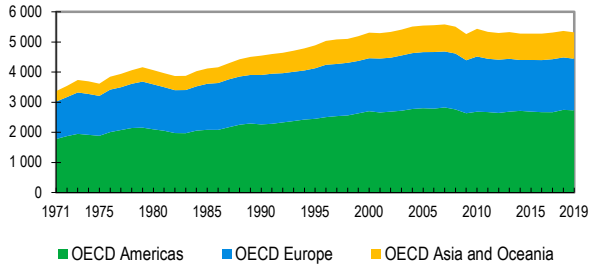
14 282 Mtoe

1. Includes international aviation and international marine bunkers.

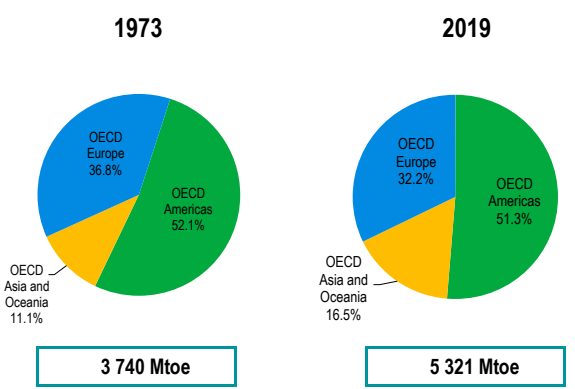
Source: IEA, World Energy Balances, 2020.

OECD total energy supply by region

OECD TES[1] from 1971 to 2019 by region (Mtoe)



1973 and 2019 regional shares of TES[1]

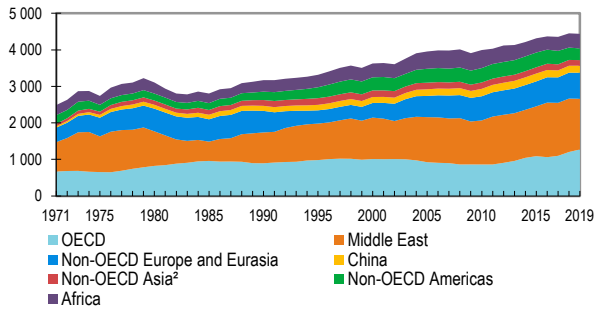


1. Excludes electricity trade.

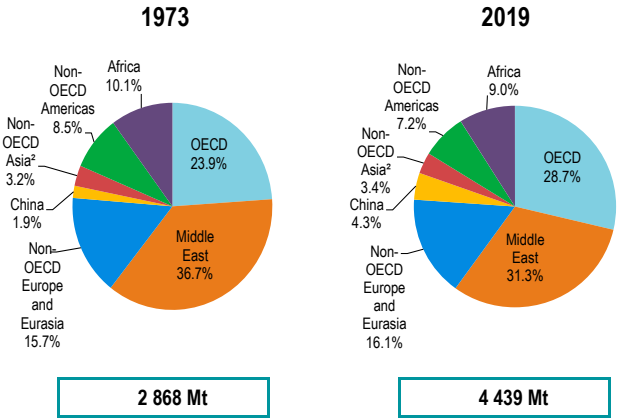
Source: IEA, World Energy Balances, 2020.

Crude oil production

World crude oil[1] production from 1971 to 2019 by region (Mt)



1973 and 2019 regional shares of crude oil[1] production



1. Includes crude oil, NGL, feedstocks, additives and other hydrocarbons.
2. Non-OECD Asia excludes China.

Sources: IEA, World Energy Statistics, 2020.

Crude oil production

Producers, net exporters and net importers of crude oil[1]

Producers	Mt	% of world total
United States	742	16.7
Russian Federation	560	12.6
Saudi Arabia	546	12.3
Canada	265	6.0
Iraq	234	5.3
People's Rep. of China	192	4.3
United Arab Emirates	189	4.3
Islamic Rep. of Iran	146	3.3
Brazil	145	3.3
Kuwait	144	3.2
Rest of the world	1 276	28.7
World	**4 439**	**100.0**

2019 provisional data

Net exporters	Mt
Saudi Arabia	368
Russian Federation	260
Iraq	190
Canada	148
United Arab Emirates	125
Islamic Rep. of Iran	106
Kuwait	105
Nigeria	93
Kazakhstan	70
Angola	67
Others	550
Total	**2 082**

2018 data

Net importers	Mt
People's Rep. of China	459
United States	292
India	226
Korea	151
Japan	151
Germany	85
Spain	67
Italy	63
Netherlands	61
Singapore	55
Others	525
Total	**2 135**

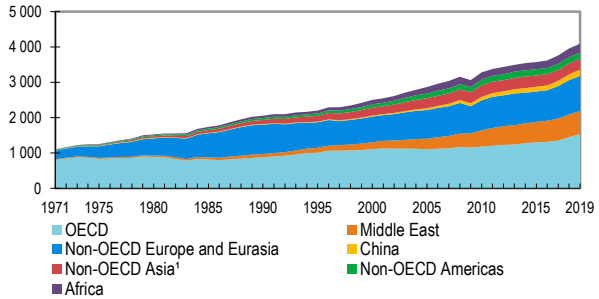
2018 data

1. Includes production of crude oil, NGL, feedstocks, additives and other hydrocarbons. Excludes liquids from other fuel sources (renewables, coal and natural gas).

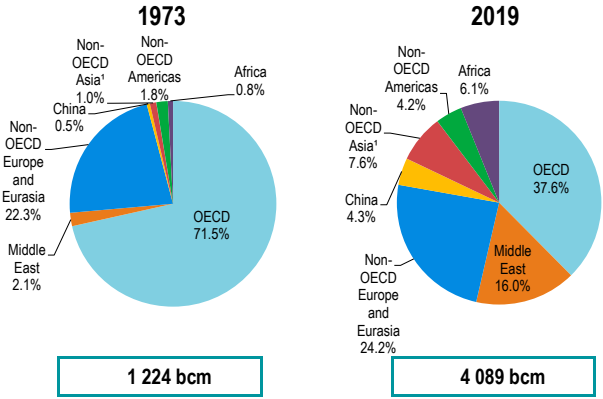
Sources: *IEA, World Energy Statistics, 2020*.

Natural gas production

World natural gas production from 1971 to 2019 by region (billion cubic metres, bcm)



1973 and 2019 regional shares of natural gas production



1. Non-OECD Asia excludes China.

Sources: IEA, Natural Gas Information, 2020.

Natural gas production

Producers, net exporters and net importers[1] of natural gas

Producers	bcm	% of world total
United States	955	23.4
Russian Federation	750	18.3
Islamic Rep. of Iran	232	5.7
People's Rep. of China	178	4.4
Canada	177	4.3
Qatar	168	4.1
Australia	142	3.5
Norway	119	2.9
Saudi Arabia	98	2.4
Algeria	91	2.2
Rest of the world	1 179	28.8
World	**4 089**	**100.0**

2019 provisional data

Net exporters	bcm
Russian Federation	265
Qatar	124
Norway	113
Australia	95
United States	54
Turkmenistan	52
Canada	51
Algeria	43
Nigeria	29
Malaysia	24
Others	203
Total	**1 053**

2019 provisional data

Net importers	bcm
People's Rep. of China	122
Japan	105
Germany	103
Italy	71
Mexico	57
Korea	54
Turkey	44
France	44
United Kingdom	39
Spain	36
Others	324
Total	**999**

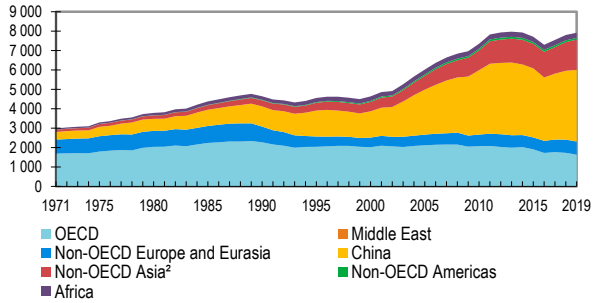
2019 provisional data

1. Net exports and net imports include pipeline gas and LNG.

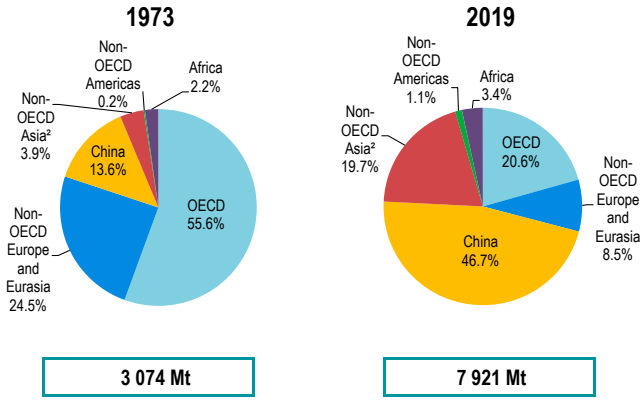
Sources: IEA, Natural Gas Information, 2020.

Coal production

World coal[1] production from 1971 to 2019 by region (Mt)



1973 and 2019 regional shares of coal[1] production



1. Includes steam coal, coking coal, lignite and recovered coal.
2. Non-OECD Asia excludes China.

Sources: IEA, World Energy Statistics, 2020; IEA, Coal Information, 2020.

Coal production

Producers, net exporters and net importers of coal[1]

Producers	Mt	% of world total
People's Rep. of China	3 693	46.6
India	769	9.7
United States	640	8.1
Indonesia	616	7.8
Australia	503	6.4
Russian Federation	418	5.3
South Africa	254	3.2
Germany	131	1.7
Poland	112	1.4
Kazakhstan	105	1.3
Rest of the world	680	8.5
World	**7 921**	**100.0**

2019 provisional data

Net exporters	Mt
Indonesia	448
Australia	393
Russian Federation	189
South Africa	78
United States	78
Colombia	71
Mongolia	28
Canada	28
Kazakhstan	25
Mozambique	10
Others	4
Total	**1 352**

2019 provisional data

Net importers	Mt
People's Rep. of China	296
India	246
Japan	185
Korea	130
Chinese Taipei	67
Viet Nam	43
Germany	41
Turkey	38
Malaysia	35
Thailand	23
Others	235
Total	**1 339**

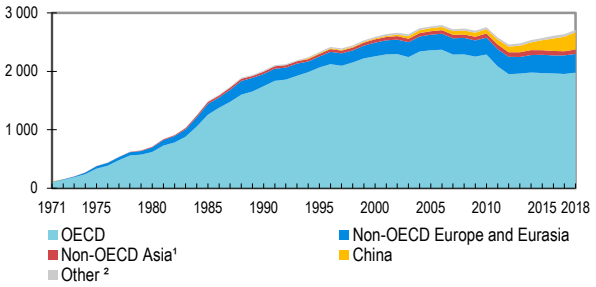
2019 provisional data

1. Includes steam coal, coking coal, lignite and recovered coal.

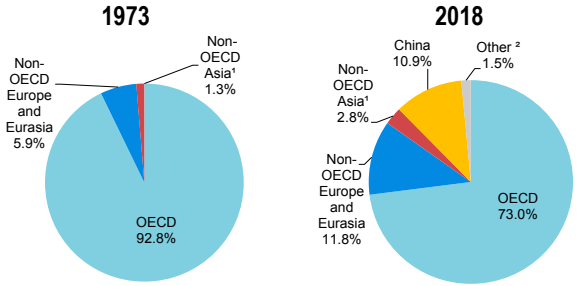
Sources: IEA, World Energy Statistics, 2020; IEA, Coal Information, 2020.

Nuclear electricity production

World nuclear electricity production from 1971 to 2018 by region (TWh)



1973 and 2018 regional shares of nuclear electricity production



203 TWh **2 710 TWh**

1. Non-OECD Asia excludes China.
2. Other includes Africa, Non-OECD Americas and the Middle East.
Sources: IEA, World Energy Statistics, 2020; IEA, Electricity Information, 2020.

Nuclear electricity production

Producers of nuclear electricity

Producers	TWh	% of world total
United States	841	31.0
France	413	15.2
People's Rep. of China	295	10.9
Russian Federation	205	7.5
Korea	134	4.9
Canada	101	3.7
Ukraine	84	3.1
Germany	76	2.8
Sweden	69	2.5
United Kingdom	65	2.4
Rest of the world	427	16.0
World	**2 710**	**100.0**

2018 data

Net installed capacity	GW
United States	99
France	63
People's Rep. of China	43
Japan	37
Russian Federation	27
Korea	22
Canada	14
Ukraine	13
Germany	10
United Kingdom	9
Rest of the world	60
World	**397**

2018 data
Source: International Atomic Energy Agency

Country (top ten producers)	% of nuclear in total domestic electricity generation
France	71.0
Ukraine	52.8
Sweden	42.0
Korea	22.6
United Kingdom	19.5
United States	18.9
Russian Federation	18.4
Canada	15.4
Germany	11.8
People's Rep. of China	4.1
Rest of the world[1]	7.6
World	**10.1**

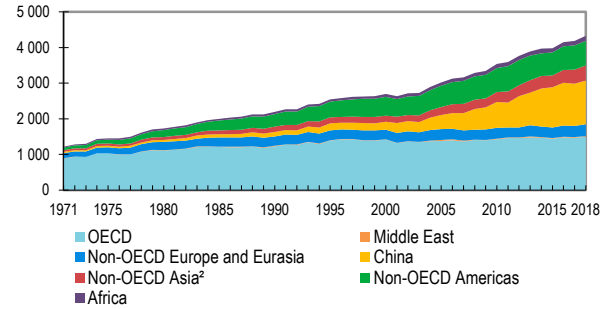
2018 data

1. Excludes countries with no nuclear production.

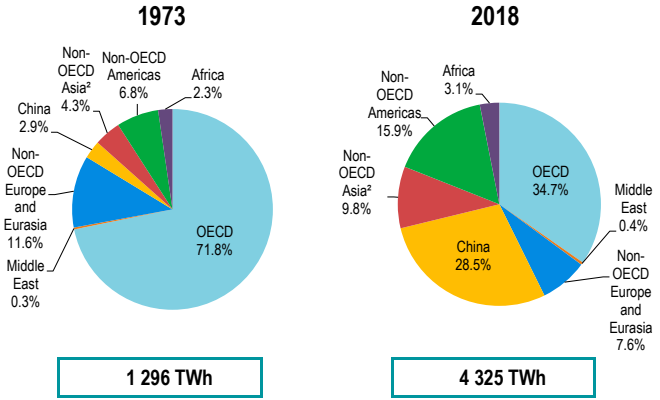
Sources: IEA, World Energy Statistics, 2020; IEA, Electricity Information, 2020.

Hydroelectricity production

World hydroelectricity production[1] from 1971 to 2018 by region (TWh)



1973 and 2018 regional shares of hydroelectricity production[1]



1. Includes electricity production from pumped storage.
2. Non-OECD Asia excludes China.

Sources: IEA, World Energy Statistics, 2020; IEA, Renewables Information, 2020.

Hydroelectricity production

Producers of hydroelectricity[1]

Producers	TWh	% of world total
People's Rep. of China	1 232	28.5
Brazil	389	9.0
Canada	386	8.9
United States	317	7.3
Russian Federation	193	4.5
India	151	3.5
Norway	140	3.2
Japan	88	2.0
Viet Nam	84	1.9
France	71	1.6
Rest of the world	1 274	29.6
World	**4 325**	**100.0**

2018 data

Net installed capacity	GW
People's Rep. of China	352
Brazil	105
United States	103
Canada	81
Russian Federation	51
Japan	50
India	49
Norway	33
Turkey	28
France	26
Rest of the world	414
World	**1 293**

2018 data
Sources:
IEA, Renewable Energy Market Update;
United Nations Statistics Division.

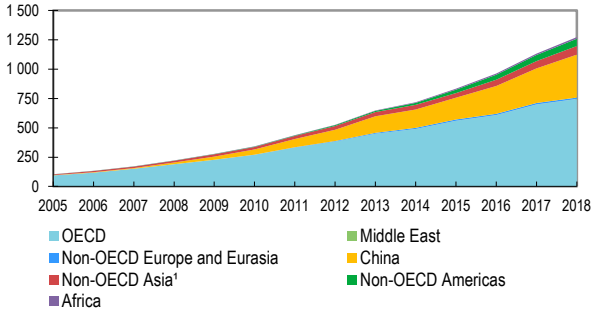
Country (top ten producers)	% of hydro in total domestic electricity generation
Norway	95.0
Brazil	64.7
Canada	59.0
Viet Nam	34.9
Russian Federation	17.3
People's Rep. of China	17.2
France	12.1
India	9.6
Japan	8.4
United States	7.1
Rest of the world[2]	15.6
World	**16.2**

2018 data

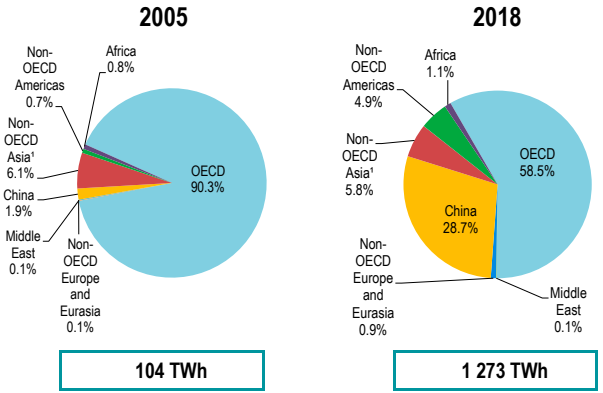
1. Includes electricity production from pumped storage.
2. Excludes countries with no hydro production.
Sources: IEA, World Energy Statistics, 2020; IEA, Renewables Information, 2020.

Wind electricity production

World wind electricity production from 2005 to 2018 by region (TWh)



2005 and 2018 regional shares of wind electricity production



1. Non-OECD Asia excludes China.

Sources: IEA, World Energy Statistics, 2020; IEA, Renewables Information, 2020.

Wind electricity production

Producers of wind electricity

Producers	TWh	% of world total
People's Rep. of China	366	28.7
United States	276	21.7
Germany	110	8.6
India	64	5.0
United Kingdom	57	4.5
Spain	51	4.0
Brazil	48	3.8
Canada	33	2.6
France	29	2.2
Turkey	20	1.6
Rest of the world	220	17.3
World	**1 273**	**100.0**

2018 data

Net installed capacity	GW
People's Rep. of China	184.3
United States	94.5
Germany	58.8
India	35.3
Spain	23.4
United Kingdom	21.8
France	14.9
Brazil	14.4
Canada	12.8
Italy	10.2
Rest of the world	92.4
World	**562.9**

2018 data

Country (top ten producers)	% of wind in total domestic electricity generation
Spain	18.5
Germany	17.1
United Kingdom	17.1
Brazil	8.1
Turkey	6.5
United States	6.2
People's Rep. of China	5.1
Canada	5.1
France	4.9
India	4.1
Rest of the world[1]	2.5
World	**4.8**

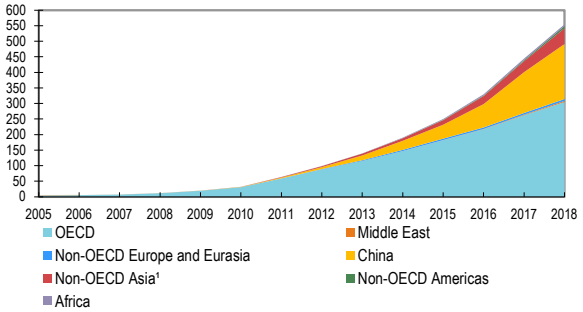
2018 data

1. Excludes countries with no wind production.

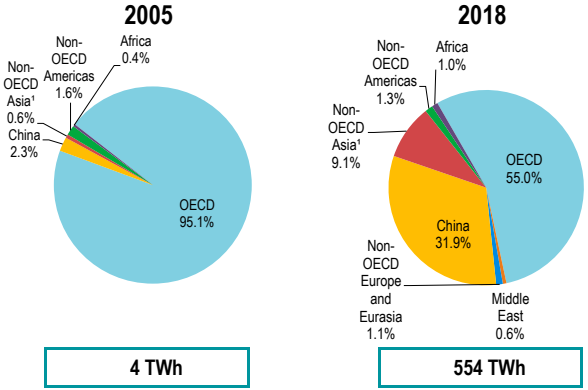
Sources: IEA, World Energy Statistics, 2020; IEA, Renewables Information, 2020; IEA, Renewable Energy Market Update.

Solar photovoltaic electricity production

World solar PV electricity production from 2005 to 2018 by region (TWh)



2005 and 2018 regional shares of solar PV electricity production



1. Non-OECD Asia excludes China.

Sources: IEA, World Energy Statistics, 2020; IEA, Renewables Information, 2020.

Solar photovoltaic electricity production

Producers of solar PV electricity

Producers	TWh	% of world total
People's Rep. of China	177	31.9
United States	81	14.7
Japan	63	11.3
Germany	46	8.3
India	40	7.2
Italy	23	4.1
United Kingdom	13	2.3
France	11	1.9
Australia	10	1.8
Korea	9	1.7
Rest of the world	81	14.8
World	**554**	**100.0**

2018 data

Net installed capacity	GW
People's Rep. of China	175.1
United States	62.5
Japan	56.2
Germany	45.2
India	28.3
Italy	20.1
United Kingdom	13.1
Australia	11.0
France	9.6
Korea	8.1
Rest of the world	66.4
World	**495.4**

2018 data

Country (top ten producers)	% of solar PV in total domestic electricity generation
Italy	7.8
Germany	7.1
Japan	5.9
United Kingdom	3.9
Australia	3.8
India	2.5
People's Rep. of China	2.5
United States	1.8
France	1.8
Korea	1.6
Rest of the world[1]	0.9
World	**2.1**

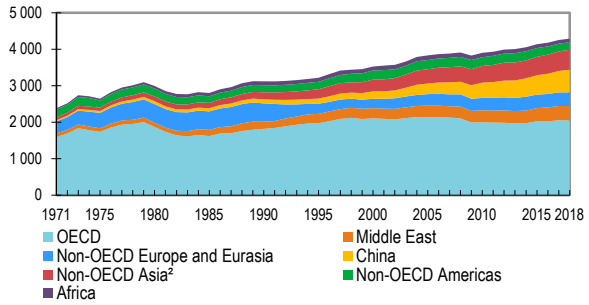
2018 data

1. Excludes countries with no solar PV production.

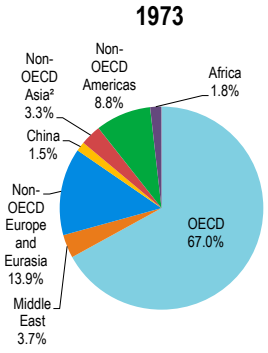
Sources: IEA, World Energy Statistics, 2020; IEA, Renewables Information, 2020; IEA, Renewable Energy Market Update.

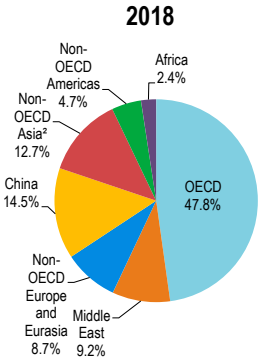
Refining by region

World refinery intake[1] from 1971 to 2018 by region (Mt)



1973 and 2018 regional shares of refinery intake[1]





1. Includes crude oil, NGL, refinery feedstocks, additives and other hydrocarbons.
2. Non-OECD Asia excludes China.

Sources: IEA, World Energy Statistics, 2020; IEA, Oil Information, 2020.

Refining by region

Refinery capacity, net exporters and net importers of oil[1]

Crude distillation capacity	kb/cd	% of world total
United States	19 026	18.6
People's Rep. of China	16 726	16.3
Russian Federation	6 819	6.7
India	5 201	5.1
Japan	3 558	3.5
Korea	3 525	3.4
Saudi Arabia	2 829	2.8
Islamic Rep. of Iran	2 325	2.3
Brazil	2 175	2.1
Germany	2 022	2.0
Rest of the world	38 203	37.2
World	**102 409**	**100.0**

2019 data

Net exporters	Mt
Saudi Arabia	437
Russian Federation	389
Iraq	177
Canada	156
United Arab Emirates	149
Kuwait	133
Islamic Rep. of Iran	125
Nigeria	74
Kazakhstan	74
Norway	73
Others	519
Total	**2 306**

2018 data

Net importers	Mt
People's Rep. of China	464
India	197
Japan	176
United States	146
Korea	122
Germany	103
Singapore	85
France	76
Spain	63
Italy	52
Others	780
Total	**2 264**

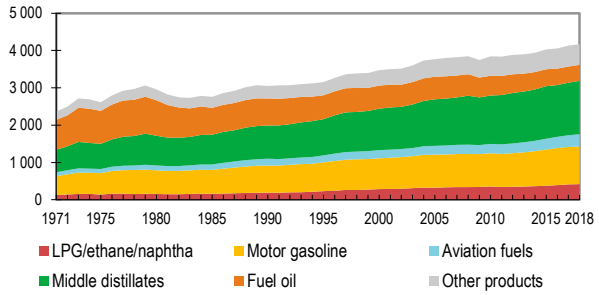
2018 data

1. Includes crude oil and oil products.

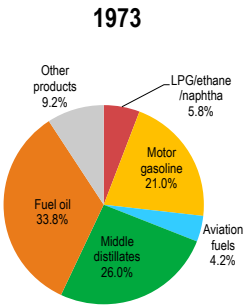
Sources: IEA, World Energy Statistics, 2020; IEA, Oil Information, 2020.

Refining by product

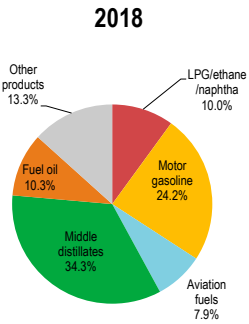
World refinery output from 1971 to 2018 by product (Mt)



1973 and 2018 shares of refinery output by product



2 719 Mt



4 170 Mt

Sources: IEA, World Energy Statistics, 2020; IEA, Oil Information, 2020.

Refining by product

Producers, net exporters and net importers of oil products

Producers	Mt	% of world total
United States	856	20.5
People's Rep. of China	599	14.4
Russian Federation	277	6.6
India	260	6.2
Korea	158	3.8
Japan	152	3.6
Saudi Arabia	128	3.1
Germany	97	2.3
Brazil	94	2.3
Canada	90	2.2
Rest of the world	1 459	35.0
World	**4 170**	**100.0**

2018 data

Net exporters	Mt
United States	146
Russian Federation	129
Saudi Arabia	69
India	30
Korea	29
Kuwait	28
United Arab Emirates	24
Netherlands	22
Algeria	20
Islamic Rep. of Iran	20
Others	154
Total[1]	**671**

2018 data

Net importers	Mt
Mexico	48
Singapore	29
Australia	28
Japan	25
Indonesia	23
Turkey	23
France	22
Hong Kong, China	21
Nigeria	19
Germany	18
Others	321
Total[1]	**577**

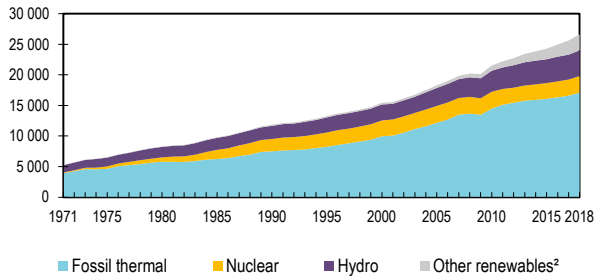
2018 data

1. The discrepancy between total net exports and total net imports arises from different data sources and possible misallocation of bunkers into exports for some countries.

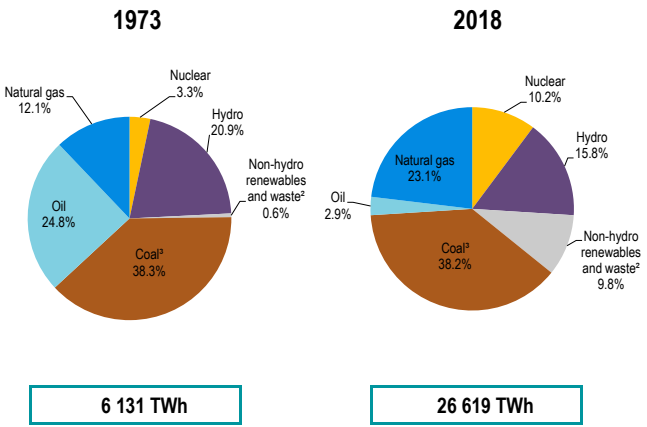
Sources: IEA, World Energy Statistics, 2020; IEA, Oil Information, 2020.

Electricity generation by source

World electricity generation[1] from 1971 to 2018 by fuel (TWh)



1973 and 2018 source shares of electricity generation[1]



1. Excludes electricity generation from pumped storage.
2. Includes geothermal, solar, wind, tide/wave/ocean, biofuels, waste, heat and other.
3. In these graphs, peat and oil shale are aggregated with coal.

Sources: IEA, World Energy Balances, 2020; IEA, Electricity Information, 2020.

Electricity generation by source

Producers of electricity by source

Coal[1]	TWh
People's Rep. of China	4 773
United States	1 272
India	1 163
Japan	339
Korea	258
Germany	239
South Africa	227
Russian Federation	178
Indonesia	160
Australia	158
Rest of the world	1 393
World	**10 160**

2018 data

Oil	TWh
Saudi Arabia	160
Japan	52
United States	43
Iraq	40
Mexico	35
Pakistan	31
Kuwait	31
Islamic Rep. of Iran	29
Egypt	23
Lebanon	21
Rest of the world	319
World	**784**

2018 data

Natural gas	TWh
United States	1 519
Russian Federation	528
Japan	378
Islamic Rep. of Iran	256
People's Rep. of China	224
Saudi Arabia	218
Mexico	202
Korea	156
Egypt	155
United Arab Emirates	134
Rest of the world	2 380
World	**6 150**

2018 data

Renewables[2]	TWh
People's Rep. of China	1 833
United States	743
Brazil	495
Canada	434
India	300
Germany	225
Russian Federation	193
Japan	177
Norway	143
Italy	114
Rest of the world	2 043
World	**6 700**

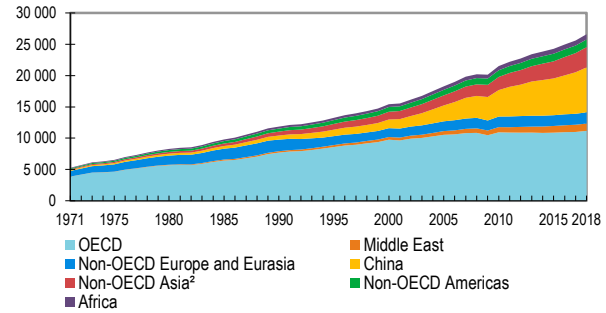
2018 data

1. In this table, peat and oil shale are aggregated with coal.
2. Excludes electricity generation from pumped storage.

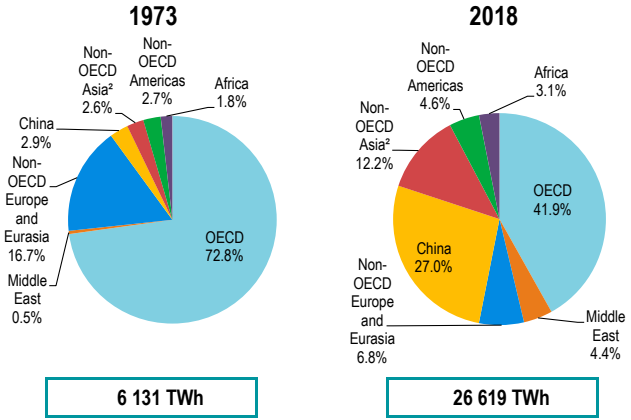
Sources: IEA, World Energy Balances, 2020; IEA, Electricity Information, 2020.

Electricity generation by region

World electricity generation[1] from 1971 to 2018 by region (TWh)



1973 and 2018 regional shares of electricity generation[1]



1. Excludes electricity generation from pumped storage.
2. Non-OECD Asia excludes China.

Sources: IEA, World Energy Balances, 2020; IEA, Electricity Information, 2020.

Electricity generation by region

Producers, net exporters and net importers of electricity

Producers[1]	TWh	% of world total
People's Rep. of China	7 149	26.9
United States	4 434	16.7
India	1 583	5.9
Russian Federation	1 113	4.2
Japan	1 050	3.9
Canada	654	2.5
Germany	637	2.4
Brazil	601	2.3
Korea	586	2.2
France	577	2.2
Rest of the world	8 235	30.8
World	**26 619**	**100.0**

2018 data

Net exporters	TWh
France	63
Germany	49
Canada	48
Paraguay	42
Lao People's. Dem. Rep.	27
Sweden	17
People's Rep. of China	14
Czech Republic	14
Russian Federation	13
Norway	10
Others	76
Total	**373**

2018 data

Net importers	TWh
United States	44
Italy	44
Brazil	35
Thailand	26
Iraq	22
Finland	20
United Kingdom	19
Belgium	17
Hungary	14
Hong Kong, China	12
Others	123
Total	**376**

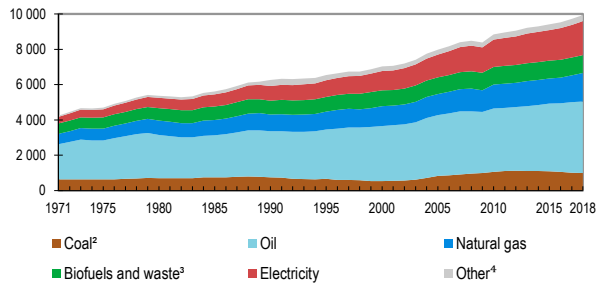
2018 data

1. Gross production minus production from pumped storage plants.

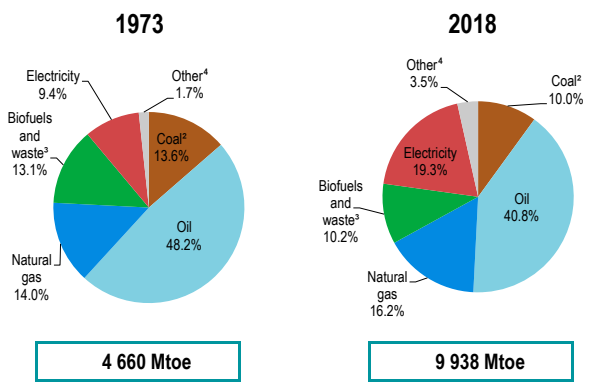
Sources: IEA, World Energy Balances, 2020; IEA, Electricity Information, 2020.

World total final consumption (TFC) by source

World[1] TFC from 1971 to 2018 by source (Mtoe)



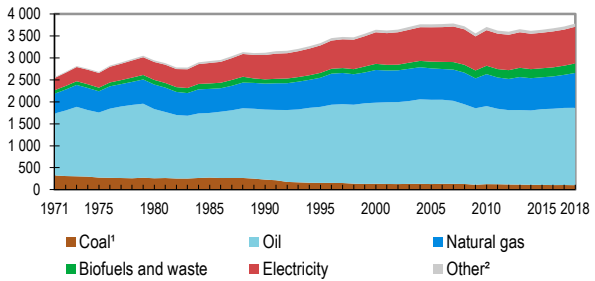
1973 and 2018 source shares of TFC



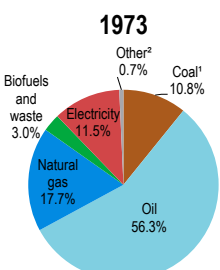
1. World includes international aviation and international marine bunkers.
2. In these graphs, peat and oil shale are aggregated with coal.
3. Data for biofuels and waste final consumption have been estimated for a number of countries.
4. Includes heat, solar thermal and geothermal.
Source: IEA, World Energy Balances, 2020.

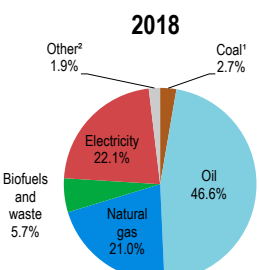
OECD total final consumption by source

OECD TFC from 1971 to 2018 by source (Mtoe)



1973 and 2018 source shares of TFC



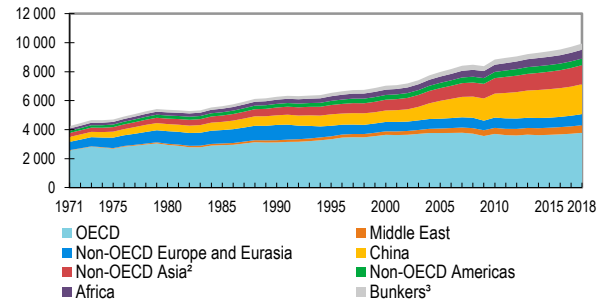


2 816 Mtoe **3 784 Mtoe**

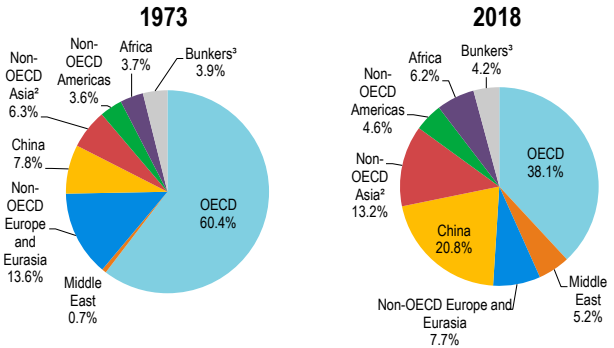
1. In these graphs, peat and oil shale are aggregated with coal.
2. Includes heat, solar thermal and geothermal.
Source: IEA, World Energy Balances, 2020.

World total final consumption by region

World TFC[1] from 1971 to 2018 by region (Mtoe)



1973 and 2018 regional shares of TFC[1]

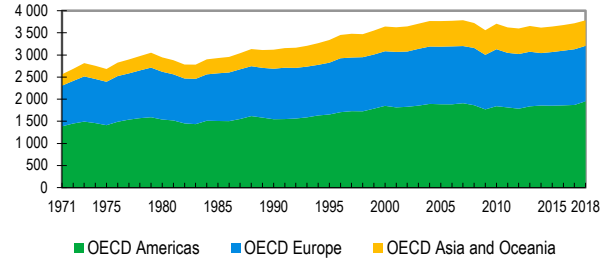


1. Data for biofuels and waste final consumption have been estimated for a number of countries.
2. Non-OECD Asia excludes China.
3. Includes international aviation and international marine bunkers.

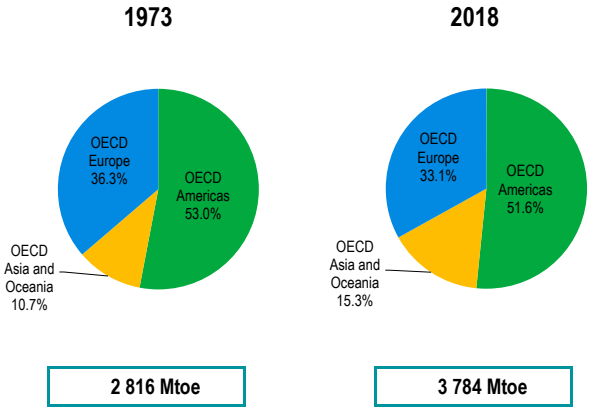
Source: IEA, World Energy Balances, 2020.

OECD total final consumption by region

OECD TFC from 1971 to 2018 by region (Mtoe)



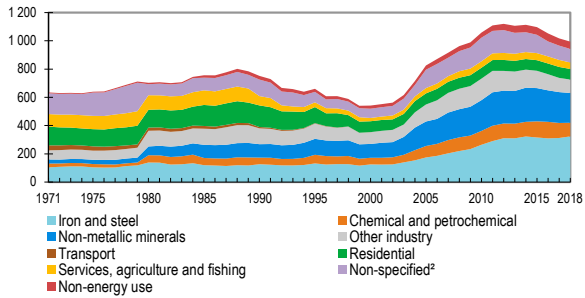
1973 and 2018 regional shares of TFC



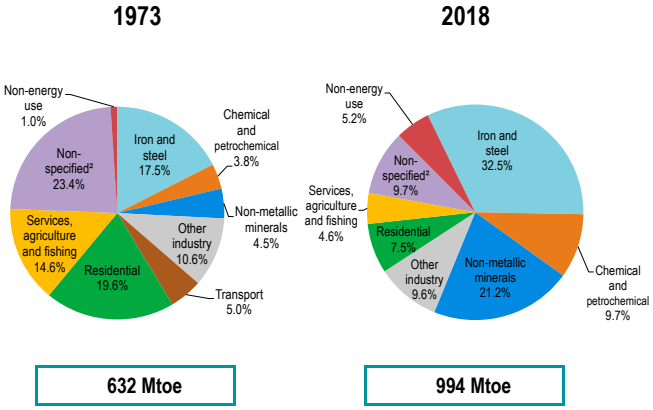
Source: IEA, World Energy Balances, 2020.

Total final consumption by sector: coal[1]

Coal TFC from 1971 to 2018 by sector (Mtoe)



1973 and 2018 shares of world coal[1] final consumption

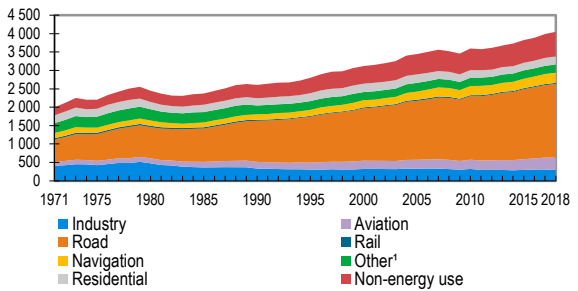


1. In these graphs, peat and oil shale are aggregated with coal.
2. Includes non-specified industry, transport and other.

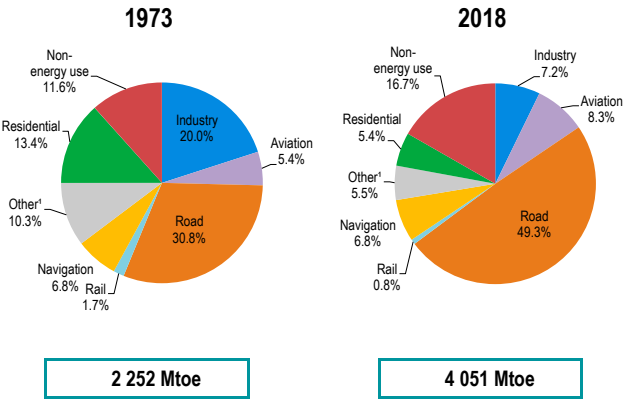
Source: IEA, World Energy Balances, 2020.

Total final consumption by sector: oil

Oil TFC from 1971 to 2018 by sector (Mtoe)



1973 and 2018 shares of world oil final consumption



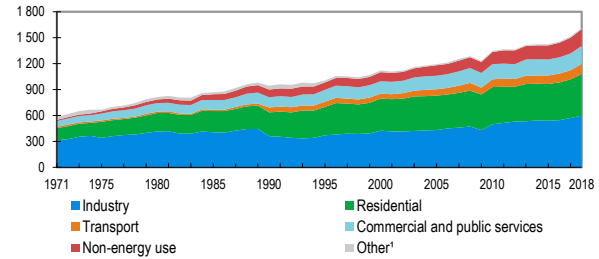
2 252 Mtoe **4 051 Mtoe**

1. Includes agriculture, commercial and public services, non-specified other, pipeline and non-specified transport.

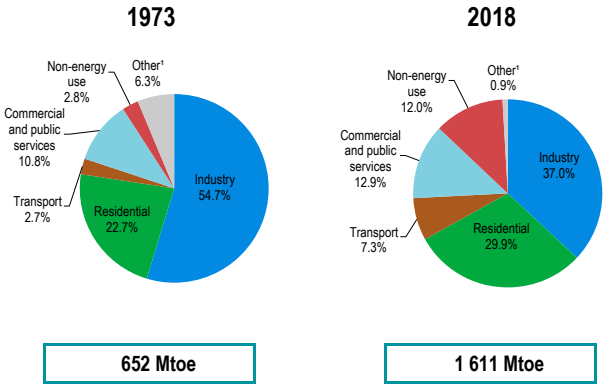
Source: IEA, World Energy Balances, 2020.

Total final consumption by sector: natural gas

Natural gas TFC from 1971 to 2018 by sector (Mtoe)



1973 and 2018 shares of world natural gas final consumption

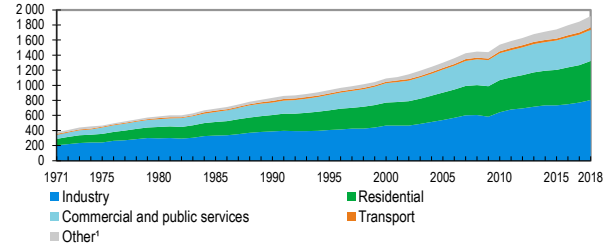


1. Includes agriculture, fishing and non-specified other.

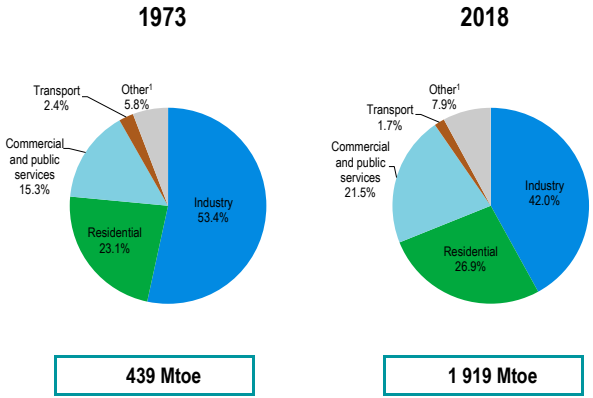
Source: IEA, World Energy Balances, 2020.

Total final consumption by sector: electricity

Electricity TFC from 1971 to 2018 by sector (Mtoe)



1973 and 2018 shares of world electricity final consumption

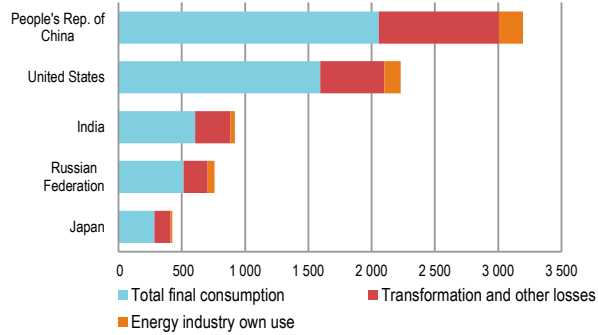


1. Includes agriculture, fishing and non-specified other.

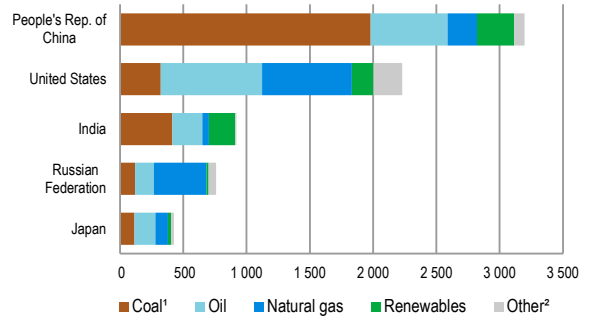
Source: IEA, World Energy Balances, 2020.

Top five countries by total energy supply (TES)

TES by sector (Mtoe), 2018



TES by energy source (Mtoe), 2018

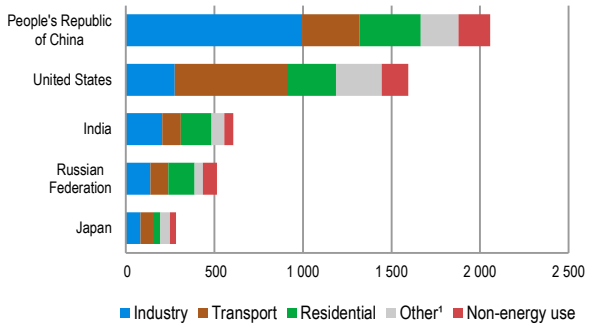


1. In this graph, peat and oil shale are aggregated with coal.
2. Other includes nuclear, electricity trade, heat, non-renewable waste.

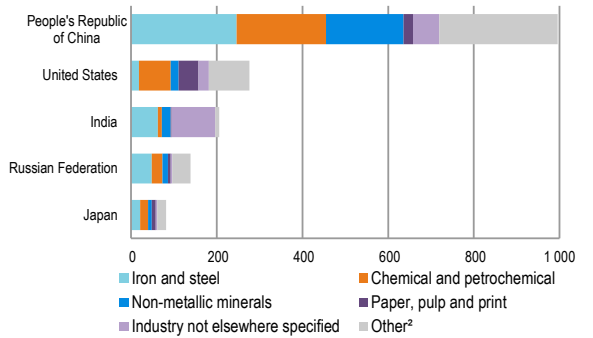
Source: IEA, World Energy Balances, 2020.

Top five countries by total final consumption (TFC)

TFC by sector (Mtoe), 2018



Industry consumption by sub-sector (Mtoe), 2018

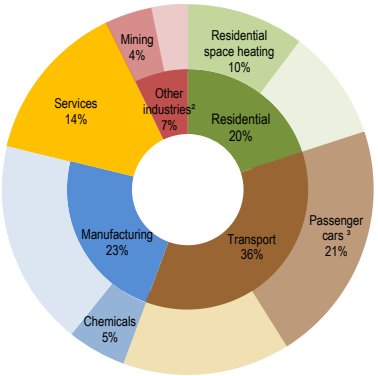


1. Other includes commercial and public services, agriculture/forestry, fishing and non-specified.
2. Other includes non-ferrous metals, transport equipment, machinery, mining and quarrying, food and tobacco, wood and wood products, construction, textile and leather.

Source: IEA, World Energy Balances, 2020.

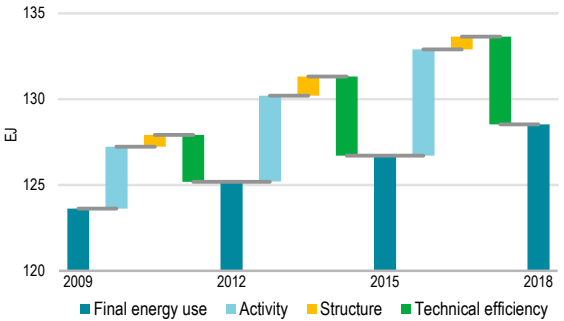
Energy efficiency indicators

Largest end uses of energy by sector in IEA[1]



Source: IEA Energy Efficiency Indicators database, 2020.

Decomposition of final energy consumption in IEA

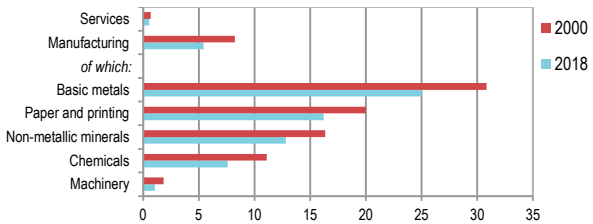


Source: Adapted from Energy Efficiency 2019, based on IEA Energy Efficiency Indicators database.
Excludes non-energy use and freight transport for the United States.

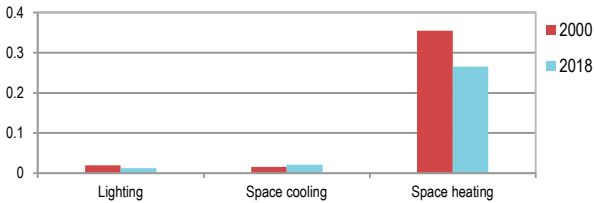
1. Refers to 2018 data for sixteen IEA countries for which data are available for most end uses: Australia, Belgium, Canada, Czech Republic, Finland, France, Germany, Hungary, Italy, Japan, Korea, Luxembourg, New Zealand, Spain, the United Kingdom and the United States.
2. Other industries include agriculture, mining and construction.
3. Passenger cars include cars, sport utility vehicles and personal trucks.

Energy efficiency indicators

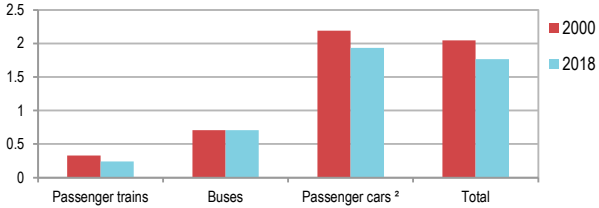
Services and manufacturing in IEA[1]: energy per value added (MJ/2015 USD PPP)



Residential in IEA[1]: energy per floor area (GJ/m^2)



Passenger transport in IEA[1]: energy per passenger-kilometre (MJ/pkm)



1. Refers to 2018 data for sixteen IEA countries for which data are available for most end uses: Australia, Belgium, Canada, Czech Republic, Finland, France, Germany, Hungary, Italy, Japan, Korea, Luxembourg, New Zealand, Spain, the United Kingdom and the United States.

2. Passenger cars include cars, sport utility vehicles and personal trucks.

Source: IEA Energy Efficiency Indicators database, 2020.

Simplified energy balance table

World energy balance, 1973

(Mtoe)

SUPPLY AND CONSUMPTION	Coal[1]	Crude oil	Oil products	Natural gas	Nuclear	Hydro	Biofuels and waste[2]	Other[3]	Total
Production	1 474.00	2 938.22	-	990.94	53.04	110.29	638.16	6.13	6 210.77
Imports	140.06	1 561.92	409.74	73.42	-	-	0.13	8.14	2 193.41
Exports	-130.35	-1 613.00	-443.08	-72.58	-	-	-0.19	-8.31	-2 267.50
Stock changes	12.48	-19.68	-16.51	-15.10	-	-	0.06	-	-38.74
TES	**1 496.19**	**2 867.46**	**-49.85**	**976.69**	**53.04**	**110.29**	**638.15**	**5.96**	**6 097.94**
Transfers	-	-46.64	48.72	-	-	-	-	-	2.08
Statistical diff.	1.01	11.95	-5.83	4.29	-	-	0.06	-0.71	10.77
Electricity plants	-555.58	-22.91	-316.76	-159.57	-52.94	-110.29	-2.20	503.62	-716.62
CHP plants	-86.40	-	-28.62	-50.85	-0.10	-	-0.93	100.96	-65.95
Heat plants	-7.81	-	-0.90	-0.68	-	-	-0.80	7.11	-3.08
Blast furnaces	-81.58	-	-2.72	-	-	-	-0.06	-	-84.35
Gas works	9.85	-0.60	-9.07	-6.18	-	-	-	-	-6.00
Coke ovens[4]	-99.35	-	-0.81	-0.19	-	-	-0.02	-	-100.38
Oil refineries	-	-2 782.79	2 761.48	-	-	-	-	-	-21.31
Petchem. plants	-	5.09	-5.37	-	-	-	-	-	-0.28
Liquefaction plants	-0.73	0.23	-	-	-	-	-	-	-0.50
Other transf.	-	-	-0.12	-0.03	-	-	-25.53	-	-25.68
Energy ind. own use	-34.94	-2.59	-160.13	-106.01	-	-	-0.20	-57.65	-361.51
Losses	-9.05	-7.07	-0.25	-5.70	-	-	-0.25	-43.15	-65.48
TFC	**631.61**	**22.14**	**2 229.76**	**651.77**	**-**	**-**	**608.22**	**516.15**	**4 659.65**
Industry	355.83	16.41	433.11	356.39	-	-	86.19	286.80	1 534.74
Transport[5]	31.88	-	1 020.26	17.73	-	-	0.24	10.60	1 080.71
Other	237.85	0.00	520.15	259.26	-	-	521.79	218.75	1 757.81
Non-energy use	6.06	5.73	256.23	18.38	-	-	-	-	286.39

1. In this table, peat and oil shale are aggregated with coal.
2. Data for biofuels and waste final consumption have been estimated for a number of countries.
3. Includes geothermal, solar, wind, heat and electricity.
4. Also includes patent fuel, BKB and peat briquette plants.
5. Includes international aviation and international marine bunkers.

Source: IEA, World Energy Balances, 2020.

Simplified energy balance table

World energy balance, 2018

(Mtoe)

SUPPLY AND CONSUMPTION	Coal[1]	Crude oil	Oil products	Natural gas	Nuclear	Hydro	Biofuels and waste[2]	Other[3]	Total
Production	3 893.68	4 552.55	-	3 293.12	706.81	362.33	1 324.21	288.44	14 421.15
Imports	829.29	2 479.49	1 396.84	985.02	-	-	29.26	62.63	5 782.52
Exports	-879.69	-2 440.07	-1 488.67	-1 019.82	-	-	-25.25	-62.37	-5 915.88
Stock changes	-4.95	-6.45	3.32	3.28	-	-	-1.10	-	-5.91
TES	**3 838.33**	**4 585.52**	**-88.52**	**3 261.59**	**706.81**	**362.33**	**1 327.13**	**288.70**	**14 281.89**
Transfers	-1.16	-230.55	261.07	-	-	-	-0.00	-	29.36
Statistical diff.	-27.37	4.87	9.54	-3.13	-	-	-0.12	-1.22	-17.42
Electricity plants	-1 758.79	-30.84	-146.14	-910.91	-703.39	-362.33	-135.89	1 697.38	-2 350.91
CHP plants	-676.20	-0.02	-15.48	-333.42	-3.42	-	-64.69	609.25	-483.99
Heat plants	-24.10	-0.47	-9.86	-59.92	-	-	-12.43	99.33	-7.45
Blast furnaces	-180.55	-	-0.04	-0.04	-	-	-0.05	-	-180.69
Gas works	-9.66	-	-2.82	5.14	-	-	-0.67	-	-8.01
Coke ovens[4]	-66.28	-	-2.49	-0.01	-	-	-0.11	-	-68.89
Oil refineries	-	-4 361.96	4 269.23	-	-	-	-	-	-92.72
Petchem. plants	-	35.94	-36.00	-	-	-	-	-	-0.06
Liquefaction plants	-17.17	15.46	-	-11.30	-	-	-	-	-13.02
Other transf.	-0.28	12.61	-0.63	-14.74	-	-	-85.12	-0.54	-88.70
Energy ind. own use	-79.96	-9.87	-199.04	-302.71	-	-	-15.47	-232.13	-839.19
Losses	-2.31	-8.10	-0.31	-19.20	-	-	-0.19	-192.38	-222.50
TFC	**994.50**	**12.59**	**4 038.50**	**1 611.35**	**-**	**-**	**1 012.37**	**2 268.40**	**9 937.70**
Industry	796.79	2.50	290.44	597.86	-	-	204.05	947.68	2 839.31
Transport[5]	0.05	0.07	2 650.43	117.17	-	-	89.64	33.53	2 890.90
Other	146.15	0.00	436.00	702.70	-	-	718.68	1 287.20	3 290.73
Non-energy use	51.50	10.01	661.63	193.61	-	-	-	-	916.76

1. In this table, peat and oil shale are aggregated with coal.
2. Data for biofuels and waste final consumption have been estimated for a number of countries.
3. Includes geothermal, solar, wind, heat and electricity.
4. Also includes patent fuel, BKB and peat briquette plants.
5. Includes international aviation and international marine bunkers.

Source: IEA, World energy balances, 2020.

Simplified energy balance table

OECD energy balance, 1973

(Mtoe)

SUPPLY AND CONSUMPTION	Coal[1]	Crude oil	Oil products	Natural gas	Nuclear	Hydro	Biofuels and waste[2]	Other[3]	Total
Production	819.10	710.51	-	706.42	49.21	78.93	87.30	6.13	2 457.60
Imports	121.92	1 277.50	336.20	62.57	-	-	0.03	7.54	1 805.77
Exports	-111.10	-63.59	-172.72	-50.39	-	-	-0.01	-7.01	-404.82
Intl. marine bunkers	-	-	-73.65	-	-	-	-	-	-73.65
Intl. aviation bunkers	-	-	-24.64	-	-	-	-	-	-24.64
Stock changes	14.55	-10.78	-11.36	-12.07	-	-	0.06	-	-19.61
TES	**844.47**	**1 913.65**	**53.83**	**706.52**	**49.21**	**78.93**	**87.38**	**6.67**	**3 740.65**
Transfers	-	-41.28	42.49	-	-	-	-	-	1.22
Statistical diff.	14.79	11.29	2.56	-5.61	-	-	-0.00	0.00	23.03
Electricity plants	-387.59	-20.61	-228.38	-108.36	-49.11	-78.93	-1.43	364.63	-509.79
CHP plants	-52.07	-	-7.89	-11.64	-0.10	-	-0.75	30.94	-41.51
Heat plants	-7.81	-	-0.90	-0.68	-	-	-0.80	7.11	-3.08
Blast furnaces	-65.51	-	-2.72	-	-	-	-	-	-68.23
Gas works	11.03	-0.60	-8.72	-6.38	-	-	-	-	-4.67
Coke ovens[4]	-25.69	-	-0.68	-0.19	-	-	-0.02	-	-26.58
Oil refineries	-	-1 865.97	1 868.42	-	-	-	-	-	2.45
Petchem. plants	-	4.88	-5.16	-	-	-	-	-	-0.28
Liquefaction plants	-	0.02	-	-	-	-	-	-	0.02
Other transf.	-	-	-0.12	-0.03	-	-	-	-	-0.15
Energy ind. own use	-24.53	-0.99	-128.88	-72.38	-	-	-0.07	-33.37	-260.22
Losses	-3.80	-	-0.23	-2.63	-	-	-	-30.54	-37.20
TFC	**303.29**	**0.39**	**1 583.63**	**498.62**	**-**	**-**	**84.32**	**345.44**	**2 815.68**
Industry	182.80	0.39	312.91	250.51	-	-	42.26	169.38	958.24
Transport	7.34	-	665.68	17.00	-	-	0.00	5.30	695.32
Other	110.05	-	393.09	225.53	-	-	42.05	170.76	941.48
Non-energy use	3.10	-	211.95	5.58	-	-	-	-	220.63

1. In this table, peat and oil shale are aggregated with coal.
2. Data for biofuels and waste final consumption have been estimated for a number of countries.
3. Includes geothermal, solar, wind, heat and electricity.
4. Also includes patent fuel, BKB and peat briquette plants.

Source: IEA, World energy balances, 2020.

Simplified energy balance table

OECD energy balance, 2018

(Mtoe)

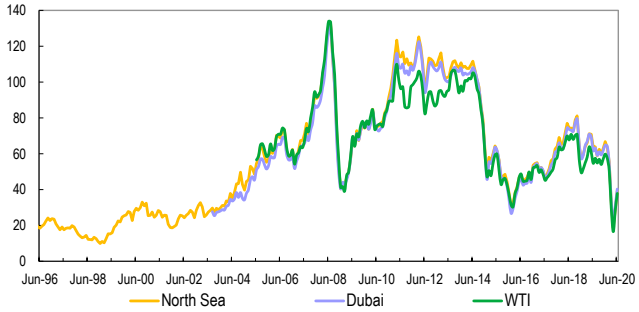
SUPPLY AND CONSUMPTION	Coal[1]	Crude oil	Oil products	Natural gas	Nuclear	Hydro	Biofuels and waste[2]	Other[3]	Total
Production	832.24	1 237.57	-	1 206.50	515.81	123.01	321.65	141.94	4 378.72
Imports	355.29	1 438.18	659.87	684.91	-	-	26.71	42.27	3 207.24
Exports	-351.12	-525.05	-717.01	-392.04	-	-	-18.86	-41.25	-2 045.33
Intl. marine bunkers	-	-	-82.17	-0.09	-	-	-0.15	-	-82.41
Intl. aviation bunkers	-	-	-108.96	-	-	-	-0.00	-	-108.96
Stock changes	17.92	0.06	1.96	0.66	-	-	-0.43	-	20.17
TES	**854.33**	**2 150.75**	**-246.30**	**1 499.94**	**515.81**	**123.01**	**328.92**	**142.96**	**5 369.42**
Transfers	-	-101.23	119.73	-	-	-	-	-	18.50
Statistical diff.	-0.39	2.65	14.56	2.38	-	-	0.05	0.27	19.52
Electricity plants	-594.57	-0.50	-36.62	-438.07	-512.89	-123.01	-52.06	738.19	-1 019.54
CHP plants	-69.52	-	-11.07	-114.73	-2.92	-	-50.28	150.79	-97.72
Heat plants	-3.47	-	-0.88	-8.46	-	-	-7.60	17.07	-3.35
Blast furnaces	-51.41	-	-0.04	-0.04	-	-	-0.00	-	-51.49
Gas works	-2.43	-	-2.53	3.64	-	-	-0.66	-	-1.99
Coke ovens[4]	-12.09	-	-0.80	-0.01	-	-	-0.11	-	-13.01
Oil refineries	-	-2 088.70	2 052.41	-	-	-	-	-	-36.30
Petchem. plants	-	32.84	-32.88	-	-	-	-	-	-0.05
Liquefaction plants	-1.67	1.04	-	-	-	-	-	-	-0.63
Other transf.	-0.16	10.79	-0.00	-10.33	-	-	-0.30	-0.54	-0.54
Energy ind. own use	-16.40	-0.09	-100.00	-138.65	-	-	-0.88	-80.18	-336.20
Losses	-0.66	-	-0.01	-1.91	-	-	-0.10	-59.59	-62.26
TFC	**101.58**	**7.54**	**1 755.55**	**793.76**	**-**	**-**	**216.98**	**908.96**	**3 784.37**
Industry	82.36	0.04	93.06	282.60	-	-	81.61	290.88	830.55
Transport	0.01	-	1 175.74	30.80	-	-	57.81	10.03	1 274.40
Other	15.89	-	168.63	433.73	-	-	77.57	608.04	1 303.85
Non-energy use	3.32	7.50	318.12	46.63	-	-	-	-	375.57

1. In this table, peat and oil shale are aggregated with coal.
2. Data for biofuels and waste final consumption have been estimated for a number of countries.
3. Includes geothermal, solar, wind, heat and electricity.
4. Also includes patent fuel, BKB and peat briquette plants.

Source: IEA, World energy balances, 2020.

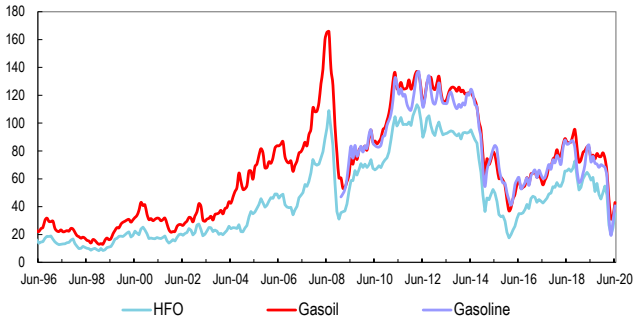
Crude oil

Average key crude oil spot prices in USD/barrel



Oil products

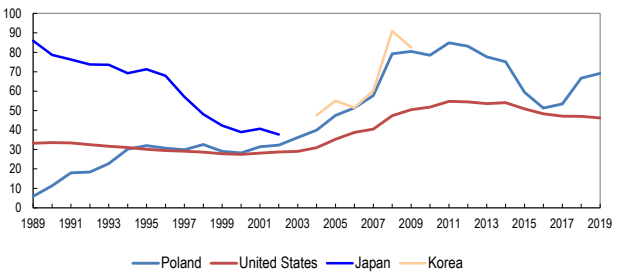
Average Rotterdam oil product spot prices in USD/barrel



Source: IEA, Energy Prices, 2020.

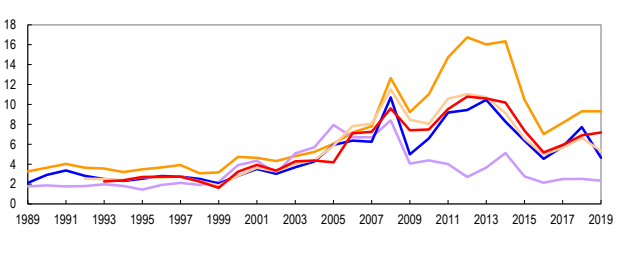
Coal

Average steam coal prices for electricity generation in USD/tonne



Natural gas

Average natural gas import prices in USD/MBtu



1. LNG.
2. Pipeline.
Source: IEA, Energy prices, 2020; IEA, Natural Gas Information, 2020.

Energy prices[1] in selected OECD countries in USD/unit

Country	Heavy fuel oil for industry[2] (tonne)	Light fuel oil for households (1 000 litres)	Automotive diesel oil[3] (litre)	Unleaded premium[4] (litre)
Australia	..	..	..	1.01
Austria	515.58	785.71	0.95	1.30
Belgium	407.75	635.90	1.34	1.56
Canada	..	720.01	0.72	0.92
Chile	..	868.18	..	1.08
Czech Republic	493.06	756.78	1.10	1.33
Denmark	720.79	1 439.36	1.20	1.69
Estonia	..	955.03	1.23	1.49
Finland	..	980.35	1.23	1.65
France	597.80	972.01	1.28	1.62
Germany	..	670.83	1.17	1.58
Greece	530.40	1 105.23	1.19	1.73
Hungary	560.46	x	0.99	1.23
Iceland	..	..	..	..
Ireland	571.39	754.52	1.17	1.54
Israel	c	1 742.67	c	1.76
Italy	583.09	1 401.31	1.31	1.71
Japan	634.23	958.07	0.94	1.35
Korea	636.05	803.10	..	1.51
Latvia	..	840.04	1.09	1.40
Lithuania	424.02	641.43	1.03	1.33
Luxembourg	..	605.48	1.02	1.39
Mexico	..	x	..	..
Netherlands	654.87	1 182.02	1.23	1.81
New Zealand	400.00	..	0.60	1.44
Norway	..	..	1.25	1.64
Poland	445.97	816.85	1.03	1.12
Portugal	739.02	1 284.05	1.35	1.62
Slovak Republic	422.11	..	1.10	1.43
Slovenia	x	1 026.52	1.11	1.40
Spain	506.84	776.43	1.09	1.41
Sweden	925.91	..	1.28	1.56
Switzerland	..	836.08	1.37	1.59
Turkey	441.01	824.53	1.03	1.08
United Kingdom	c	682.89	1.37	1.58
United States	451.24	782.29	0.76	0.75

1. Prices are for 1st quarter 2020 oil products, and annual 2019 for other products.
2. Low sulphur fuel oil. High sulphur fuel oil only for Canada, Ireland, Lithuania, Mexico, New Zealand, Turkey and the United States. 3. For commercial purposes. Source: IEA, Energy Prices, 2020.

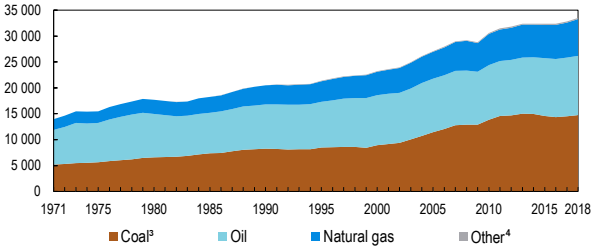
Energy prices[1] in selected OECD countries in USD/unit

Nat. gas for industry (MWh GCV[5])	Nat. gas for households (MWh GCV[5])	Steam coal for industry[6] (tonne)	Electricity for industry (MWh)	Electricity for households (MWh)	Country
..	..	..	..	232.1	Australia
31.5	76.9	209.3	109.6	221.4	Austria
26.0	63.9	126.4	134.9	316.2	Belgium
10.0	26.0	..	90.5	112.5	Canada
c	112.1	..	159.5	196.2	Chile
32.7	69.0	c	104.0	192.3	Czech Republic
33.0	90.7	..	80.1	321.3	Denmark
35.4	50.6	..	99.8	151.2	Estonia
50.1	..	311.3	75.5	205.6	Finland
40.7	91.8	..	117.8	199.1	France
29.5	76.0	..	146.0	333.9	Germany
37.4	65.3	x	96.9	185.3	Greece
29.3	38.7	x	87.7	122.2	Hungary
..	..	..	..	..	Iceland
40.4	85.0	..	128.8	258.5	Ireland
c	x	x	..	..	Israel
38.0	93.6	..	185.1	289.3	Italy
..	..	121.4	..	..	Japan
43.2	56.6	..	94.8	102.4	Korea
37.7	54.2	..	124.3	191.0	Latvia
37.0	47.9	..	116.9	142.9	Lithuania
26.7	47.9	x	81.7	193.1	Luxembourg
..	..	x	..	..	Mexico
26.3	103.8	..	96.6	249.8	Netherlands
15.9	95.2	c	..	191.7	New Zealand
x	x	..	..	..	Norway
25.5	51.8	83.5	98.9	155.8	Poland
35.7	86.0	c	128.2	242.4	Portugal
30.5	54.5	..	146.8	182.2	Slovak Republic
34.6	63.5	c	93.4	179.2	Slovenia
30.7	100.7	..	122.7	287.7	Spain
36.2	131.6	c	70.5	195.1	Sweden
66.7	103.0	96.6	119.7	212.0	Switzerland
28.7	26.5	75.0	105.8	105.9	Turkey
27.6	55.9	122.7	147.1	219.1	United Kingdom
12.9	34.9	68.4	68.3	130.4	United States

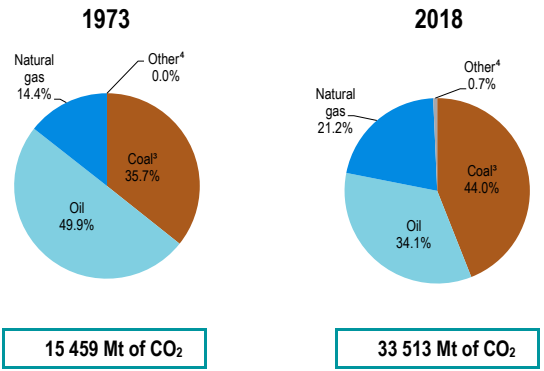
4. Unleaded premium gasoline (95 RON); unleaded regular for Japan. 5. Gross calorific value. 6. Brown coal for Turkey. Note: not available; x not applicable; c confidential
Source: IEA, Energy Prices, 2020.

CO_2 emissions by fuel

World[1] CO_2 emissions from fuel combustion[2] from 1971 to 2018 by fuel (Mt of CO_2)



1973 and 2018 fuel shares of CO_2 emissions from fuel combustion[2]



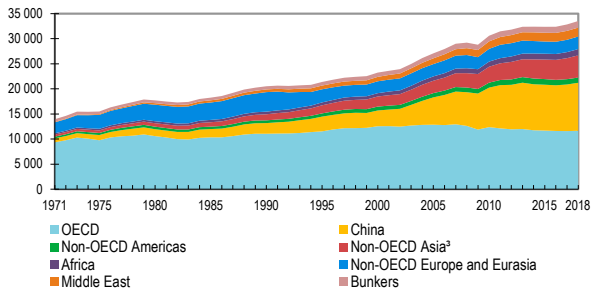
15 459 Mt of CO_2 **33 513 Mt of CO_2**

1. World includes international aviation and international marine bunkers.
2. CO_2 emissions from fuel combustion are based on the IEA World energy balances and the 2006 IPCC Guidelines for national greenhouse gas inventories, and exclude emissions from non-energy use. 3. In these graphs, peat and oil shale are aggregated with coal.
4. Includes industrial waste and non-renewable municipal waste.

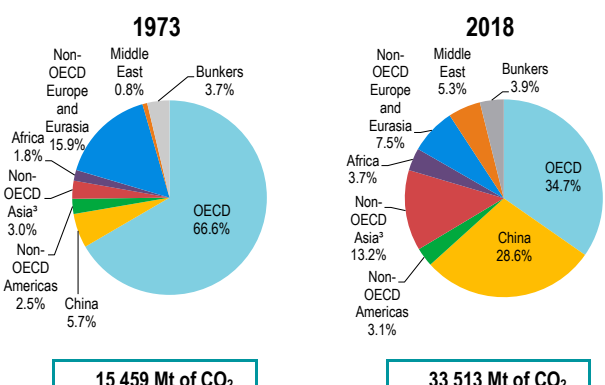
Source: IEA, CO_2 Emissions from Fuel Combustion, 2020.

CO_2 emissions by region

World[1] CO_2 emissions from fuel combustion[2] from 1971 to 2018 by region (Mt of CO_2)



1973 and 2018 regional shares of CO_2 emissions from fuel combustion[2]



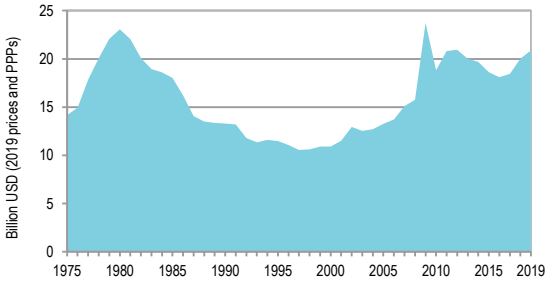
15 459 Mt of CO_2 **33 513 Mt of CO_2**

1. World includes international aviation and marine bunkers, which are shown together as Bunkers.
2. CO_2 emissions from fuel combustion are based on the IEA World Energy Balances and on the 2006 IPCC Guidelines, and exclude emissions from non-energy.
3. Non-OECD Asia excludes China.

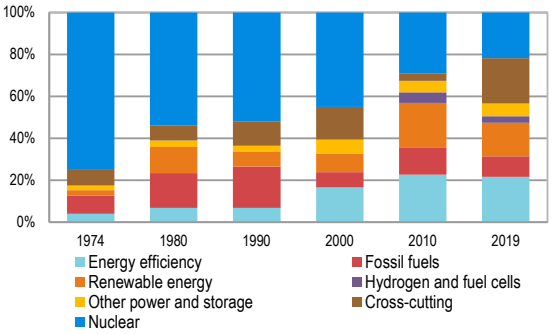
Source: IEA, CO_2 Emissions from Fuel Combustion, 2020

Research, development and demonstration (RD&D)

IEA total[1] public energy technology RD&D budget



IEA total public energy RD&D budget by technology

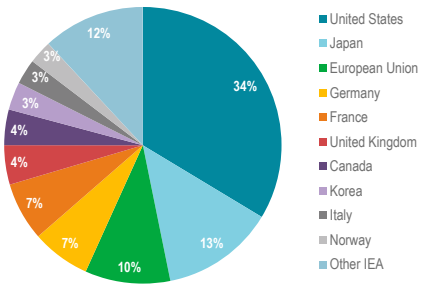


1. Data refer to total public energy RD&D expenditures, converted from current prices in national currencies. All IEA member countries are included, based on available or estimated data. The 2009 peak is mainly the result of the American Recovery and Reinvestment Act (stimulus) spending. For more information and documentation please see: https://www.iea.org/reports/energy-technology-rdd-budgets-2020.

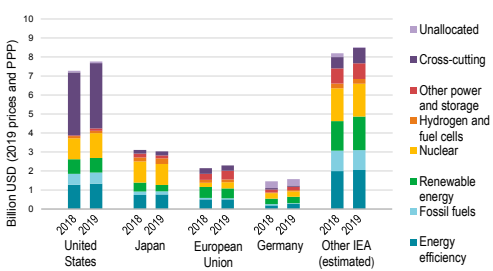
Source: IEA Energy Technology RD&D Budgets database, 2020.

Research, development and demonstration (RD&D)

Public energy RD&D budgets by country for IEA members and the European Union[1]



2018 and 2019 budgets by technology in selected IEA countries and the European Union

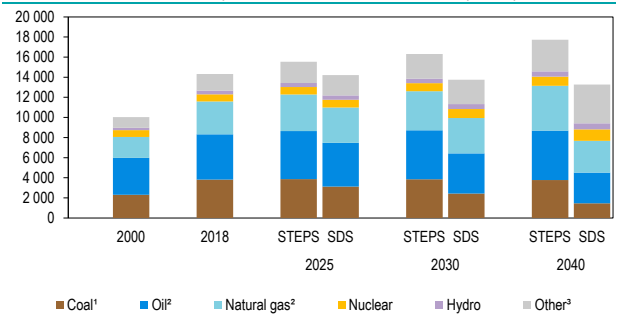


1. The amounts shown are based on 2019 budgets for: Australia, Canada, Estonia, Germany, Hungary, Japan, New Zealand, Norway, Poland, Slovak Republic, Sweden, Switzerland, the United States (US) and the European Union (EU). For other countries, data refer to 2018. Data for the US were estimated by IEA Secretariat. EU refers to the EU budget under Horizon 2020, and not to the sum of national budgets of EU member countries.

Source: IEA, Energy Technology RD&D Budgets database, 2020.

Outlook for world total energy supply (TES) to 2040

TES outlook by fuel and scenario to 2040 (Mtoe)

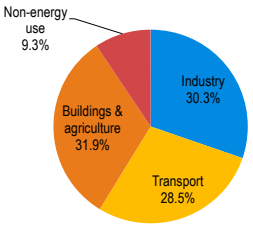


STEPS: Stated Policies Scenario
Incorporates existing energy policies as well as an assessment of the results likely to stem from the implementation of announced policy intentions.

SDS: Sustainable Development Scenario [4]
Outlines an integrated approach to achieving internationally agreed objectives on climate change, air quality and universal access to modern energy.

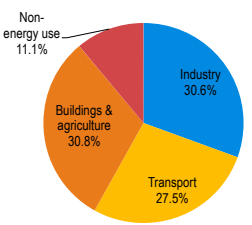
Total final consumption by sector and scenario in 2040

Stated Policies Scenario



12 672 Mtoe

Sustainable Development Scenario

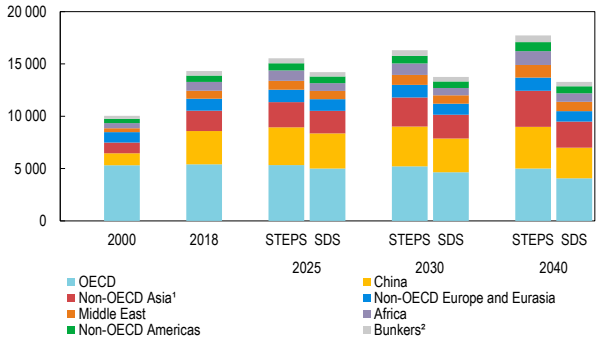


9 500 Mtoe

1. In these graphs, peat and oil shale are aggregated with coal. 2. Includes international aviation and international marine bunkers. 3. Includes biofuels and waste, geothermal, solar, wind, tide, etc.
4. For more information: http://www.iea.org/weo/weomodel/sds/.
Source: IEA, World Energy Outlook 2019.

Outlook for world total energy supply (TES) to 2040

TES outlook by region and scenario to 2040 (Mtoe)

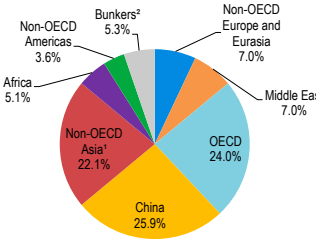


STEPS: Stated Policies Scenario
Incorporates existing energy policies as well as an assessment of the results likely to stem from the implementation of announced policy intentions.

SDS: Sustainable Development Scenario⁴
Outlines an integrated approach to achieving internationally agreed objectives on climate change, air quality and universal access to modern energy.

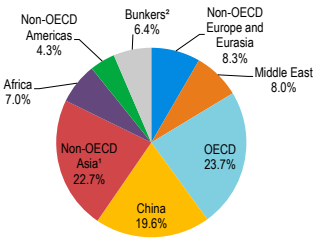
CO_2 emissions³ by region and scenario in 2040

Stated Policies Scenario



35 589 Mt of CO_2

Sustainable Development Scenario



15 796 Mt of CO_2

1. Non-OECD Asia excludes China. 2. Includes international aviation and international marine bunkers. 3. CO_2 emissions are from fossil fuel combustion only. 4. For more information: http://www.iea.org/weo/weomodel/sds/. Source: IEA, World Energy Outlook 2019.

Selected indicators for 2018

Region / Country / Economy	Population (million)	GDP (billion 2015 USD)	GDP (PPP) (billion 2015 USD)	Energy prod. (Mtoe)	Net imports (Mtoe)	TES (Mtoe)	Elec. cons.[1] (TWh)	CO_2 emissions[2] (Mt of CO_2)
World	7 588	81 989	128 851	14 421	-	14 282 [3]	24 739	33 513 [4]
OECD	1 302	50 049	56 757	4 379	1 162	5 369	10 629	11 645
Middle East	239	2 223	5 833	2 040	-1 245	760	1 023	1 773
Non-OECD Europe and Eurasia	341	2 477	6 463	1 987	-797	1 159	1 598	2 512
China	1 400	13 715	24 525	2 562	733	3 211	6 880	9 571
Non-OECD Asia	2 534	6 865	21 708	1 527	478	1 925	2 861	4 421
Non-OECD Americas	496	4 127	7 117	757	-144	599	1 025	1 035
Africa	1 276	2 533	6 447	1 169	-319	837	723	1 245
Albania	2.9	12.7	37.5	2.0	0.5	2.3	6.5	4.3
Algeria	42.2	175.9	619.5	155.5	-93.7	60.9	66.7	130.5
Angola	30.8	110.6	188.4	85.0	-70.3	15.4	10.4	18.0
Argentina	44.5	583.1	869.0	74.9	7.1	80.1	132.7	183.4
Armenia	3.0	12.0	28.9	0.8	2.3	3.1	5.8	5.2
Australia	25.0	1 339.7	1 209.7	411.6	-279.5	128.0	247.6	384.6
Austria	8.8	409.3	461.9	11.7	21.9	32.8	74.1	64.9
Azerbaijan	9.9	52.0	170.0	55.4	-40.7	14.4	21.7	30.8
Bahrain	1.6	34.0	70.4	22.5	-7.8	14.3	29.2	29.8
Bangladesh	161.4	241.8	668.5	33.6	8.0	41.9	75.2	78.3
Belarus	9.5	58.1	179.7	4.2	23.2	27.0	35.2	54.1
Belgium	11.4	485.2	546.8	11.7	52.9	53.2	88.6	90.4
Benin	11.5	9.8	26.4	2.7	2.6	5.2	1.2	6.8
Bolivia	11.4	37.4	84.7	19.7	-10.4	9.4	8.8	21.9
Bosnia and Herzegovina	3.3	17.7	45.0	5.7	1.8	7.5	13.2	22.3
Botswana	2.3	16.2	39.8	1.9	1.0	2.8	3.5	7.7
Brazil	209.5	1 780.9	3 195.2	295.7	-2.1	287.0	538.4	427.6
Brunei Darussalam	0.4	12.8	32.9	16.2	-12.3	3.7	3.8	6.7
Bulgaria	7.0	55.8	145.2	11.9	6.9	18.5	35.9	42.8
Cambodia	16.3	22.2	67.2	5.0	3.3	8.2	8.6	10.8
Cameroon	25.2	34.9	90.4	12.0	-2.3	9.7	7.0	6.2
Canada	37.1	1 654.6	1 695.4	529.3	-227.6	297.6	572.1	547.8
Chile	18.8	261.0	436.2	13.6	26.4	39.1	78.8	86.1

1. Electricity consumption = Gross production + imports – exports – losses.
2. CO_2 emissions from fuel combustion only. Emissions are calculated using the IEA World Energy Balances and the Revised 2006 IPCC Guidelines, and exclude emissions from non-energy use.
3. TES for world includes international aviation and international marine bunkers as well as electricity and heat trade.
4. CO_2 emissions for world include emissions from international aviation and international marine bunkers.

Selected indicators for 2018

TES/ pop. (toe/capita)	TES/ GDP (toe/000 2015 USD)	TES/ GDP(PPP) (toe/000 2015 USD)	Elec. cons./pop. (kWh/ capita)	CO_2/ TES (tCO_2/toe)	CO_2/ pop. (tCO_2/ capita)	CO_2/ GDP ($kgCO_2$/ 2015 USD)	CO_2/GDP (PPP) ($kgCO_2$/ 2015USD)	Region / Country / Economy
1.88	0.17	0.11	3 260	2.35	4.42	0.41	0.26	World
4.12	0.11	0.09	8 165	2.17	8.95	0.23	0.21	OECD
3.18	0.34	0.13	4 280	2.33	7.42	0.8	0.3	Middle East
3.4	0.47	0.18	4 687	2.17	7.37	1.01	0.39	Non-OECD Europe and Eurasia
2.29	0.23	0.13	4 914	2.98	6.84	0.7	0.39	China
0.76	0.28	0.09	1 129	2.3	1.74	0.64	0.2	Non-OECD Asia
1.21	0.15	0.08	2 065	1.73	2.08	0.25	0.15	Non-OECD Americas
0.66	0.33	0.13	567	1.49	0.98	0.49	0.19	Africa
0.82	0.18	0.06	2 277	1.84	1.50	0.34	0.11	Albania
1.44	0.35	0.10	1 579	2.25	3.25	0.78	0.22	Algeria
0.50	0.14	0.08	338	1.22	0.61	0.17	0.10	Angola
1.80	0.14	0.09	2 982	2.14	3.85	0.29	0.20	Argentina
1.04	0.26	0.11	1 950	1.75	1.83	0.45	0.19	Armenia
5.12	0.10	0.11	9 906	2.99	15.32	0.29	0.32	Australia
3.72	0.08	0.07	8 383	1.87	6.96	0.15	0.13	Austria
1.45	0.28	0.08	2 182	2.15	3.11	0.59	0.18	Azerbaijan
9.08	0.42	0.20	18 618	2.12	19.24	0.89	0.43	Bahrain
0.26	0.17	0.06	466	1.96	0.51	0.34	0.12	Bangladesh
2.84	0.46	0.15	3 707	2.12	6.02	0.98	0.32	Belarus
4.66	0.11	0.10	7 756	1.71	7.98	0.19	0.17	Belgium
0.46	0.54	0.20	104	1.38	0.63	0.74	0.27	Benin
0.83	0.25	0.11	774	2.24	1.85	0.56	0.25	Bolivia
2.25	0.42	0.17	3 973	2.98	6.68	1.26	0.49	Bosnia and Herzegovina
1.26	0.18	0.07	1 548	2.84	3.58	0.50	0.20	Botswana
1.37	0.16	0.09	2 570	1.42	1.94	0.23	0.13	Brazil
8.62	0.29	0.11	8 888	1.93	16.65	0.56	0.22	Brunei Darussalam
2.63	0.33	0.13	5 115	2.16	5.68	0.71	0.27	Bulgaria
0.50	0.37	0.12	532	1.29	0.65	0.47	0.16	Cambodia
0.38	0.28	0.11	278	0.65	0.25	0.18	0.07	Cameroon
8.03	0.18	0.18	15 438	1.90	15.25	0.34	0.33	Canada
2.08	0.15	0.09	4 198	2.19	4.57	0.33	0.20	Chile

Selected indicators for 2018

Region / Country / Economy	Population (million)	GDP (billion 2015 USD)	GDP (PPP) (billion 2015 USD)	Energy prod. (Mtoe)	Net imports (Mtoe)	TES (Mtoe)	Elec. cons.[1] (TWh)	CO_2 emissions[2] (Mt of CO_2)
China (People's Rep. of)	1 392.7	13 376.4	24 069.0	2 562.1	700.5	3 196.4	6 833.1	9 528.2
Colombia	49.6	311.5	706.4	120.5	-87.8	38.9	71.9	73.1
Republic of the Congo	5.2	8.1	28.1	19.8	-15.9	3.0	2.2	2.8
Costa Rica	5.0	60.6	83.7	2.3	2.7	4.9	10.2	7.6
Côte d'Ivoire	25.1	41.4	99.9	9.9	0.7	10.4	7.1	9.9
Croatia	4.1	54.3	106.0	4.2	4.6	8.5	17.2	15.3
Cuba	11.3	91.2	283.2	5.5	5.4	10.4	17.5	24.4
Curaçao[3]	0.2	1.8	1.6	0.0	2.9	1.3	0.8	2.8
Cyprus[3]	0.9	22.9	31.2	0.2	2.7	2.2	4.9	6.3
Czech Republic	10.6	205.4	390.7	27.7	16.0	43.3	69.9	100.7
DPR Korea	25.6	29.5	110.6	13.3	1.0	14.3	13.0	15.3
Dem. Rep. of the Congo	84.1	42.6	74.3	30.6	-0.3	30.2	8.7	2.1
Denmark	5.8	326.5	300.8	13.8	4.5	17.0	33.4	32.0
Dominican Republic	10.6	85.0	178.7	1.2	8.6	9.2	17.1	23.2
Ecuador	17.1	101.8	190.0	30.0	-14.8	14.6	25.3	36.2
Egypt	98.4	380.9	1 157.7	86.8	9.7	95.6	160.1	223.6
El Salvador	6.4	25.2	50.7	2.0	2.5	4.3	6.3	6.4
Equatorial Guinea	1.3	10.8	28.2	14.0	-11.6	2.4	1.4	6.0
Eritrea	4.8	4.9	12.8	0.6	0.2	0.9	0.4	0.7
Estonia	1.3	26.2	44.0	6.6	0.1	6.3	9.7	15.7
Ethiopia	109.2	82.7	209.3	39.3	4.8	43.3	9.1	13.1
Finland	5.5	252.7	250.9	19.6	15.8	34.0	87.2	43.8
France	67.3	2 567.6	2 862.4	135.5	119.5	246.4	480.4	303.5
Gabon	2.1	14.9	35.9	13.8	-8.7	4.9	2.3	2.5
Georgia	3.7	16.9	42.4	1.3	3.8	4.9	12.2	8.8
Germany	82.9	3 575.4	4 142.5	111.7	200.3	302.1	567.8	696.1
Ghana	29.8	58.5	133.9	14.3	-4.4	9.9	9.3	14.7
Gibraltar	0.0	1.4	1.2	0.0	4.3	0.3	0.2	0.7
Greece	10.7	203.1	300.6	7.2	18.4	22.6	54.3	61.6
Guatemala	17.2	69.7	138.3	9.4	5.1	14.0	11.0	16.9
Haiti	11.1	9.1	19.7	3.5	1.2	4.6	0.4	3.2

1. Electricity consumption = Gross production + imports – exports – losses.
2. CO_2 emissions from fuel combustion only. Emissions are calculated using the IEA Energy Balances and the Revised 2006 IPCC Guidelines, and exclude emissions from non-energy use.
3. Please refer to geographical coverage section for more detail.

Selected indicators for 2018

TES/ pop. (toe/capita)	TES/ GDP (toe/000 2015USD)	TES/ GDP(PPP) (toe/000 2015 USD)	Elec. cons./pop. (kWh/ capita)	CO_2/ TES (tCO_2/toe)	CO_2/ pop. (tCO_2/ capita)	CO_2/ GDP ($kgCO_2$/ 2015USD)	CO_2/GDP (PPP) ($kgCO_2$/ 2015USD)	Region / Country / Economy
2.30	0.24	0.13	4 906	2.98	6.84	0.71	0.40	China (People's Rep. of)
0.78	0.12	0.06	1 448	1.88	1.47	0.23	0.10	Colombia
0.57	0.36	0.11	413	0.96	0.54	0.35	0.10	Republic of the Congo
0.97	0.08	0.06	2 032	1.57	1.53	0.13	0.09	Costa Rica
0.41	0.25	0.10	284	0.95	0.40	0.24	0.10	Côte d'Ivoire
2.08	0.16	0.08	4 205	1.80	3.74	0.28	0.14	Croatia
0.92	0.11	0.04	1 548	2.35	2.15	0.27	0.09	Cuba
8.29	0.72	0.80	4 818	2.10	17.39	1.51	1.69	Curaçao[1]
2.59	0.10	0.07	5 674	2.82	7.30	0.28	0.20	Cyprus[1]
4.07	0.21	0.11	6 574	2.33	9.48	0.49	0.26	Czech Republic
0.56	0.49	0.13	509	1.07	0.60	0.52	0.14	DPR Korea
0.36	0.71	0.41	103	0.07	0.03	0.05	0.03	Dem. Rep. of the Congo
2.94	0.05	0.06	5 764	1.88	5.53	0.10	0.11	Denmark
0.87	0.11	0.05	1 609	2.51	2.18	0.27	0.13	Dominican Republic
0.86	0.14	0.08	1 481	2.48	2.12	0.36	0.19	Ecuador
0.97	0.25	0.08	1 627	2.34	2.27	0.59	0.19	Egypt
0.67	0.17	0.09	986	1.49	1.00	0.25	0.13	El Salvador
1.86	0.23	0.09	1 055	2.45	4.55	0.55	0.21	Equatorial Guinea
0.18	0.18	0.07	90	0.82	0.15	0.14	0.06	Eritrea
4.75	0.24	0.14	7 368	2.50	11.90	0.60	0.36	Estonia
0.40	0.52	0.21	83	0.30	0.12	0.16	0.06	Ethiopia
6.16	0.13	0.14	15 804	1.29	7.93	0.17	0.17	Finland
3.66	0.10	0.09	7 141	1.23	4.51	0.12	0.11	France
2.32	0.33	0.14	1 095	0.52	1.20	0.17	0.07	Gabon
1.30	0.29	0.11	3 265	1.81	2.35	0.52	0.21	Georgia
3.64	0.08	0.07	6 848	2.30	8.40	0.19	0.17	Germany
0.33	0.17	0.07	311	1.49	0.49	0.25	0.11	Ghana
7.40	0.18	0.20	6 143	2.76	20.42	0.48	0.56	Gibraltar
2.10	0.11	0.08	5 059	2.73	5.74	0.30	0.20	Greece
0.81	0.20	0.10	637	1.20	0.98	0.24	0.12	Guatemala
0.41	0.51	0.23	37	0.70	0.29	0.35	0.16	Haiti

1. Please refer to geographical coverage section for more detail.

Selected indicators for 2018

Region / Country / Economy	Population (million)	GDP (billion 2015USD)	GDP (PPP) (billion 2015USD)	Energy prod. (Mtoe)	Net imports (Mtoe)	TES (Mtoe)	Elec. cons.[1] (TWh)	CO_2 emissions[2] (Mt of CO_2)
Honduras	9.6	23.7	46.7	2.9	3.3	6.0	6.9	9.1
Hong Kong, China	7.5	338.1	456.1	0.1	32.2	14.1	46.9	42.6
Hungary	9.8	139.5	294.1	11.2	15.5	26.7	43.0	45.6
Iceland	0.4	20.1	18.7	5.4	1.3	6.1	19.3	2.2
India	1 352.6	2 604.6	9 950.5	573.6	347.6	919.4	1 309.4	2307.8
Indonesia	267.7	999.1	3 317.7	450.8	-220.6	231.1	263.3	542.9
Islamic Rep. of Iran	81.8	436.2	1 580.8	406.3	-138.5	265.7	273.3	579.6
Iraq	38.4	198.3	635.0	241.4	-175.5	64.4	48.8	153.3
Ireland	4.9	353.7	393.8	5.0	10.0	13.7	28.9	35.3
Israel[3]	8.9	334.0	330.8	8.1	15.0	22.3	60.5	59.6
Italy	60.5	1 906.5	2 326.8	34.7	121.9	150.6	315.6	317.1
Jamaica	2.9	14.8	25.9	0.2	3.1	2.8	3.3	8.2
Japan	126.4	4 522.6	5 291.8	50.3	387.3	426.0	1 012.8	1 080.7
Jordan	10.0	40.4	89.4	0.6	8.8	9.1	18.5	23.0
Kazakhstan	18.3	202.0	482.9	177.6	-101.6	75.8	97.6	214.0
Kenya	51.4	75.6	168.9	22.4	6.0	27.7	9.2	15.9
Korea	51.6	1 598.1	2 108.5	45.2	252.5	282.3	571.9	605.8
Kosovo[3]	1.8	7.3	19.8	1.8	0.8	2.6	4.9	8.3
Kuwait	4.1	113.8	285.8	164.6	-131.8	34.0	63.7	87.8
Kyrgyzstan	6.3	7.5	23.3	2.3	2.2	4.6	12.0	10.5
Lao People's Dem. Rep.	7.1	17.5	49.8	7.3	-1.3	5.7	5.0	17.8
Latvia	1.9	29.9	54.1	2.9	2.1	4.6	7.2	7.2
Lebanon	6.8	51.2	84.9	0.2	8.6	8.6	19.0	25.4
Libya	6.7	37.0	131.4	70.2	-52.0	17.9	27.7	45.6
Lithuania	2.8	45.9	92.8	2.0	5.9	7.6	12.2	11.1
Luxembourg	0.6	63.4	64.9	0.2	4.3	3.9	8.2	8.9
Malaysia	31.5	348.6	949.6	98.2	-2.2	93.4	157.2	228.0
Malta	0.5	12.9	19.4	0.0	3.0	0.7	2.4	1.5
Mauritius	1.3	13.1	28.5	0.2	2.1	1.5	2.9	4.1
Mexico	124.6	1 256.4	2 391.6	158.2	29.4	180.6	290.1	448.5
Moldova	3.5	8.8	24.4	0.8	3.3	4.1	5.8	8.0

1. Electricity consumption = Gross production + imports – exports – losses.
2. CO_2 emissions from fuel combustion only. Emissions are calculated using the IEA Energy Balances and the Revised 2006 IPCC Guidelines, and exclude emissions from non-energy use.
3. Please refer to geographical coverage section for more detail.

Selected indicators for 2018

TES/ pop. (toe/capita)	TES/ GDP (toe/000 2015USD)	TES/ GDP(PPP) (toe/000 2015USD)	Elec. cons./pop. (kWh/ capita)	CO_2/ TES (tCO_2/toe)	CO_2/ pop. (tCO_2/ capita)	CO_2/ GDP ($kgCO_2$/ 2015 USD)	CO_2/GDP (PPP) ($kgCO_2$/ 2015 USD)	Region / Country / Economy
0.62	0.25	0.13	721	1.53	0.95	0.38	0.20	Honduras
1.90	0.04	0.03	6 299	3.01	5.72	0.13	0.09	Hong Kong, China
2.74	0.19	0.09	4 398	1.71	4.66	0.33	0.16	Hungary
17.40	0.31	0.33	54 605	0.36	6.22	0.11	0.12	Iceland
0.68	0.35	0.09	968	2.51	1.71	0.89	0.23	India
0.86	0.23	0.07	984	2.35	2.03	0.54	0.16	Indonesia
3.25	0.61	0.17	3 341	2.18	7.09	1.33	0.37	Islamic Rep. of Iran
1.68	0.32	0.10	1 270	2.38	3.99	0.77	0.24	Iraq
2.82	0.04	0.03	5 939	2.57	7.26	0.10	0.09	Ireland
2.51	0.07	0.07	6 814	2.67	6.71	0.18	0.18	Israel[1]
2.49	0.08	0.06	5 220	2.11	5.25	0.17	0.14	Italy
0.96	0.19	0.11	1 110	2.91	2.79	0.55	0.32	Jamaica
3.37	0.09	0.08	8 010	2.54	8.55	0.24	0.20	Japan
0.91	0.23	0.10	1 856	2.52	2.31	0.57	0.26	Jordan
4.15	0.38	0.16	5 338	2.82	11.71	1.06	0.44	Kazakhstan
0.54	0.37	0.16	180	0.58	0.31	0.21	0.09	Kenya
5.47	0.18	0.13	11 082	2.15	11.74	0.38	0.29	Korea
1.40	0.36	0.13	2 677	3.20	4.49	1.14	0.42	Kosovo[1]
8.22	0.30	0.12	15 402	2.58	21.22	0.77	0.31	Kuwait
0.72	0.60	0.20	1 893	2.30	1.66	1.39	0.45	Kyrgyzstan
0.81	0.33	0.12	709	3.10	2.53	1.02	0.36	Lao People's Dem. Rep.
2.40	0.16	0.09	3 731	1.55	3.73	0.24	0.13	Latvia
1.25	0.17	0.10	2 768	2.96	3.70	0.50	0.30	Lebanon
2.68	0.48	0.14	4 154	2.55	6.83	1.23	0.35	Libya
2.71	0.17	0.08	4 357	1.46	3.97	0.24	0.12	Lithuania
6.41	0.06	0.06	13 476	2.29	14.69	0.14	0.14	Luxembourg
2.96	0.27	0.10	4 987	2.44	7.23	0.65	0.24	Malaysia
1.40	0.05	0.03	5 041	2.29	3.20	0.12	0.08	Malta
1.15	0.11	0.05	2 332	2.84	3.27	0.32	0.15	Mauritius
1.45	0.14	0.08	2 329	2.48	3.60	0.36	0.19	Mexico
1.15	0.46	0.17	1 624	1.96	2.25	0.91	0.33	Moldova

1. Please refer to geographical coverage section for more detail.

Selected indicators for 2018

Region / Country / Economy	Population (million)	GDP (billion 2015USD)	GDP (PPP) (billion 2015USD)	Energy prod. (Mtoe)	Net imports (Mtoe)	TES (Mtoe)	Elec. cons.[1] (TWh)	CO_2 emissions[2] (Mt of CO_2)
Mongolia	3.2	13.4	41.5	26.6	-20.7	5.8	7.3	21.1
Montenegro	0.6	4.6	11.5	0.7	0.3	1.1	3.1	2.5
Morocco	36.0	109.8	298.7	2.1	20.0	20.6	33.1	58.9
Mozambique	29.5	17.8	40.8	20.2	-10.4	10.4	13.6	5.9
Myanmar	53.7	71.6	339.7	28.8	-4.8	23.8	18.8	31.5
Namibia	2.4	11.6	25.8	0.5	1.6	2.1	4.2	3.9
Nepal	28.1	24.9	82.2	10.4	3.8	14.0	6.5	11.2
Netherlands	17.2	826.0	919.4	36.4	52.5	72.9	117.1	150.9
New Zealand	4.9	197.0	191.4	15.5	6.4	20.5	41.4	31.5
Nicaragua	6.5	13.4	33.9	2.3	1.7	4.0	3.9	4.9
Niger	22.4	8.5	22.6	3.4	0.0	3.3	1.6	2.3
Nigeria	195.9	500.0	1 112.0	256.3	-97.2	159.9	30.8	104.3
North Macedonia (Rep. of)	2.1	10.7	30.4	1.1	1.5	2.6	6.5	6.9
Norway	5.3	404.1	328.2	207.0	-177.0	28.3	127.7	36.0
Oman	4.8	73.8	191.6	81.8	-53.6	25.6	34.0	68.8
Pakistan	212.2	318.9	1 119.6	68.0	44.2	111.3	125.8	194.1
Panama	4.2	62.0	101.1	1.1	8.3	4.3	9.5	9.3
Paraguay	7.0	41.1	89.6	8.3	-0.9	7.3	13.0	8.1
Peru	32.0	210.3	437.1	23.6	1.2	25.4	49.0	50.0
Philippines	106.7	354.7	904.7	28.8	34.4	60.1	90.2	132.1
Poland	38.4	544.1	1 162.4	62.4	47.2	105.8	166.8	305.7
Portugal	10.3	216.1	333.1	5.9	18.8	22.0	51.9	47.2
Qatar	2.8	170.3	334.5	219.2	-172.5	43.4	46.1	87.0
Romania	19.5	207.6	500.2	25.1	8.3	33.6	55.3	71.6
Russian Federation	144.5	1 421.7	3 672.9	1 484.1	-701.3	759.3	999.4	1 587.0
Saudi Arabia	33.7	676.3	1 767.2	665.4	-449.1	213.6	345.0	491.7
Senegal	15.9	21.6	56.8	1.7	3.0	4.6	4.2	8.1
Serbia	7.0	43.6	116.6	10.0	5.4	15.3	33.0	44.8
Singapore	5.6	339.2	542.5	0.6	93.3	37.8	52.6	47.4
Slovak Republic	5.4	96.8	177.5	6.3	10.9	17.4	29.4	31.6
Slovenia	2.1	48.5	73.5	3.5	3.6	6.9	14.9	13.6

1. Electricity consumption = Gross production + imports – exports – losses.
2. CO_2 emissions from fuel combustion only. Emissions are calculated using the IEA Energy Balances and the Revised 2006 IPCC Guidelines, and exclude emissions from non-energy use.

Selected indicators for 2018

TES/ pop. (toe/capita)	TES/ GDP (toe/000 2015 USD)	TES/ GDP(PPP) (toe/000 2015 USD)	Elec. cons./pop. (kWh/ capita)	CO_2/ TES (tCO_2/toe)	CO_2/ pop. (tCO_2/ capita)	CO_2/ GDP ($kgCO_2$/ 2015USD)	CO_2/GDP (PPP) ($kgCO_2$/ 2015USD)	Region / Country / Economy
1.81	0.43	0.14	2 303	3.67	6.67	1.57	0.51	Mongolia
1.70	0.23	0.09	5 003	2.38	4.05	0.55	0.22	Montenegro
0.57	0.19	0.07	917	2.86	1.63	0.54	0.20	Morocco
0.35	0.59	0.26	462	0.57	0.20	0.33	0.14	Mozambique
0.44	0.33	0.07	349	1.32	0.59	0.44	0.09	Myanmar
0.84	0.18	0.08	1 715	1.89	1.59	0.33	0.15	Namibia
0.50	0.56	0.17	233	0.80	0.40	0.45	0.14	Nepal
4.23	0.09	0.08	6 796	2.07	8.76	0.18	0.16	Netherlands
4.21	0.10	0.11	8 517	1.54	6.48	0.16	0.16	New Zealand
0.62	0.30	0.12	597	1.24	0.76	0.37	0.15	Nicaragua
0.15	0.39	0.15	72	0.68	0.10	0.27	0.10	Niger
0.82	0.32	0.14	157	0.65	0.53	0.21	0.09	Nigeria
1.24	0.24	0.08	3 136	2.69	3.33	0.65	0.23	North Macedonia (Rep. of)
5.33	0.07	0.09	24 047	1.27	6.78	0.09	0.11	Norway
5.29	0.35	0.13	7 046	2.69	14.24	0.93	0.36	Oman
0.52	0.35	0.10	593	1.74	0.91	0.61	0.17	Pakistan
1.03	0.07	0.04	2 272	2.16	2.22	0.15	0.09	Panama
1.04	0.18	0.08	1 867	1.11	1.16	0.20	0.09	Paraguay
0.79	0.12	0.06	1 532	1.97	1.56	0.24	0.11	Peru
0.56	0.17	0.07	846	2.20	1.24	0.37	0.15	Philippines
2.75	0.19	0.09	4 343	2.89	7.96	0.56	0.26	Poland
2.14	0.10	0.07	5 049	2.15	4.59	0.22	0.14	Portugal
15.60	0.25	0.13	16 580	2.00	31.27	0.51	0.26	Qatar
1.72	0.16	0.07	2 838	2.13	3.68	0.34	0.14	Romania
5.26	0.53	0.21	6 917	2.09	10.98	1.12	0.43	Russian Federation
6.34	0.32	0.12	10 239	2.30	14.59	0.73	0.28	Saudi Arabia
0.29	0.21	0.08	264	1.77	0.51	0.37	0.14	Senegal
2.20	0.35	0.13	4 728	2.92	6.42	1.03	0.38	Serbia
6.69	0.11	0.07	9 323	1.25	8.40	0.14	0.09	Singapore
3.19	0.18	0.10	5 402	1.82	5.81	0.33	0.18	Slovak Republic
3.35	0.14	0.09	7 215	1.97	6.58	0.28	0.19	Slovenia

Selected indicators for 2018

Region / Country / Economy	Population (million)	GDP (billion 2015 USD)	GDP (PPP) (billion 2015 USD)	Energy prod. (Mtoe)	Net imports (Mtoe)	TES (Mtoe)	Elec. cons.[1] (TWh)	CO_2 emissions[2] (Mt of CO_2)
South Africa	57.8	325.9	749.4	158.1	-19.0	134.2	228.6	428.0
South Sudan	11.0	10.0	15.7	6.7	-6.0	0.6	0.6	1.4
Spain	46.7	1 297.3	1 759.4	33.9	100.8	125.0	260.1	248.9
Sri Lanka	21.7	89.9	276.7	5.2	7.6	11.7	14.0	20.6
Sudan	41.8	103.2	188.9	17.0	1.9	18.6	11.8	18.6
Suriname	0.6	4.7	8.5	0.9	0.0	0.9	1.7	2.0
Sweden	10.2	539.1	513.7	36.3	15.5	49.8	135.6	34.5
Switzerland	8.5	723.4	563.5	12.4	12.8	23.8	63.3	35.7
Syrian Arab Republic	16.9	17.5	38.7	4.0	6.7	10.4	15.3	25.8
Chinese Taipei	23.7	564.4	1 100.7	9.7	103.3	110.3	266.4	257.0
Tajikistan	9.1	9.7	29.8	2.7	0.8	3.5	14.5	6.8
Tanzania	56.3	57.0	167.9	18.5	2.6	20.9	6.1	10.3
Thailand	69.4	449.3	1 253.5	73.3	72.6	135.8	195.1	241.0
Togo	7.9	4.8	13.3	2.7	0.6	3.3	1.3	1.4
Trinidad and Tobago	1.4	22.9	42.2	34.2	-16.4	17.0	8.8	17.2
Tunisia	11.6	45.6	137.0	5.4	6.2	11.5	17.3	26.2
Turkey	81.4	980.4	2 294.6	40.4	109.3	144.2	272.5	374.1
Turkmenistan	5.9	43.0	107.0	79.5	-51.3	27.6	16.4	69.1
Ukraine	44.6	98.7	370.5	60.9	32.4	93.5	136.8	181.8
United Arab Emirates	9.6	377.3	685.2	231.9	-142.2	67.6	127.5	192.5
United Kingdom	66.4	3 082.0	2 913.7	123.0	66.5	175.2	325.9	352.4
United States	327.4	19 517.3	19 517.3	2 172.5	80.7	2 230.8	4 288.8	4 921.1
Uruguay	3.4	56.5	77.1	3.2	2.3	5.3	11.9	6.2
Uzbekistan	33.0	95.4	267.2	55.2	-10.5	46.4	57.7	108.0
Venezuela	28.9	387.5	289.9	115.3	-73.0	41.9	67.7	112.6
Viet Nam	95.5	234.7	674.3	61.1	23.6	83.5	227.2	226.5
Yemen	28.5	33.7	69.5	1.8	1.6	3.3	2.8	8.0
Zambia	17.4	23.7	69.5	11.2	1.3	12.5	13.3	6.7
Zimbabwe	14.4	22.4	41.5	10.7	1.4	11.9	8.7	11.7

1. Electricity consumption = Gross production + imports – exports – losses.
2. CO_2 emissions from fuel combustion only. Emissions are calculated using the IEA Energy Balances and the Revised 2006 IPCC Guidelines, and exclude emissions from non-energy use.

Selected indicators for 2018

TES/ pop. (toe/capita)	TES/ GDP (toe/000 2015 USD)	TES/ GDP(PPP) (toe/000 2015 USD)	Elec. cons./pop. (kWh/ capita)	CO_2/ TES (tCO_2/toe)	CO_2/ pop. (tCO_2/ capita)	CO_2/ GDP ($kgCO_2$/ 2015 USD)	CO_2/GDP (PPP) ($kgCO_2$/ 2015 USD)	Region / Country / Economy
2.32	0.41	0.18	3 957	3.19	7.41	1.31	0.57	South Africa
0.06	0.06	0.04	51	2.24	0.13	0.14	0.09	South Sudan
2.68	0.10	0.07	5 567	1.99	5.33	0.19	0.14	Spain
0.54	0.13	0.04	647	1.76	0.95	0.23	0.07	Sri Lanka
0.45	0.18	0.10	283	1.00	0.45	0.18	0.10	Sudan
1.62	0.20	0.11	2 990	2.17	3.51	0.43	0.24	Suriname
4.89	0.09	0.10	13 331	0.69	3.39	0.06	0.07	Sweden
2.80	0.03	0.04	7 434	1.50	4.19	0.05	0.06	Switzerland
0.61	0.59	0.27	904	2.48	1.52	1.47	0.67	Syrian Arab Republic
4.65	0.20	0.10	11 227	2.33	10.83	0.46	0.23	Chinese Taipei
0.39	0.36	0.12	1 591	1.93	0.75	0.70	0.23	Tajikistan
0.37	0.37	0.12	109	0.49	0.18	0.18	0.06	Tanzania
1.96	0.30	0.11	2 810	1.77	3.47	0.54	0.19	Thailand
0.42	0.68	0.25	162	0.44	0.18	0.30	0.11	Togo
12.25	0.74	0.40	6 331	1.01	12.37	0.75	0.41	Trinidad and Tobago
0.99	0.25	0.08	1 498	2.29	2.27	0.58	0.19	Tunisia
1.77	0.15	0.06	3 348	2.59	4.60	0.38	0.16	Turkey
4.73	0.64	0.26	2 809	2.50	11.82	1.61	0.65	Turkmenistan
2.10	0.95	0.25	3 065	1.94	4.07	1.84	0.49	Ukraine
7.02	0.18	0.10	13 242	2.85	19.99	0.51	0.28	United Arab Emirates
2.64	0.06	0.06	4 906	2.01	5.30	0.11	0.12	United Kingdom
6.81	0.11	0.11	13 098	2.21	15.03	0.25	0.25	United States
1.53	0.09	0.07	3 450	1.18	1.80	0.11	0.08	Uruguay
1.41	0.49	0.17	1 750	2.33	3.28	1.13	0.40	Uzbekistan
1.45	0.11	0.14	2 346	2.69	3.90	0.29	0.39	Venezuela
0.87	0.36	0.12	2 378	2.71	2.37	0.97	0.34	Viet Nam
0.12	0.10	0.05	100	2.43	0.28	0.24	0.12	Yemen
0.72	0.53	0.18	767	0.53	0.39	0.28	0.10	Zambia
0.82	0.53	0.29	602	0.98	0.81	0.52	0.28	Zimbabwe

Sources: Energy data: IEA, World Energy Balances, 2020. Population, GDP and GDP(PPP) (in 2015 USD): OECD/World Bank/Base CHELEM-PIB, CEPII Bureau van Dijk.

Conversion factors and unit abbreviations

General conversion factors for energy

To:	TJ	Gcal	Mtoe	MBtu	GWh
From:	multiply by:				
TJ	1	2.388 x 10^{2}	2.388 x10^{-5}	9.478 x 10^{2}	2.778 x 10^{-1}
Gcal	4.187 x 10^{-3}	1	1.000 x 10^{-7}	3.968	1.163 x 10^{-3}
Mtoe	4.187 x 10^{4}	1.000 x 10^{7}	1	3.968 x 10^{7}	1.163 x 10^{4}
MBtu	1.055 x 10^{-3}	2.520 x 10^{-1}	2.520 x 10^{-8}	1	2.931 x 10^{-4}
GWh	3.600	8.598 x 10^{2}	8.598 x 10^{-5}	3.412 x 10^{3}	1

Conversion factors for mass

To:	kg	t	lt	st	lb
From:	multiply by:				
kilogramme (kg)	1	1.000 x 10^{-3}	9.842 x 10^{-4}	1.102 x 10^{-3}	2.205
tonne (t)	1.000 x 10^{3}	1	9.842 x 10^{-1}	1.102	2.205 x 10^{3}
long ton (lt)	1.016 x 10^{3}	1.016	1	1.120	2.240 x 10^{3}
short ton (st)	9.072 x 10^{2}	9.072 x 10^{-1}	8.929 x 10^{-1}	1	2.000 x 10^{3}
pound (lb)	4.536 x 10^{-1}	4.536 x 10^{-4}	4.464 x 10^{-4}	5.000 x 10^{-4}	1

Conversion factors for volume

To:	gal U.S.	gal U.K.	bbl	ft^3	l	m^3
From:	multiply by:					
U.S. gallon (gal)	1	8.327 x 10^{-1}	2.381 x 10^{-2}	1.337 x 10^{-1}	3.785	3.785 x 10^{-3}
U.K. gallon (gal)	1.201	1	2.859 x 10^{-2}	1.605 x 10^{-1}	4.546	4.546 x 10^{-3}
barrel (bbl)	4.200 x 10^{1}	3.497 x 10^{1}	1	5.615	1.590 x 10^{2}	1.590 x 10^{-1}
cubic foot (ft^3)	7.481	6.229	1.781 x 10^{-1}	1	2.832 x 10^{1}	2.832 x 10^{-2}
litre (l)	2.642 x 10^{1}	2.200 x 10^{-1}	6.290 x 10^{-3}	3.531 x 10^{-2}	1	1.000 x 10^{-3}
cubic metre (m^3)	2.642 x 10^{2}	2.200 x 10^{2}	6.290	3.531 x 10^{1}	1.000 x 10^{3}	1

Conversion factors and unit abbreviations

Selected country-specific net calorific values

Steam coal

Top-ten producers in 2019	toe/tonne
People's Rep. of China	0.524
India	0.381
United States	0.555
Indonesia	0.524
Australia	0.630
Russian Federation	0.624
South Africa	0.566
Kazakhstan	0.451
Colombia	0.650
Poland	0.570

Crude oil[1]

Top-ten producers in 2019	toe/tonne
United States	1.017
Russian Federation	1.005
Saudi Arabia	1.016
Canada	1.022
Iraq	1.023
People's Rep. of China	1.000
United Arab Emirates	1.018
Islamic Rep. of Iran	1.019
Brazil	1.020
Kuwait	1.016

Default net calorific values

Oil products

	OECD Europe[2]	OECD Americas	OECD Asia Oceania	Non-OECD
	toe/tonne			
Refinery gas	1.182	1.149	1.149	1.149
Ethane	1.182	1.180	1.180	1.180
Liquefied petroleum gases	1.099	1.130	1.139	1.130
Motor gasoline excl. biofuels	1.051	1.070	1.065	1.070
Aviation gasoline	1.051	1.070	1.065	1.070
Gasoline type jet fuel	1.027	1.070	1.065	1.070
Kerosene type jet fuel	1.027	1.065	1.063	1.065
Kerosene	1.027	1.046	1.025	1.046
Gas/diesel oil excl. biofuels	1.017	1.017	1.017	1.034
Fuel oil	0.955	0.960	1.017	0.960
Naphtha	1.051	1.075	1.032	1.075
White spirit	1.041	1.027	1.027	1.027
Lubricants	1.003	1.003	1.025	1.003
Bitumen	0.931	0.955	0.927	0.931
Paraffin waxes	0.955	0.955	0.955	0.955
Petroleum coke	0.764	0.764	0.807	0.764
Non-specified oil products	0.955	0.955	0.955	0.955

1. Excludes NGL, feedstocks, additives and other hydrocarbons.
2. Defaults for OECD Europe were also applied to non-OECD Europe and Eurasia countries.

Conversion factors and unit abbreviations

Selected country-specific gross calorific values

Natural gas

Top-ten producers in 2019	kJ/m^3
United States	38 267
Russian Federation	38 230
Islamic Rep. of Iran	39 356
People's Rep. of China	38 931
Canada	39 386
Qatar	41 400
Australia	39 914
Norway	39 296
Saudi Arabia	38 000
Algeria	39 565

Note: To calculate the net calorific value, the gross calorific value is multiplied by 0.9.

Conventions for electricity

Figures for electricity production, trade, and final consumption are calculated using the energy content of the electricity (i.e. at a rate of 1 TWh = 0.086 Mtoe). Hydro-electricity production (excluding pumped storage) and electricity produced by other non-thermal means (wind, tide/wave/ocean, solar photovoltaic, etc.) are accounted for similarly using 1 TWh = 0.086 Mtoe. However, the primary energy equivalent of nuclear electricity is calculated from the gross generation by assuming a 33% conversion efficiency, i.e. 1 TWh = (0.086 ÷ 0.33) Mtoe. For geothermal and solar thermal, if no country-specific information is reported, the primary energy equivalent is calculated as follows:

- 10 % for geothermal electricity
- 50 % for geothermal heat
- 33 % for solar thermal electricity
- 100 % for solar thermal heat.

Unit abbreviations

bcm	billion cubic metres	MBtu	million British thermal units
Gcal	gigacalorie	Mt	million tonnes
GCV	gross calorific value	Mtoe	million tonnes of oil equivalent
GW	gigawatt	MWh	megawatt hour
GWh	gigawatt hour	PPP	purchasing power parity
kb/cd	thousand barrels per calendar day	t	metric ton = tonne = 1 000 kg
kcal	kilocalorie	TJ	terajoule
kg	kilogramme	toe	tonne of oil equivalent = 10^7 kcal
kJ	kilojoule	TWh	terawatt hour
kWh	kilowatt hour	USD	United States dollar

Definitions

Coal

Coal includes all coal, both primary (including coking coal, steam coal and lignite) and derived fuels (including patent fuel, coke oven coke, gas coke, BKB, gas works gas, coke oven gas, blast furnace gas and other recovered gases). For presentational purposes, peat (including peat products) and oil shale are also included in this category, where applicable.

Steam coal

Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

Crude oil

Crude oil comprises crude oil, natural gas liquids, refinery feedstocks and additives as well as other hydrocarbons.

Oil products

*Oil product*s comprises refinery gas, ethane, LPG, aviation gasoline, motor gasoline, jet fuels, kerosene, gas/diesel oil, fuel oil, naphtha, white spirit, lubricants, bitumen, paraffin waxes, petroleum coke and other oil products.

Natural gas

Natural gas includes both "associated" and "non-associated" gas, excluding natural gas liquids.

Nuclear

Nuclear shows the primary heat equivalent of the electricity produced by a nuclear power plant with an average thermal efficiency of 33%.

Renewables

Renewables includes hydro, geothermal, solar PV, solar thermal, tide/wave/ocean, wind, municipal waste (renewable), primary solid biofuels, biogases, biogasoline, biodiesel, other liquid biofuels, non-specified primary biofuels and waste and charcoal.

Hydro

Hydro shows the energy content of the electricity produced in hydro power plants. Hydro output excludes output from pumped storage plants.

Solar photovoltaic (PV)

Solar PV electricity refers to electricity produced from solar photovoltaics, i.e. by the direct conversion of solar radiation through photovoltaic processes in semiconductor devices (solar cells), including concentrating photovoltaic systems.

Wind

Wind electricity refers to electricity produced from devices driven by wind.

Biofuels and waste

Biofuels and waste comprises solid biofuels, liquid biofuels, biogases, industrial waste and municipal waste. Biofuels are defined as any plant matter used directly as fuel or converted into fuels (e.g. charcoal) or electricity and/or heat. Included here are wood, vegetal waste (including wood waste and crops used for energy production), ethanol, animal materials/wastes and sulphite lyes. Municipal waste comprises wastes produced by residential, commercial and public services, that are collected by local authorities for disposal in a central location for the production of heat and/or power.

Definitions

Other (Energy source)

Other includes geothermal, solar, wind, tide/wave/ocean energy, electricity and heat. Unless the actual efficiency of geothermal and solar thermal is known, the quantity of geothermal and solar energy entering electricity generation is inferred from the electricity/heat production at geothermal and solar plants assuming an average thermal efficiency of:

- *10% for geothermal electricity*
- *33% for solar thermal electricity*
- *50% for geothermal heat*
- *100% for solar thermal heat.*

For solar PV, wind and tide/wave/ocean energy, the quantities entering electricity generation are equal to the electrical energy generated. Direct use of geothermal and solar heat is also included here. Electricity is accounted for at the same heat value as electricity in final consumption (i.e. 1 GWh = 0.000086 Mtoe). Heat includes heat that is produced for sale and is accounted for in the transformation sector.

Production

Production is the production of primary energy, i.e. coking coal, steam coal, lignite, peat, oil shale, crude oil, NGLs, natural gas, biofuels and waste, nuclear, hydro, geothermal, solar, wind and the heat from heat pumps that is extracted from the ambient environment. Production is calculated after removal of impurities (e.g. sulphur from natural gas).

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.

a) Oil and natural gas

Quantities of crude oil and oil products imported or exported under processing agreements (i.e. refining on account) are included. Quantities of oil in transit are excluded. Crude oil, NGL and natural gas are reported as coming from the country of origin; refinery feedstocks and oil products are reported as coming from the country of last consignment. Re-exports of oil imported for processing within bonded areas are shown as exports of product from the processing country to the final destination.

b) Coal

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 is not included.

c) Electricity

Amounts are considered as imported or exported when they have crossed the national territorial boundaries of the country.

International marine bunkers

International marine bunkers covers those quantities delivered to ships of all flags that are engaged in international navigation. The international navigation may take place at sea, on inland lakes and waterways, and in coastal waters. Consumption by ships engaged in domestic navigation is excluded. The domestic/international split is determined on the basis of port of departure and port of arrival, and not by the flag or nationality of the ship. Consumption by fishing vessels and by military forces is also excluded.

Definitions

International aviation bunkers

International aviation bunkers covers deliveries of aviation fuels to aircraft for international aviation. Fuels used by airlines for their road vehicles are excluded. The domestic/international split should be determined on the basis of departure and landing locations and not by the nationality of the airline. For many countries this incorrectly excludes fuel used by domestically owned carriers for their international departures.

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.

Total energy supply (TES)

Total energy supply (TES) is made up of production + imports – exports – international marine bunkers – international aviation bunkers ± stock changes. For the world total, international marine bunkers and international aviation bunkers are not subtracted from TES.

Transfers

Transfers includes both interproduct transfers, products transferred and recycled products (e.g. used lubricants which are reprocessed).

Statistical differences

Statistical differences are essentially the difference between supply and demand. They include the sum of the unexplained statistical differences for individual fuels, as they appear in the basic energy statistics. They also include the statistical differences that arise because of the variety of conversion factors in the coal and oil columns.

Electricity plants

Electricity plants refers to 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. Both main activity producers and autoproducer plants are included here.

Oil refineries

Oil refineries shows the use of primary energy for the manufacture of finished oil products and the corresponding output. Thus, the total reflects transformation losses. In certain cases the data in the total column are positive numbers. This can be due to either problems in the primary refinery balance or to the fact that the IEA uses regional net calorific values for oil products.

Other transformation

Other transformation covers non-specified transformation not shown elsewhere, such as the transformation of primary solid biofuels into charcoal.

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 [ISIC 05, 06, 19 and 35, Group 091 and Classes 0892 and 0721].

Definitions

Losses

Losses include losses in energy distribution, transmission and transport.

Total final consumption (TFC)

Total final consumption (TFC) is the sum of consumption by the different end-use sectors and also includes non-energy use. Backflows from the petrochemical industry are not included in final consumption.

Industry

Industry consumption is specified by sub-sector as listed below. Energy used for transport by industry is not included here but is reported under transport. *Non-energy use* in industry is excluded from *industry* and reported separately:

- *Mining (excluding fuels) and quarrying [ISIC Divisions 07 and 08 and Group 099]*
- *Construction [ISIC Divisions 41 to 43]*
- *Iron and steel industry [ISIC Group 241 and Class 2431]*
- *Chemical and petrochemical industry [ISIC Divisions 20 and 21] excluding petrochemical feedstocks*
- *Non-ferrous metals basic industries [ISIC Group 242 and Class 2432]*
- *Non-metallic minerals such as glass, ceramic, cement, etc. [ISIC Division 23]*
- *Transport equipment [ISIC Divisions 29 and 30]*
- *Machinery comprises fabricated metal products. machinery and equipment other than transport equipment [ISIC Divisions 25 to 28]*
- *Food and tobacco [ISIC Divisions 10 to 12]*
- *Paper. pulp and printing [ISIC Divisions 17 and 18]*
- *Wood and wood products (other than pulp and paper) [ISIC Division 16]*
- *Textile and leather [ISIC Divisions 13 to 15]*
- *Non-specified (any manufacturing industry not included above) [ISIC Divisions 22. 31 and 32].*

Transport

Transport includes all fuels used for transport [ISIC Divisions 49 to 51]. It includes transport in industry and covers domestic aviation, road, rail, pipeline transport, domestic navigation and non-specified transport. Fuel used for ocean, coastal and inland fishing (included under fishing) and military consumption (included in other non-specified) are excluded from transport. Please note that international marine and international aviation bunkers are also included here for world total. *Non-energy use* in transport is excluded from *transport* and reported separately.

Other (Energy final consumption)

Other covers residential, 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, 90-99], agriculture/forestry [ISIC Divisions 01 and 02], fishing [ISIC Division 03] and non-specified consumption.

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 also includes petrochemical feedstocks. Non-energy use is shown separately in final consumption under the heading non-energy use.

Geographical coverage

World

OECD[1] 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

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, the Kingdom of Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Réunion (until 2010), Rwanda, Sao Tome and Principe, Senegal, the Seychelles, Sierra Leone, Somalia, South Africa, South Sudan (from 2012), Sudan, the United Republic of Tanzania (Tanzania), Togo, Tunisia, Uganda, Zambia, Zimbabwe.

Americas

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, Curaçao[2], Dominica, the Dominican Republic, Ecuador, El Salvador, the Falkland Islands (Malvinas), Guatemala, French Guiana (until 2010), Grenada, Guadeloupe (until 2010), Guyana, Haiti, Honduras, Jamaica, Martinique (until 2010), Mexico, Montserrat, Nicaragua, Panama, Paraguay, Peru, Puerto Rico[3], Saba (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)

Afghanistan, Armenia, Azerbaijan, Bahrain, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, the People's Republic of China, Cyprus[3], Georgia, Hong Kong (China), India, Indonesia, the Islamic Republic of Iran, Iraq, Israel[4] , 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)

Albania, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Denmark, Estonia, Finland, France[5], Germany, Gibraltar, Greece, Hungary, Iceland, Ireland, Italy, Kosovo[6], Latvia, Lithuania, Luxembourg, Malta, the Republic of Moldova (Moldova), Montenegro, the Netherlands, the Republic of North Macedonia, Norway, Poland, Portugal, Romania, the Russian Federation, Serbia[7], the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Ukraine, the United Kingdom.

Oceania

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

Geographical coverage

OECD[1]

Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel[4], Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OECD Americas

Canada, Chile, Mexico, the United States.

OECD Asia Oceania

Australia, Israel[4], Japan, Korea, New Zealand.

OECD Europe

Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

The IEA and Accession/Association countries

IEA member countries: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Estonia, 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 countries: Chile and Lithuania; Association countries: Brazil, the People's Republic of China, India, Indonesia, Morocco, Singapore, South Africa, Thailand.

Middle East

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

Non-OECD Europe and Eurasia

Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus[3], Georgia, Gibraltar, Kazakhstan, Kosovo[6], Kyrgyzstan, Malta, The Republic of Moldova (Moldova), Montenegro, the Republic of North Macedonia, Romania, Russian Federation, Serbia[7], Tajikistan, Turkmenistan, Ukraine, Uzbekistan, the Former Soviet Union and the Former Yugoslavia.

China

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

Non-OECD Asia excluding China

Bangladesh, Brunei Darussalam, Cambodia (from 1995), India, Indonesia, Democratic People's Republic of Korea, Lao People's Democratic Republic, Malaysia, Mongolia (from 1985), Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Chinese Taipei, Thailand, Viet Nam and Other non-OECD Asia.

Non-OECD Americas

Argentina, the Plurinational State of Bolivia (Bolivia), Brazil, Colombia[8], Costa Rica, Cuba, Curaçao[2], 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.

Geographical coverage

1. OECD includes Estonia, Latvia, Lithuania and Slovenia starting in 1990. Prior to 1990, Estonia, Latvia and Lithuania are included in Former Soviet Union and Slovenia is included in Former Yugoslavia.
2. 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. From 2012 onwards, data now account for the energy statistics of Curaçao Island only. Prior to 2012, data remain unchanged and still cover the entire territory of the former Netherlands Antilles.
3. 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 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.
4. 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.
5. Data for the overseas departments are included in Europe starting with 2011, and in other regions as appropriate (America or Africa) until 2010.
6. 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.
7. Serbia includes Montenegro until 2004 and Kosovo until 1999.
8. Data for Colombia, that joined the OECD in April 2020, are not included in the OECD aggregate in this publication.
9. Natural gas and electricity data for Puerto Rico are included under Other non-OECD Americas, except for input to and output to electricity and heat generation, included under the United States starting with 2017 data.

Note: The countries listed above are those for which the IEA Secretariat has direct statistics contacts. This document 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 this publication 'country' refers to country or territory, as the case may be.

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