

2010

Key World Energy STATISTICS



International
Energy Agency



International
Energy Agency

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www.iea.org



KEY WORLD ENERGY STATISTICS

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IEA participating countries

Australia
Austria
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Portugal
Slovak Republic
Spain
Sweden
Switzerland
Turkey
United Kingdom
United States

The International Energy Agency

The IEA, which was established in November 1974, has over the years gained recognition as one of the world's most authoritative sources for energy statistics. Its all-encompassing annual studies of oil, natural gas, coal, electricity and renewables are indispensable tools for energy policy makers, companies involved in the energy field and scholars.

In 1997 the IEA produced a handy, pocket-sized summary of key energy data. This new edition responds to the enormously positive reaction to the books since then. **Key World Energy Statistics from the IEA** contains timely, clearly-presented data on the supply, transformation and consumption of all major energy sources. The interested businessman, journalist or student will have at his or her fingertips the annual Canadian production of coal, the electricity consumption in Thailand, the price of diesel oil in Spain and thousands of other useful energy facts.

Gathering and analysing statistics is one of the important IEA functions. But the Agency – an autonomous body within the Organisation for Economic Co-operation and Development – also:

- administers a plan to guard member countries against the risk of a major disruption of oil supplies;
- coordinates national efforts to conserve energy and develop alternative energy sources, as well as to limit pollution and energy-related climate change; and
- disseminates information on the world energy market and seeks to promote stable international trade in energy.

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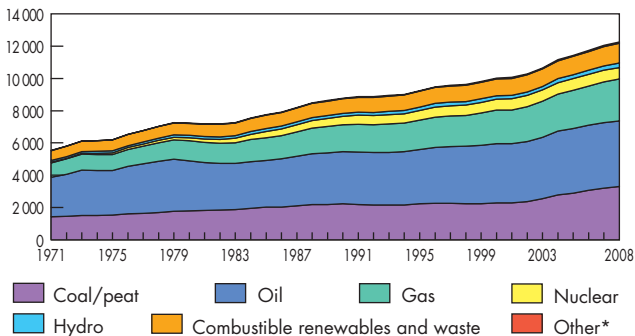
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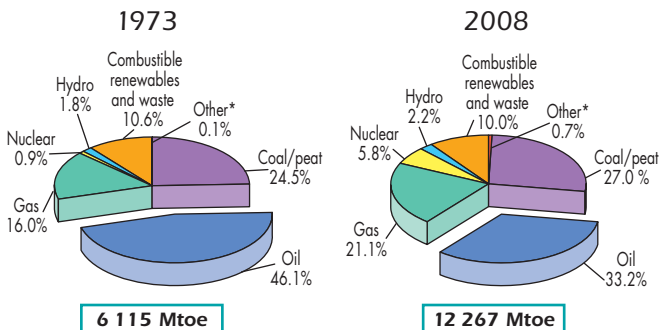
TOTAL PRIMARY ENERGY SUPPLY

World

Evolution from 1971 to 2008 of world total primary energy supply by fuel (Mtoe)



1973 and 2008 fuel shares of TPES

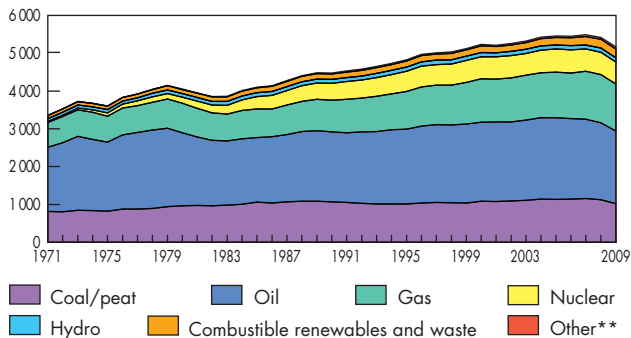


*Other includes geothermal, solar, wind, heat, etc.

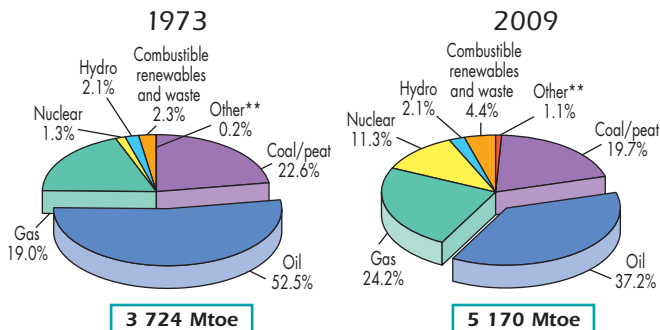
BY FUEL

OECD

Evolution from 1971 to 2009 of OECD total primary energy supply* by fuel (Mtoe)



1973 and 2009 fuel shares of TPES*



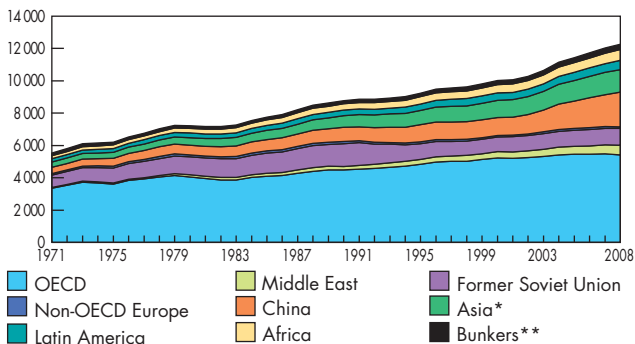
*Excludes electricity trade.

**Other includes geothermal, solar, wind, heat, etc.

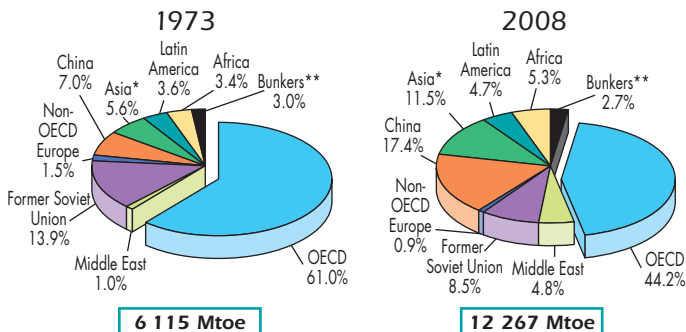
TOTAL PRIMARY ENERGY SUPPLY

World

Evolution from 1971 to 2008 of world total primary energy supply by region (Mtoe)



1973 and 2008 regional shares of TPES



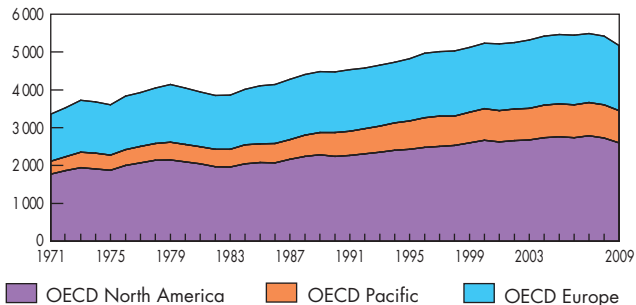
*Asia excludes China.

**Includes international aviation and international marine bunkers.

BY REGION

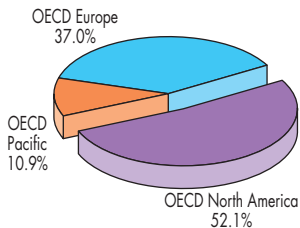
OECD

Evolution from 1971 to 2009 of OECD total primary energy supply* by region (Mtoe)



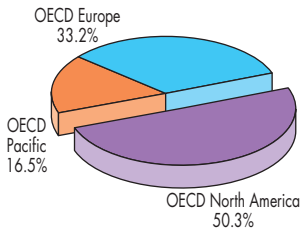
1973 and 2009 regional shares of TPES*

1973



3 724 Mtoe

2009

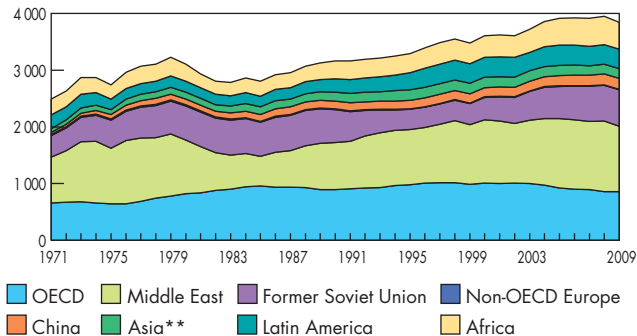


5 170 Mtoe

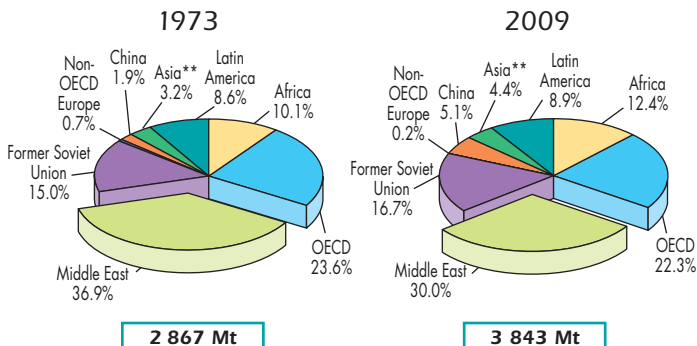
*Excludes electricity trade.

Crude Oil Production

Evolution from 1971 to 2009 of crude oil* production by region (Mt)



1973 and 2009 regional shares of crude oil* production



*Includes crude oil, NGL, feedstocks, additives and other hydrocarbons.

**Asia excludes China.

Producers, net exporters and net importers of crude oil*

1



Producers	Mt	% of world total
Russian Federation	494	12.9
Saudi Arabia	452	11.8
United States	320	8.3
Islamic Rep. of Iran	206	5.4
People's Rep. of China	194	5.0
Canada	152	4.0
Mexico	146	3.8
Venezuela	126	3.3
Kuwait	124	3.2
United Arab Emirates	120	3.1
Rest of the world	1 509	39.2
World	3 843	100.0

2009 data

Net exporters	Mt
Saudi Arabia	355
Russian Federation	241
Islamic Rep. of Iran	120
United Arab Emirates	108
Nigeria	102
Angola	92
Norway	90
Kuwait	89
Iraq	88
Venezuela	74
Others	593
Total	1 952

2008 data

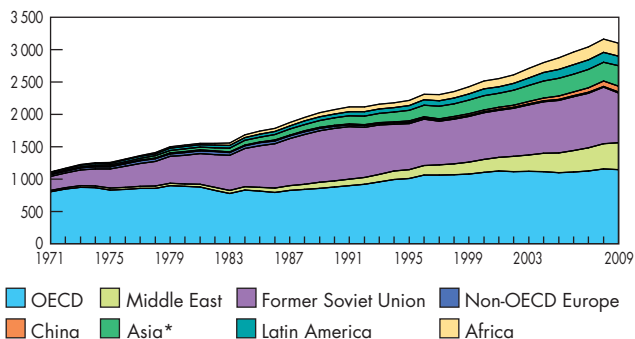
Net importers	Mt
United States	564
Japan	199
People's Rep. of China	175
India	128
Korea	116
Germany	105
Italy	88
France	83
Spain	61
Netherlands	57
Others	514
Total	2 090

2008 data

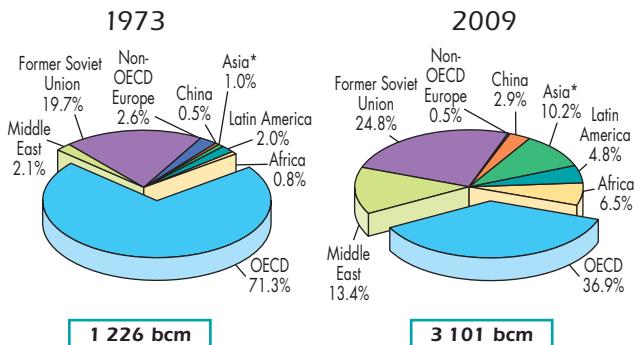
*Includes crude oil, NGL, feedstocks, additives and other hydrocarbons.

Natural Gas Production

Evolution from 1971 to 2009 of natural gas production by region (billion cubic metres)



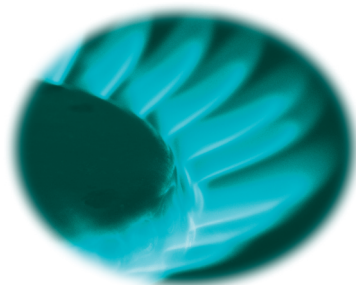
1973 and 2009 regional shares of natural gas production



*Asia excludes China.

Producers, net exporters and net importers* of natural gas

1



Producers	bcm	% of world total
United States	594	19.2
Russian Federation	589	19.0
Canada	159	5.1
Islamic Rep. of Iran	144	4.6
Norway	106	3.4
People's Rep. of China	90	2.9
Qatar	89	2.9
Algeria	81	2.6
Netherlands	79	2.5
Indonesia	76	2.5
Rest of the world	1 094	35.3
World	3 101	100.0

2009 data

Net exporters	bcm
Russian Federation	160
Norway	100
Canada	76
Qatar	67
Algeria	55
Indonesia	36
Netherlands	30
Turkmenistan	27
Malaysia	24
Trinidad and Tobago	21
Others	140
Total	736

2009 data

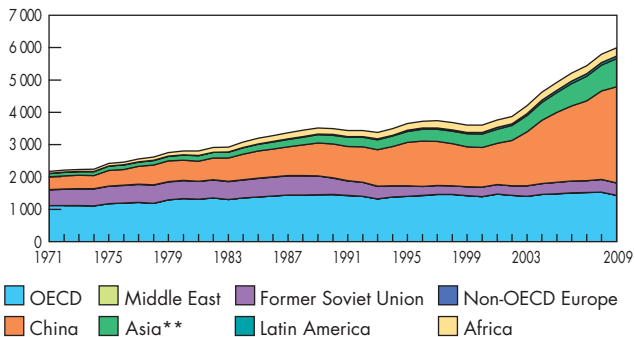
Net importers	bcm
Japan	93
Germany	83
United States	76
Italy	69
France	45
Ukraine	38
Turkey	35
Spain	34
Korea	33
United Kingdom	29
Others	214
Total	749

2009 data

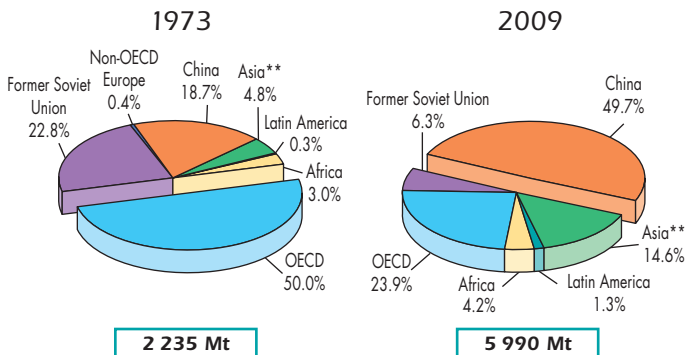
*Net exports and net imports include pipeline gas and LNG.

Hard Coal Production

Evolution from 1971 to 2009 of hard coal* production by region (Mt)



1973 and 2009 regional shares of hard coal* production



*Includes recovered coal.
**Asia excludes China.

Producers, net exporters and net importers of coal

1



Producers	Hard coal* (Mt)	Brown coal (Mt)
People's Rep. of China	2 971	**
United States	919	66
India	526	35
Australia	335	64
Indonesia	263	38
South Africa	247	0
Russian Federation	229	68
Kazakhstan	96	5
Poland	78	57
Colombia	73	0
Rest of the world	253	580
World	5 990	913

2009 data

*Includes recovered coal.

**Included in hard coal.

Net exporters	Hard coal (Mt)
Australia	262
Indonesia	230
Russian Federation	93
Colombia	69
South Africa	67
United States	33
Vietnam	25
Kazakhstan	22
Canada	20
Czech Republic	4
Others	11
Total	836

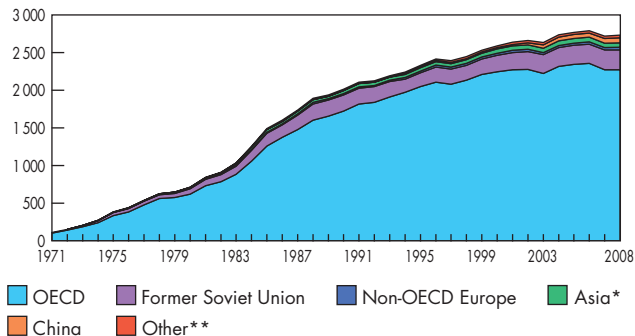
2009 data

Net importers	Hard coal (Mt)
Japan	165
People's Rep. of China	114
Korea	103
India	66
Chinese Taipei	60
Germany	38
United Kingdom	38
Turkey	20
Italy	19
Spain	16
Others	180
Total	819

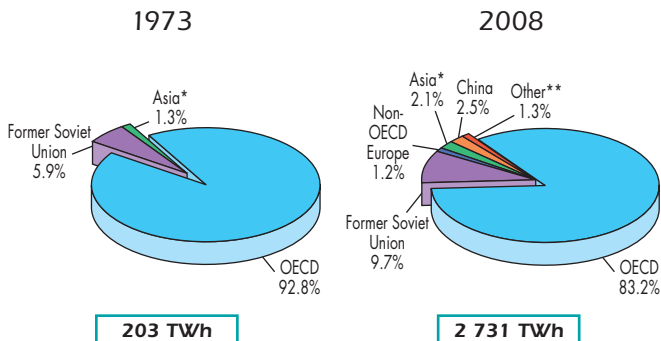
2009 data

Nuclear Production

Evolution from 1971 to 2008 of nuclear production by region (TWh)



1973 and 2008 regional shares of nuclear production



*Asia excludes China.

**Other includes Africa, Latin America and the Middle East.

Producers of nuclear electricity

1



Producers	TWh	% of world total
United States	838	30.7
France	439	16.1
Japan	258	9.4
Russian Federation	163	6.0
Korea	151	5.5
Germany	148	5.4
Canada	94	3.4
Ukraine	90	3.3
People's Rep. of China	68	2.5
Sweden	64	2.3
Rest of the world	418	15.4
World	2 731	100.0

2008 data

Installed capacity	GW
United States	101
France	63
Japan	48
Russian Federation	23
Germany	20
Korea	18
Canada	13
Ukraine	13
United Kingdom	11
Sweden	9
Rest of the world	53
World	372

2008 data
Sources: IEA,
Commissariat à l'Énergie
Atomique (France).

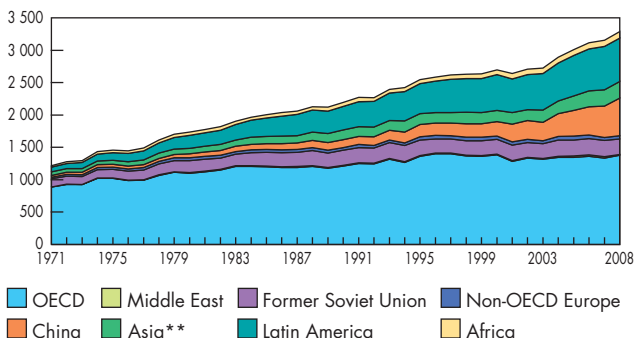
Country (top-ten producers)	% of nuclear in total domestic electricity generation
France	77.1
Ukraine	46.7
Sweden	42.6
Korea	34.0
Japan	24.0
Germany	23.5
United States	19.3
Russian Federation	15.7
Canada	14.4
People's Rep. of China	2.0
Rest of the world*	11.9
World	13.5

2008 data

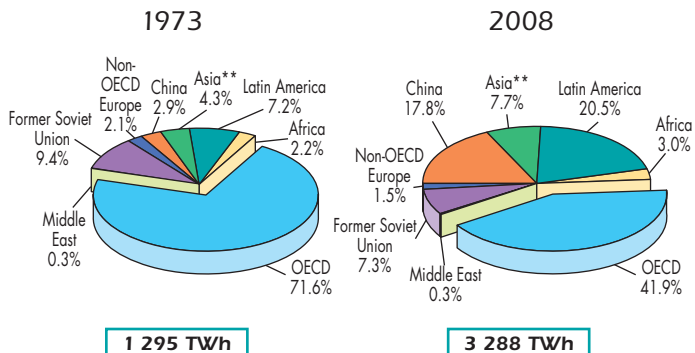
*Excludes countries with no nuclear production.

Hydro Production

Evolution from 1971 to 2008 of hydro* production by region (TWh)



1973 and 2008 regional shares of hydro* production



*Includes pumped storage.
**Asia excludes China.

Producers of hydro* electricity

1



Producers	TWh	% of world total
People's Rep. of China	585	17.8
Canada	383	11.5
Brazil	370	11.2
United States	282	8.6
Russian Federation	167	5.1
Norway	141	4.3
India	114	3.5
Venezuela	87	2.6
Japan	83	2.5
Sweden	69	2.1
Rest of the world	1 007	30.8
World	3 288	100.0

2008 data

*Includes pumped storage.

**Excludes countries with no hydro production.

Installed capacity	GW
People's Rep. of China	149
United States	100
Brazil	77
Canada	73
Japan	47
Russian Federation	47
India	36
Norway	29
France	25
Italy	21
Rest of the world	320
World	924

2007 data

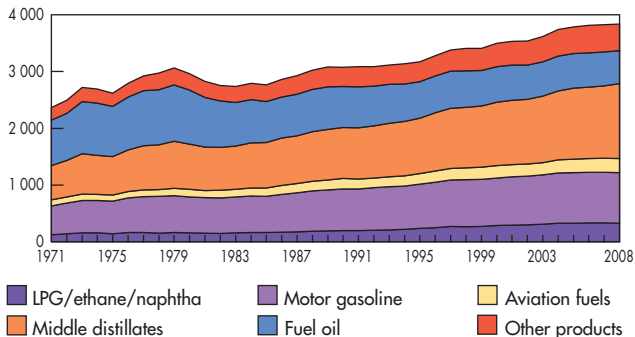
Sources: IEA, United Nations.

Country (top-ten producers)	% of hydro in total domestic electricity generation
Norway	98.5
Brazil	79.8
Venezuela	72.8
Canada	58.7
Sweden	46.1
People's Rep. of China	16.9
Russian Federation	16.0
India	13.8
Japan	7.7
United States	6.5
Rest of the world**	13.6
World	16.2

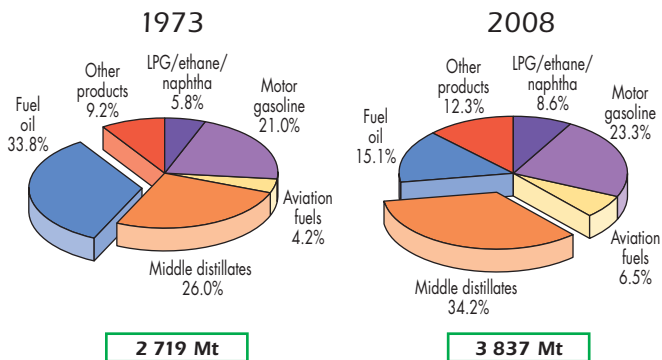
2008 data

Refining by Product

Evolution from 1971 to 2008 of world refinery production by product (Mt)



1973 and 2008 shares of refinery production by product



Producers, net exporters and net importers of oil products

2



Producers	Mt	% of world total
United States	835	21.8
People's Rep. of China	328	8.5
Russian Federation	231	6.0
Japan	189	4.9
India	162	4.2
Korea	120	3.1
Germany	116	3.0
Saudi Arabia	100	2.6
Canada	99	2.6
Brazil	95	2.5
Rest of the world	1 562	40.8
World	3 837	100.0

2008 data

Net exporters	Mt
Russian Federation	98
Saudi Arabia	48
Kuwait	32
Venezuela	30
India	19
Korea	19
Algeria	17
Italy	15
Belarus	13
Norway	11
Others	109
Total*	411

2008 data

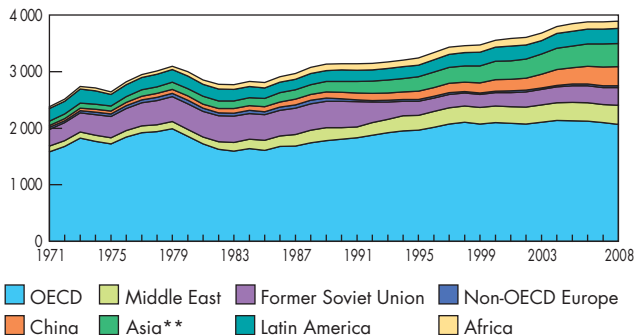
Net importers	Mt
People's Rep. of China	26
Japan	22
Mexico	20
Spain	16
Hong Kong (China)	15
Indonesia	14
Vietnam	13
Australia	13
Germany	9
Pakistan	9
Others	176
Total*	333

2008 data

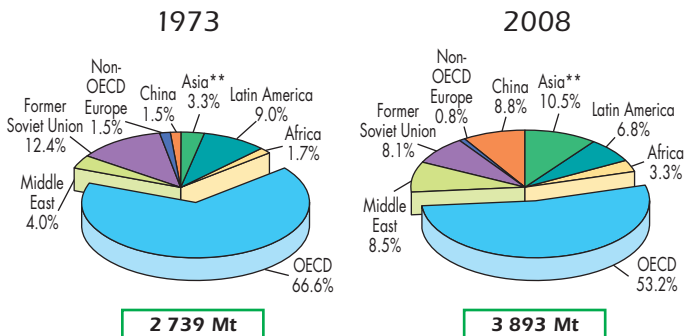
*The discrepancy between total net exports and total net imports arises from different data sources and possible misallocation of bunkers into exports for some countries.

Refining by Region

Evolution from 1971 to 2008 of world refinery throughput*
by region (Mt)



1973 and 2008 regional shares of refinery throughput*



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

**Asia excludes China.

Refinery capacity, net exporters and net importers of oil*

2



Crude distillation capacity	kb/cd	% of world total
United States	17 460	19.2
People's Rep. of China**	9 150	10.1
Former Soviet Union	7 830	8.6
Japan	4 700	5.2
India	3 700	4.1
Korea	2 530	2.8
Germany	2 380	2.6
Italy	2 300	2.5
Saudi Arabia	2 110	2.3
Canada	1 960	2.2
Rest of the world	36 710	40.4
World	90 830	100.0

2009 data

Net exporters	Mt
Saudi Arabia	403
Russian Federation	338
Islamic Rep. of Iran	124
Kuwait	122
United Arab Emirates	105
Venezuela	104
Norway	101
Nigeria	97
Angola	92
Iraq	81
Others	592
Total	2 159

2008 data

Net importers	Mt
United States	563
Japan	221
People's Rep. of China	200
Germany	115
India	109
Korea	98
France	90
Spain	77
Italy	73
Singapore	50
Others	624
Total	2 220

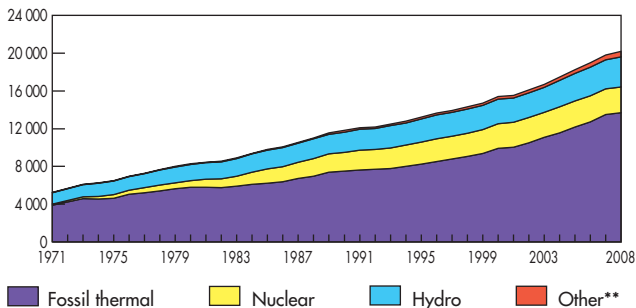
2008 data

*Crude oil and oil products.

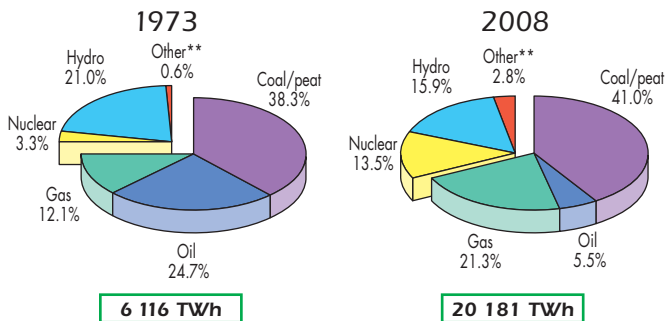
**Includes unlisted small teapot refineries which are estimated at 500 kb/cd (i.e. calendar day).

Electricity Generation by Fuel

Evolution from 1971 to 2008 of world electricity generation* by fuel (TWh)



1973 and 2008 fuel shares of electricity generation*



*Excludes pumped storage.

**Other includes geothermal, solar, wind, combustible renewables and waste, and heat.

Electricity production from fossil fuels



Coal/peat	TWh
People's Rep. of China	2 733
United States	2 133
India	569
Germany	291
Japan	288
South Africa	241
Australia	198
Russian Federation	197
Korea	192
Poland	143
Rest of the world	1 278
World	8 263

2008 data

Oil	TWh
Japan	139
Saudi Arabia	116
United States	58
Mexico	49
Indonesia	43
Iraq	36
Kuwait	36
Islamic Rep. of Iran	36
India	34
Pakistan	32
Rest of the world	532
World	1 111

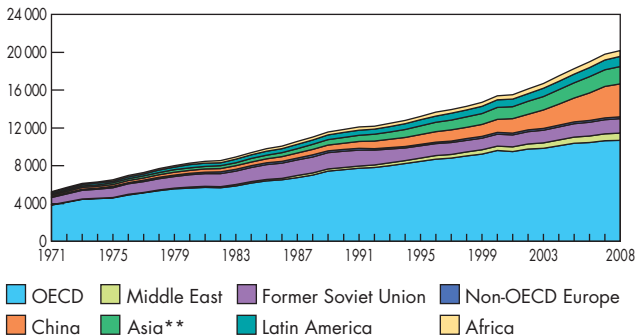
2008 data

Gas	TWh
United States	911
Russian Federation	495
Japan	283
United Kingdom	177
Islamic Rep. of Iran	173
Italy	173
Mexico	131
Spain	122
Thailand	102
Turkey	99
Rest of the world	1 635
World	4 301

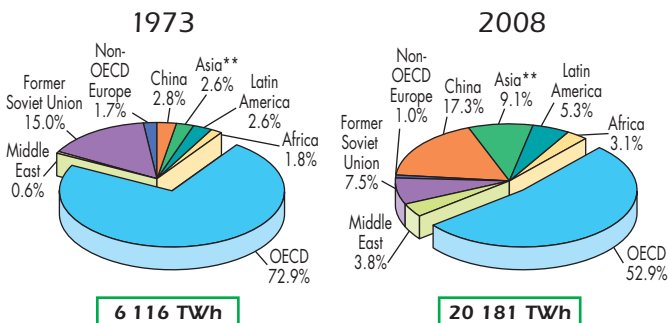
2008 data

Electricity Generation by Region

Evolution from 1971 to 2008 of world electricity generation* by region (TWh)



1973 and 2008 regional shares of electricity generation*



*Excludes pumped storage.

**Asia excludes China.

Producers, net exporters and net importers of electricity

2



Producers*	TWh	% of world total
United States	4 344	21.5
People's Rep. of China	3 457	17.1
Japan	1 075	5.3
Russian Federation	1 038	5.1
India	830	4.1
Canada	651	3.2
Germany	631	3.1
France	570	2.8
Brazil	463	2.3
Korea	444	2.2
Rest of the world	6 678	33.3
World	20 181	100.0

2008 data

Net exporters	TWh
France	48
Paraguay	46
Canada	32
Germany	20
Russian Federation	18
Norway	14
People's Rep. of China	13
Czech Republic	11
Spain	11
Ukraine	7
Others	49
Total	269

2008 data

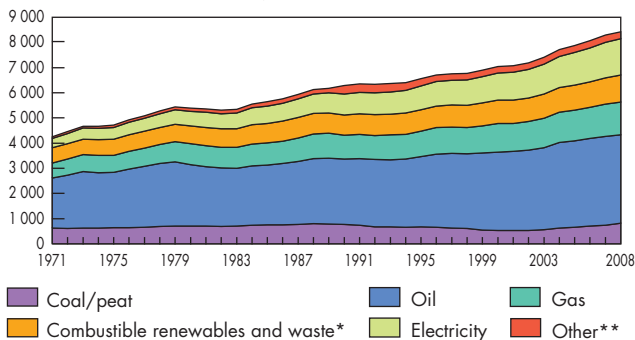
Net importers	TWh
Brazil	42
Italy	40
United States	33
Netherlands	16
Finland	13
United Kingdom	11
Belgium	11
Portugal	9
India	9
Hong Kong (China)	8
Others	75
Total	267

*Gross production minus production from pumped storage plants. 2008 data

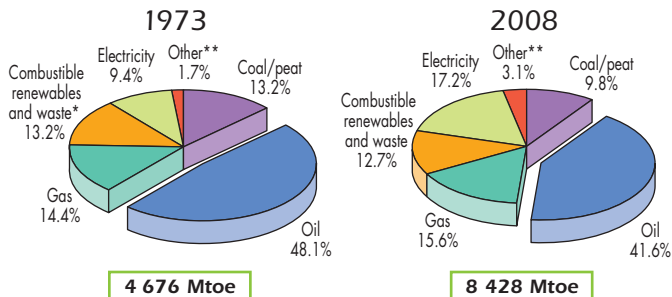
TOTAL FINAL CONSUMPTION

World

Evolution from 1971 to 2008 of world total final consumption by fuel (Mtoe)



1973 and 2008 fuel shares of total final consumption



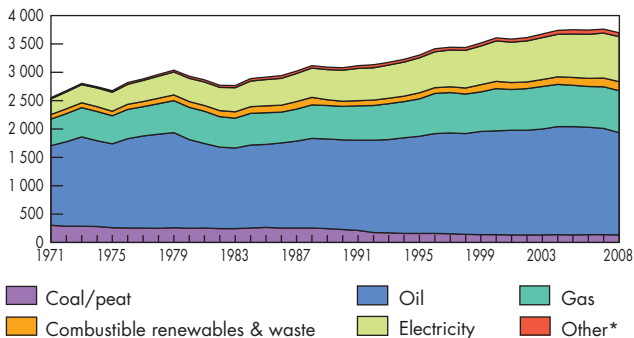
*Data prior to 1994 for combustible renewables and waste final consumption have been estimated.

**Other includes geothermal, solar, wind, heat, etc.

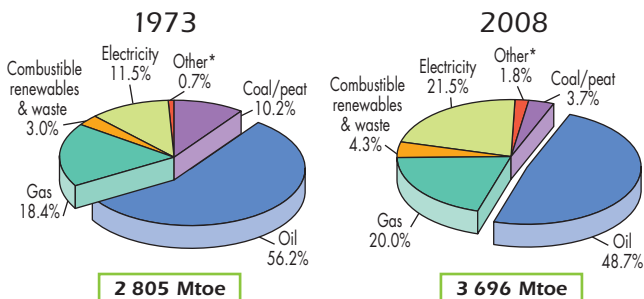
BY FUEL

OECD

Evolution from 1971 to 2008 of OECD total final consumption by fuel (Mtoe)



1973 and 2008 fuel shares of total final consumption

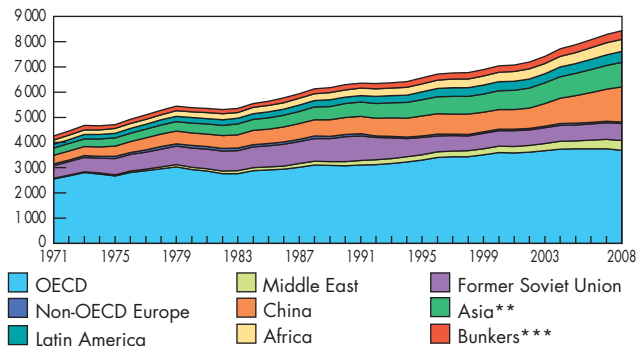


*Other includes geothermal, solar, wind, heat, etc.

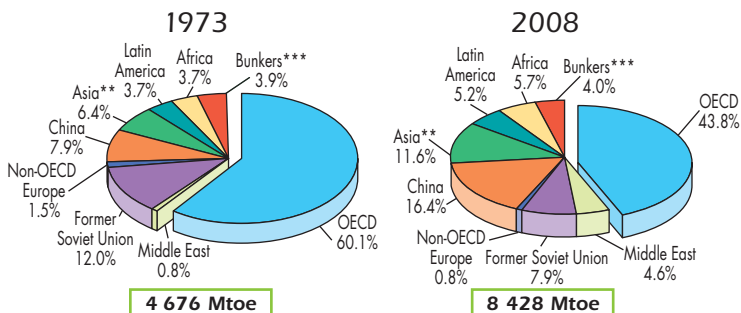
TOTAL FINAL CONSUMPTION

World

Evolution from 1971 to 2008 of world total final consumption* by region (Mtoe)



1973 and 2008 regional shares of total final consumption*



*Data prior to 1994 for combustible renewables and waste final consumption have been estimated.

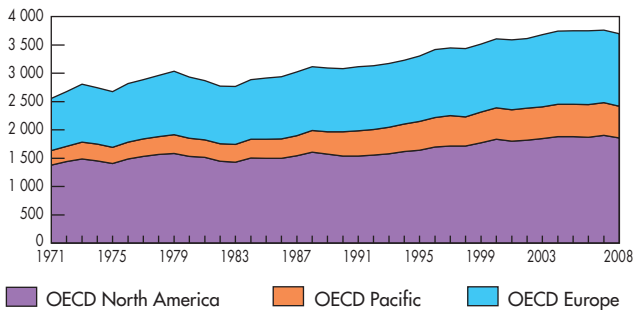
**Asia excludes China.

***Includes international aviation and international marine bunkers.

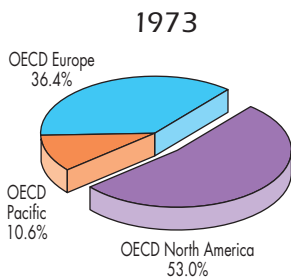
BY REGION

OECD

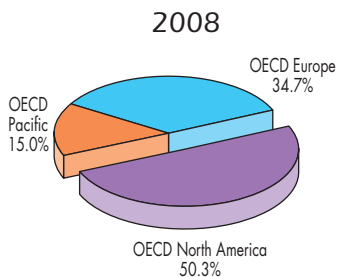
Evolution from 1971 to 2008 of OECD total final consumption by region (Mtoe)



1973 and 2008 regional shares of total final consumption



2 805 Mtoe

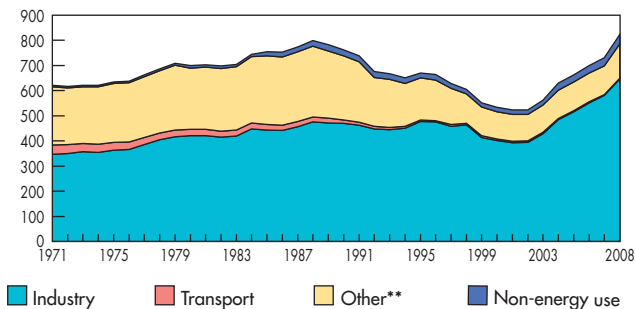


3 696 Mtoe

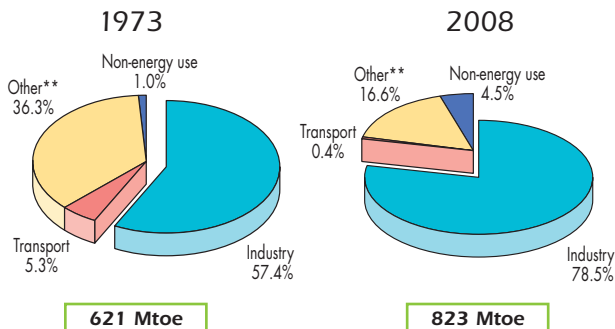
TOTAL FINAL CONSUMPTION

Coal*

Evolution from 1971 to 2008 of total final consumption by sector (Mtoe)



1973 and 2008 shares of world coal* consumption

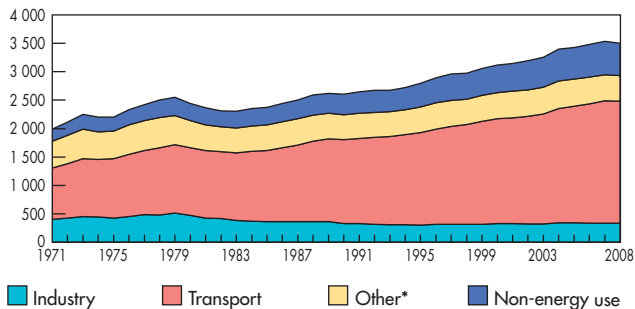


*Coal refers to coal/peat. **Includes agriculture, commercial and public services, residential, and non-specified other.

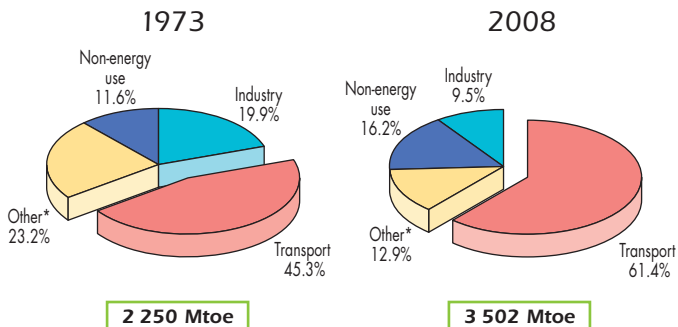
BY SECTOR

Oil

Evolution from 1971 to 2008 of total final consumption by sector (Mtoe)



1973 and 2008 shares of world oil consumption

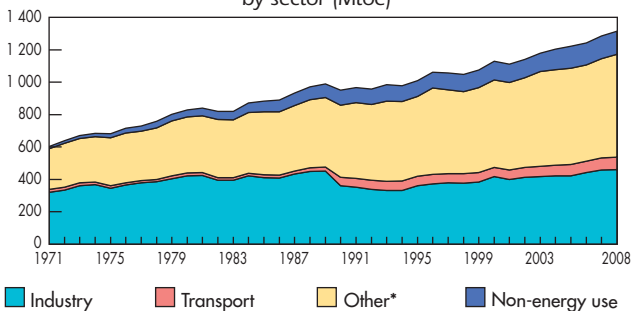


*Includes agriculture, commercial and public services, residential, and non-specified other.

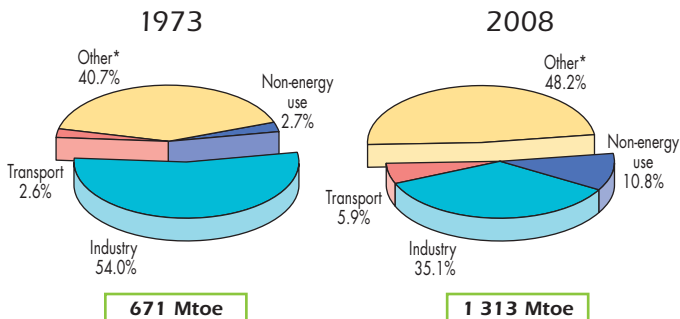
TOTAL FINAL CONSUMPTION

Gas

Evolution from 1971 to 2008 of total final consumption by sector (Mtoe)



1973 and 2008 shares of world gas consumption

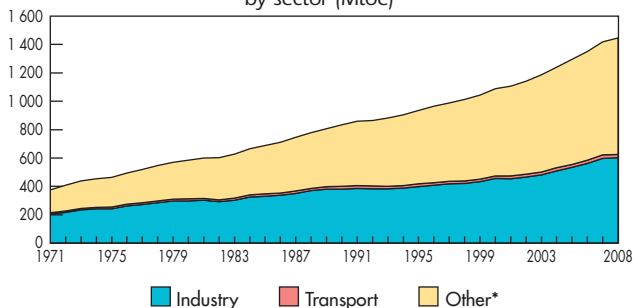


*Includes agriculture, commercial and public services, residential, and non-specified other.

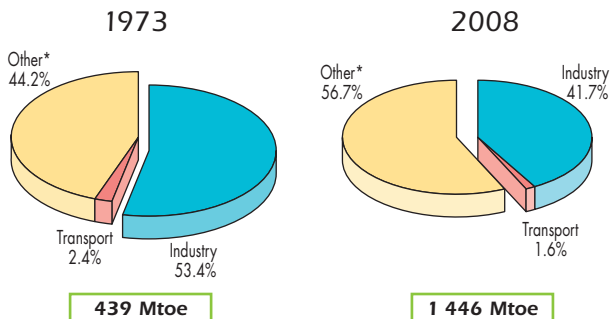
BY SECTOR

Electricity

Evolution from 1971 to 2008 of total final consumption by sector (Mtoe)



1973 and 2008 shares of world electricity consumption



*Includes agriculture, commercial and public services, residential, and non-specified other.

SIMPLIFIED ENERGY

World

1973

(Mtoe)

SUPPLY AND CONSUMPTION	Coal/peat	Crude oil	Oil products	Gas	Nuclear	Hydro	Combustible renewables & waste ^(a)	Other ^(b)	Total
Production	1 479.01	2 936.72	-	993.10	53.05	110.23	646.11	6.13	6 224.35
Imports	140.04	1 562.25	408.21	73.41	-	-	0.12	8.14	2 192.16
Exports	-130.37	-1 611.16	-438.63	-72.57	-	-	-0.19	-8.27	-2 261.20
Stock changes	12.22	-21.58	-15.79	-15.00	-	-	0.06	-	-40.10
TPES	1 500.90	2 866.21	-46.21	978.94	53.05	110.23	646.09	6.00	6 115.21
Transfers	-	-46.49	48.52	-	-	-	-	-	2.02
Statistical diff.	10.07	12.55	-6.53	4.79	-	-	-0.04	-0.03	20.81
Electricity plants	-559.58	-22.55	-319.27	-160.01	-52.95	-110.23	-2.94	502.69	-724.85
CHP plants	-86.31	-	-28.26	-50.85	-0.10	-	-0.75	100.70	-65.56
Heat plants	-7.80	-	-0.90	-0.69	-	-	-0.80	7.11	-3.08
Blast furnaces	-83.41	-	-2.72	-	-	-	-0.06	-	-86.18
Gas works	-9.86	-0.60	-9.10	13.52	-	-	-	-	-6.04
Coke ovens ^(c)	-100.56	-	-0.68	-0.19	-	-	-0.02	-	-101.45
Oil refineries	-	-2 782.67	2 761.57	-	-	-	-	-	-21.11
Petrochem. plants	-	5.09	-5.36	-	-	-	-	-	-0.28
Liquefaction plants	-0.73	0.23	-	-	-	-	-	-	-0.50
Other transf.	-	-	-0.12	-0.03	-	-	-23.53	-	-23.68
Energy ind. own use	-34.15	-2.59	-162.79	-106.61	-	-	-0.20	-57.78	-364.11
Losses	-7.41	-7.07	-0.27	-7.49	-	-	-0.25	-43.07	-65.57
TFC	621.16	22.11	2 227.86	671.37	-	-	617.51	515.63	4 675.64
Industry	356.98	16.38	432.09	362.02	-	-	90.79	286.35	1 544.62
Transport ^(d)	33.00	-	1 019.51	17.72	-	-	0.33	10.59	1 081.15
Other	225.18	0.00	521.07	273.26	-	-	526.39	218.68	1 764.58
Non-energy use	6.01	5.73	255.19	18.37	-	-	-	-	285.30

(a) Combustible renewables and waste final consumption has been estimated.

(b) Other includes geothermal, solar, electricity and heat, wind, etc.

(c) Also includes patent fuel and BKB plants.

(d) Includes international aviation and international marine bunkers.

BALANCE TABLE

World

2008

(Mtoe)

SUPPLY AND CONSUMPTION	Coal/peat	Crude oil	Oil products	Gas	Nuclear	Hydro	Combustible renewables & waste	Other ^(a)	Total
Production	3 415.66	4 041.34	-	2 608.17	712.18	275.88	1 225.49	90.24	12 368.95
Imports	591.76	2 332.71	995.62	782.77	-	-	8.49	52.84	4 764.20
Exports	-631.03	-2 200.43	-1 074.56	-777.77	-	-	-9.32	-53.00	-4 746.11
Stock changes	-62.21	-28.78	-6.72	-22.10	-	-	0.15	-	-119.66
TPES	3 314.18	4 144.84	-85.65	2 591.07	712.18	275.88	1 224.81	90.08	12 267.38
Transfers	-	-133.75	153.95	-	-	-	0.08	-	20.28
Statistical diff.	-6.00	-23.21	-13.25	-3.22	-	-	-0.02	0.46	-45.25
Electricity plants	-1 891.00	-24.29	-213.08	-630.36	-705.66	-275.88	-50.19	1 491.11	-2 299.34
CHP plants	-181.07	-0.01	-21.85	-296.04	-6.52	-	-28.55	315.32	-218.71
Heat plants	-96.27	-0.73	-11.52	-88.83	-	-	-7.78	170.14	-34.99
Blast furnaces	-157.09	-	-1.21	-0.11	-	-	-	-	-158.41
Gas works	-12.85	-	-3.28	9.03	-	-	-0.01	-	-7.12
Coke ovens ^(b)	-43.46	-	-2.01	-0.04	-	-	-0.00	-	-45.52
Oil refineries	-	-3 967.04	3 929.15	-0.57	-	-	-	-	-38.47
Petrochem. plants	-	29.90	-30.21	-	-	-	-	-	-0.31
Liquefaction plants	-19.93	9.01	-	-6.73	-	-	-	-	-17.64
Other transf.	0.00	0.19	-0.92	-2.05	-	-	-54.17	-0.33	-57.28
Energy ind. own use	-81.30	-10.89	-217.66	-232.59	-	-	-13.70	-182.82	-738.95
Losses	-2.13	-3.91	-0.39	-26.14	-	-	-0.21	-164.48	-197.27
TFC	823.09	20.10	3 482.06	1 313.42	-	-	1 070.27	1 719.47	8 428.41
Industry	645.80	5.74	326.18	460.24	-	-	190.76	716.34	2 345.07
Transport ^(c)	3.45	0.02	2 149.82	77.41	-	-	45.45	23.22	2 299.37
Other	136.42	0.23	452.87	633.44	-	-	834.05	979.91	3 036.92
Non-energy use	37.42	14.11	553.19	142.32	-	-	-	-	747.05

(a) Other includes geothermal, solar, electricity and heat, wind, etc.

(b) Also includes patent fuel and BKB plants.

(c) Includes international aviation and international marine bunkers.

SIMPLIFIED ENERGY

OECD

1973

(Mtoe)

SUPPLY AND CONSUMPTION	Coal/ peat	Crude oil	Oil products	Gas	Nuclear	Hydro	Combustible renewables & waste	Other ^(a)	Total
Production	818.29	702.61	-	705.65	49.22	78.46	85.96	6.13	2 446.32
Imports	121.72	1 271.51	335.85	62.56	-	-	0.03	7.55	1 799.22
Exports	-111.07	-63.58	-172.35	-50.39	-	-	-0.01	-7.00	-404.41
Intl. marine bunkers	-	-	-73.47	-	-	-	-	-	-73.47
Intl. aviation bunkers	-	-	-23.69	-	-	-	-	-	-23.69
Stock changes	14.41	-10.91	-11.23	-11.98	-	-	0.06	-	-19.66
TPES	843.35	1 899.63	55.12	705.83	49.22	78.46	86.04	6.67	3 724.32
Transfers	-	-41.02	42.21	-	-	-	-	-	1.19
Statistical diff.	14.83	13.07	2.56	-5.62	-	-	-0.00	-	24.84
Electricity plants	-387.36	-20.58	-225.67	-108.33	-49.12	-78.46	-1.42	363.19	-507.74
CHP plants	-52.06	-	-7.89	-11.65	-0.10	-	-0.75	30.94	-41.51
Heat plants	-7.80	-	-0.90	-0.69	-	-	-0.80	7.11	-3.08
Blast furnaces	-65.60	-	-2.72	-	-	-	-	-	-68.32
Gas works	-8.40	-0.60	-8.65	13.02	-	-	-	-	-4.62
Coke ovens ^(b)	-25.65	-	-0.68	-0.19	-	-	-0.02	-	-26.54
Oil refineries	-	-1 854.21	1 857.54	-	-	-	-	-	3.33
Petrochem. 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	-23.66	-0.99	-128.36	-72.86	-	-	-0.07	-33.37	-259.31
Losses	-2.32	-	-0.23	-3.95	-	-	-	-30.33	-36.83
TFC	285.32	0.21	1 577.06	515.53	-	-	82.99	344.21	2 805.33
Industry	178.92	0.21	310.99	253.72	-	-	42.02	168.80	954.66
Transport	7.21	-	662.83	17.00	-	-	0.00	5.29	692.33
Other	96.10	-	391.52	239.28	-	-	40.97	170.13	938.00
Non-energy use	3.10	-	211.71	5.53	-	-	-	-	220.34

(a) Includes geothermal, solar, electricity and heat, wind, etc.

(b) Also includes patent fuel and BKB plants.

BALANCE TABLE

OECD

2008

(Mtoe)

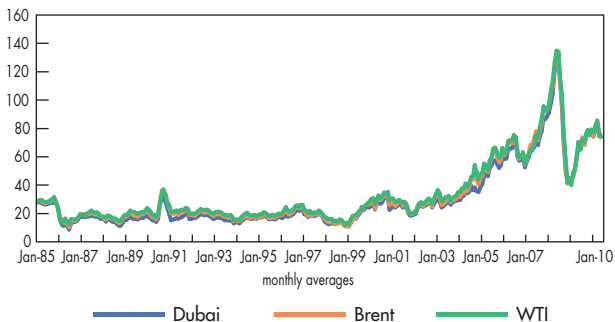
SUPPLY AND CONSUMPTION	Coal/peat	Crude oil	Oil products	Gas	Nuclear	Hydro	Combustible renewables & waste	Other ^(a)	Total
Production	1 034.86	896.40	-	948.59	592.32	112.87	226.10	52.36	3 863.51
Imports	381.29	1 635.19	533.41	603.36	-	-	8.16	34.49	3 195.90
Exports	-270.41	-368.66	-471.48	-282.11	-	-	-4.30	-33.54	-1 430.51
Intl. marine bunkers	-	-	-92.57	-	-	-	-	-	-92.57
Intl. aviation bunkers	-	-	-89.13	-	-	-	-	-	-89.13
Stock changes	-17.65	-5.72	-2.05	1.14	-	-	-0.49	-	-24.77
TPES	1 128.09	2 157.22	-121.82	1 270.98	592.32	112.87	229.46	53.31	5 422.43
Transfers	-	-30.39	43.05	-	-	-	-	-	12.67
Statistical diff.	-13.12	-22.94	-13.24	3.74	-	-	0.01	-0.01	-45.56
Electricity plants	-816.21	-6.91	-61.10	-320.66	-588.78	-112.87	-38.56	786.16	-1 158.93
CHP plants	-83.70	-	-13.50	-107.79	-3.54	-	-26.21	146.24	-88.50
Heat plants	-4.35	-	-1.06	-7.15	-	-	-4.18	13.25	-3.49
Blast furnaces	-49.47	-	-1.19	-0.11	-	-	-	-	-50.77
Gas works	-2.41	-	-1.99	2.69	-	-	-0.01	-	-1.72
Coke ovens ^(b)	-8.59	-	-1.16	-0.04	-	-	-	-	-9.79
Oil refineries	-	-2 118.53	2 114.75	-0.57	-	-	-	-	-4.35
Petrochem. plants	-	24.75	-25.29	-	-	-	-	-	-0.54
Liquefaction plants	-	0.57	-	-1.71	-	-	-	-	-1.14
Other transf.	0.01	0.19	-	-0.43	-	-	-0.13	-0.33	-0.71
Energy ind. own use	-14.27	-0.27	-119.50	-98.73	-	-	-0.17	-75.35	-308.29
Losses	-0.90	-	-0.01	-2.81	-	-	-0.04	-61.69	-65.45
TFC	135.08	3.70	1 797.95	737.38	-	-	160.17	861.59	3 695.88
Industry	109.76	0.76	123.74	253.10	-	-	70.53	291.53	849.41
Transport	0.11	-	1 128.15	22.29	-	-	30.75	9.68	1 190.97
Other	21.95	-	218.52	431.95	-	-	58.89	560.38	1 291.68
Non-energy use	3.27	2.94	327.56	30.05	-	-	-	-	363.81

(a) Includes geothermal, solar, electricity and heat, wind, etc.

(b) Also includes patent fuel and BKB plants.

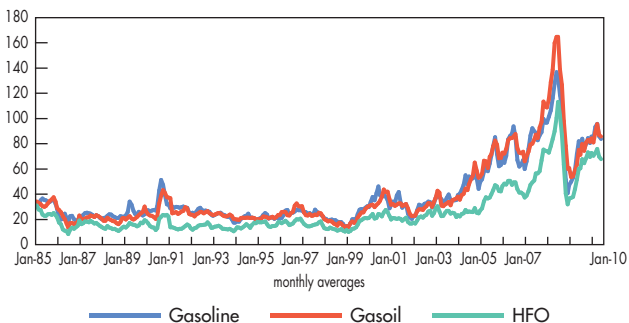
Crude Oil

Key crude oil spot prices in USD/barrel



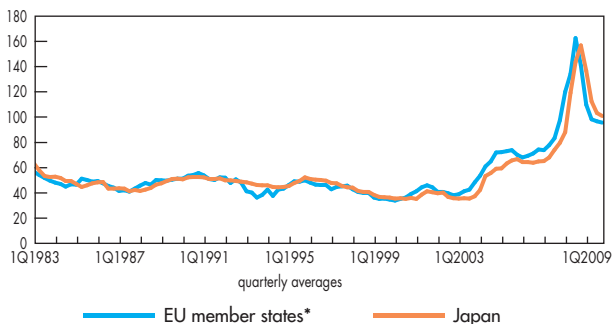
Oil Products

Rotterdam oil product spot prices in USD/barrel



Coal

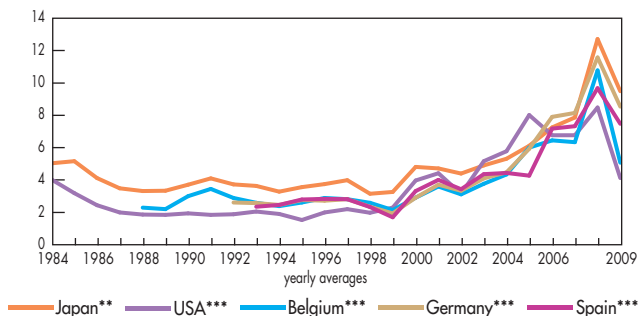
Steam coal import costs in USD/tonne



5

Natural Gas

Natural gas import prices in USD/MBtu



*The weighted average for EU member states is based only on imports for which prices are available and may include different components in different time periods. Romania and Bulgaria are not available for any of the time periods. **LNG ***Pipeline

RETAIL PRICES^(a)

	Heavy fuel oil for industry ^(b) (tonne)	Light fuel oil for households (1000 litres)	Automotive diesel oil ^(c) (litre)	Unleaded premium ^(d) (litre)
Australia	..	..	..	1.242
Austria	598.20	964.92	0.862	1.570
Belgium	..	797.99	..	..
Canada	555.09	841.34	0.928	0.968
Chinese Taipei	539.42	x	0.829	0.927
Czech Republic	422.02	918.46	1.312	1.656
Denmark	629.49	1 519.14	1.284	1.957
Finland	612.17	969.51	1.231	1.910
France	541.97	929.63	1.261	1.817
Germany	515.15	822.07	1.355	1.907
Greece	591.21	851.74	1.260	1.679
Hungary	545.54	x	1.237	1.659
India	..	..	..	..
Ireland	438.11	1 040.24	1.324	1.723
Italy	573.52	1 560.55	1.337	1.834
Japan	..	794.26	0.959	1.416
Korea	620.32	908.15	..	1.463
Luxembourg	..	759.54	1.147	1.590
Mexico	423.09	..	0.556	0.614
Netherlands	497.62	..	1.292	2.031
New Zealand	621.87	..	0.697	1.228
Norway	..	1 343.99	1.559	2.131
Poland	589.56	933.03	1.133	1.513
Portugal	669.71	1 037.40	1.383	1.842
Slovak Republic	396.02	..	1.243	1.654
Spain	549.12	877.57	1.202	1.547
Sweden	1 142.98	1 541.58	1.345	1.798
Switzerland	614.00	775.78	1.343	1.533
Turkey	930.92	1 598.74	2.015	2.437
United Kingdom	c	796.97	1.518	1.762
United States	484.44	759.84	0.753	0.716

(a) Prices are for 1st quarter 2010 for oil products, and annual 2009 for other products. (b) High sulphur fuel oil for Canada, Ireland, Mexico, New Zealand, Turkey and the United States; low sulphur fuel oil for all other countries.

(c) For commercial purposes.

IN SELECTED COUNTRIES in USD/unit

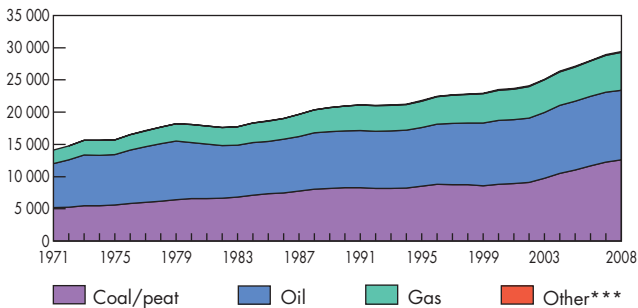
Nat. gas for industry (10 ⁷ kcal GCV ^(e))	Nat. gas for households (10 ⁷ kcal GCV ^(e))	Steam coal for industry ^(f) (tonne)	Electricity for industry (kWh)	Electricity for households (kWh)	
..	..	..	..	..	Australia
..	1 042.14	239.46	..	0.2623	Austria
417.34	905.94	..	..	..	Belgium
..	..	..	..	..	Canada
472.41	458.16	..	0.0745	0.0880	Chinese Taipei
528.03	815.01	c	0.1477	0.1921	Czech Republic
752.14	1 330.56	..	0.1106	0.3655	Denmark
332.76	474.36	167.23	0.0974	0.1737	Finland
438.88	847.88	..	0.1067	0.1592	France
..	..	..	..	..	Germany
441.15	1 041.75	..	0.1139	0.1518	Greece
611.44	716.93	..	0.1597	0.2062	Hungary
..	..	37.38	..	..	India
483.47	1 017.05	..	0.1690	0.2550	Ireland
557.68	1 059.50	114.01	0.2761	0.2842	Italy
..	..	120.90	0.1578	0.2276	Japan
479.48	526.12	88.74	0.0578	0.0769	Korea
433.97	754.38	..	0.1363	0.2371	Luxembourg
..	420.55	x	0.0846	0.0786	Mexico
500.11	1 162.61	..	0.1410	0.2580	Netherlands
..	..	c	..	0.1519	New Zealand
x	x	..	0.0587	0.1373	Norway
432.70	801.80	92.68	0.1197	0.1669	Poland
484.12	959.68	..	0.1274	0.2152	Portugal
510.33	780.28	..	0.1948	0.2309	Slovak Republic
433.79	925.87	..	..	..	Spain
585.38	1 499.00	..	0.0827	0.1940	Sweden
704.31	1 000.60	137.88	0.0935	0.1639	Switzerland
467.62	568.99	84.42	0.1376	0.1651	Turkey
323.67	799.69	94.93	0.1350	0.2060	United Kingdom
202.61	459.98	71.57	0.0684	0.1155	United States

(d) Unleaded premium gasoline (95 RON); unleaded regular for Australia, Canada, Japan, Korea, Mexico, New Zealand and the United States. (e) Gross calorific value. (f) Brown coal for Turkey.

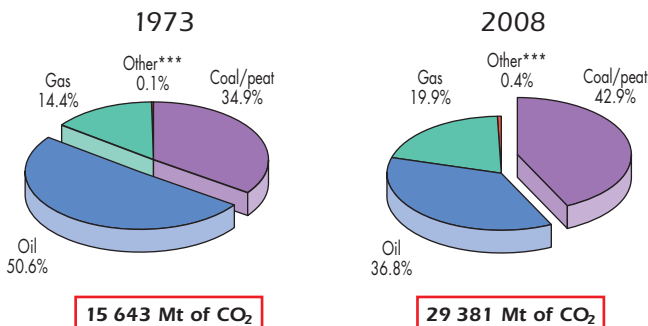
.. not available x not applicable c confidential

CO₂ Emissions by Fuel

Evolution from 1971 to 2008 of world* CO₂ emissions** by fuel (Mt of CO₂)



1973 and 2008 fuel shares of CO₂ emissions**



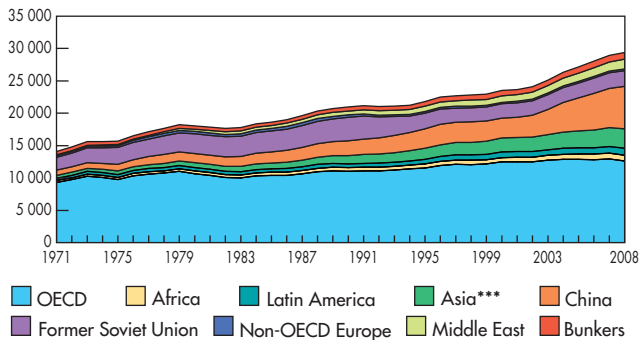
15 643 Mt of CO₂

29 381 Mt of CO₂

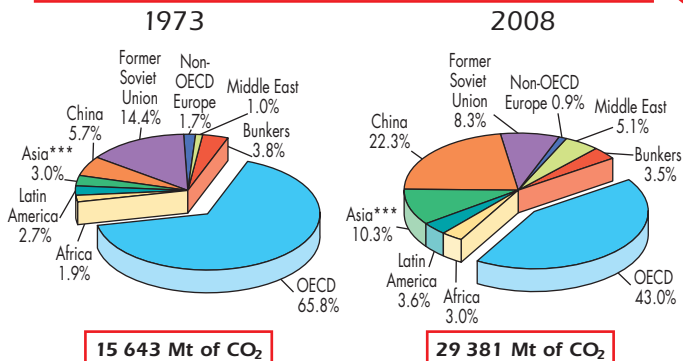
*World includes international aviation and international marine bunkers.
 **Calculated using the IEA's energy balances and the Revised 1996 IPCC Guidelines.
 CO₂ emissions are from fuel combustion only. ***Other includes industrial waste and non-renewable municipal waste.

CO₂ Emissions by Region

Evolution from 1971 to 2008 of world* CO₂ emissions** by region (Mt of CO₂)



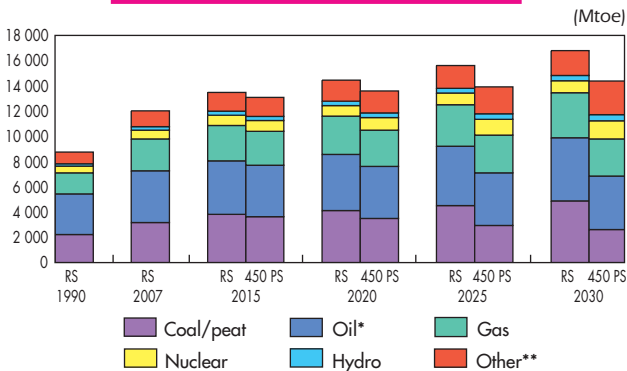
1973 and 2008 regional shares of CO₂ emissions**



*World includes international aviation and international marine bunkers, which are shown together as Bunkers. **Calculated using the IEA's energy balances and the Revised 1996 IPCC Guidelines. CO₂ emissions are from fuel combustion only. ***Asia excludes China.

OUTLOOK FOR WORLD TPES

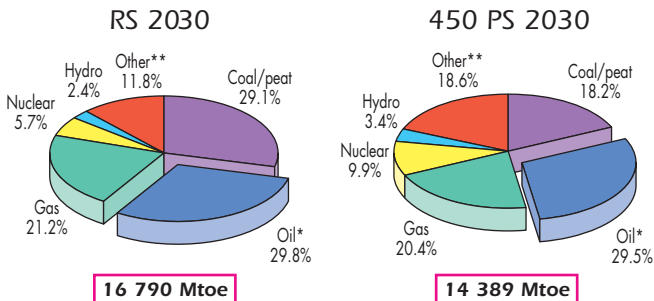
TPES Outlook by Fuel



RS: Reference Scenario
(based on current policies)

450 PS: 450 Policy Scenario***
(based on policies under consideration)

Fuel shares of TPES in 2030 for Reference Scenario and 450 Policy Scenario



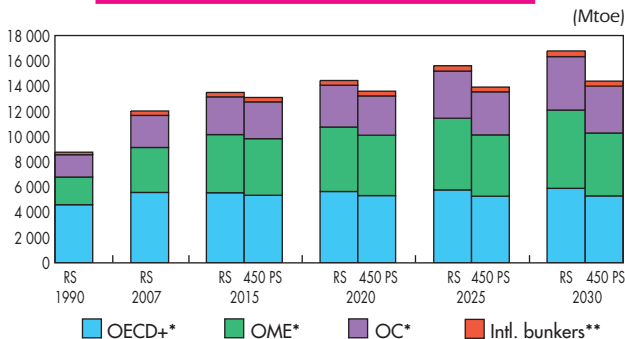
*Includes international aviation and international marine bunkers.

**Other includes combustible renewables and waste, geothermal, solar, wind, tide, etc.

***Based on a plausible post-2012 climate-policy framework to stabilise the concentration of global greenhouse gases at 450 ppm CO₂-equivalent.

TO 2030

TPES Outlook by Region

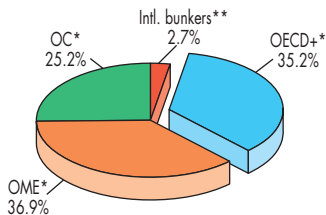


RS: Reference Scenario
(based on current policies)

450 PS: 450 Policy Scenario***
(based on policies under consideration)

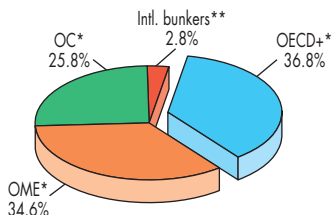
Regional shares of TPES in 2030 for Reference Scenario and 450 Policy Scenario

RS 2030



16 790 Mtoe

450 PS 2030



14 389 Mtoe

*Please refer to the geographical coverage section for definitions of the regions.

**Includes international aviation and international marine bunkers.

***Based on a plausible post-2012 climate-policy framework to stabilise the concentration of global greenhouse gases at 450 ppm CO₂-equivalent.

Selected Indicators for 2008

Region/ Country/ Economy	Popu- lation (million)	GDP (billion 2000 USD)	GDP (PPP) (billion 2000 USD)	Energy prod. (Mtoe)	Net imports (Mtoe)	TPES (Mtoe)	Elec. cons. ^(a) (TWh)	CO ₂ emissions ^(b) (Mt of CO ₂)
World	6 688	40 482	63 866	12 369	-	12 267 ^(c)	18 603	29 381 ^(d)
OECD	1 190	30 504	32 868	3 864	1 765	5 422	10 097	12 630
Middle East	199	945	1 630	1 605	-975	594	672	1 492
Former Soviet Union	285	653	2 564	1 691	-616	1 038	1 326	2 426
Non-OECD Europe	53	189	555	64	48	107	180	269
China	1 333	2 844	11 054	1 993	210	2 131	3 293	6 550
Asia	2 183	2 417	8 760	1 263	205	1 410	1 570	3 023
Latin America	462	2 053	3 937	728	-133	575	904	1 068
Africa	984	876	2 499	1 161	-487	655	562	890
Albania	3.14	5.66	17.47	1.15	1.13	2.09	4.31	3.86
Algeria	34.36	75.28	222.95	162.04	-123.77	37.07	32.90	88.09
Angola	18.02	24.45	54.21	105.84	-93.70	10.97	3.41	10.56
Argentina	39.88	395.37	620.81	82.86	-4.76	76.36	111.21	173.80
Armenia	3.08	4.68	18.26	0.80	2.26	3.00	4.86	5.26
Australia	21.51	516.41	679.00	302.13	-167.02	130.11	240.40	397.54
Austria	8.34	226.20	272.71	11.04	23.59	33.25	68.52	69.32
Azerbaijan	8.68	18.50	69.90	58.59	-44.54	13.37	20.12	29.28
Bahrain	0.77	13.05	17.11	17.47	-6.76	9.23	10.19	22.30
Bangladesh	160.00	73.95	312.41	23.39	4.93	27.94	33.27	46.44
Belarus	9.68	24.04	90.69	4.03	24.65	28.15	33.17	64.19
Belgium	10.71	268.69	327.32	14.55	56.39	58.58	91.27	110.96
Benin	8.66	3.11	9.68	1.83	1.20	3.00	0.66	3.27
Bolivia	9.68	11.37	26.89	16.80	-11.09	5.69	5.44	12.87
Bosnia and Herzegovina	3.77	8.44	34.31	4.34	1.63	5.99	9.31	19.55
Botswana	1.91	8.46	20.06	1.00	1.13	2.12	2.89	4.52
Brazil	191.97	853.82	1 647.85	228.13	26.97	248.53	428.50	364.61

(a) Gross production + imports – exports – losses.

(b) CO₂ emissions from fuel combustion only. Emissions are calculated using the IEA's energy balances and the Revised 1996 IPCC Guidelines.

TPES/ pop. (toe/capita)	TPES/ GDP (toe/000 2000 USD)	TPES/ GDP (PPP) (toe/000 2000 USD)	Elec. cons./pop. (kWh/ capita)	CO ₂ / TPES (t CO ₂ / toe)	CO ₂ / pop. (t CO ₂ / capita)	CO ₂ / GDP (kg CO ₂ / 2000 USD)	CO ₂ / GDP (PPP) (kg CO ₂ / 2000 USD)	Region/ Country/ Economy
1.83	0.30	0.19	2 782	2.40	4.39	0.73	0.46	World
4.56	0.18	0.16	8 486	2.33	10.61	0.41	0.38	OECD
2.99	0.63	0.36	3 384	2.51	7.52	1.58	0.92	Middle East
3.65	1.59	0.40	4 660	2.34	8.53	3.71	0.95	Former Soviet Union
2.01	0.57	0.19	3 378	2.52	5.05	1.42	0.48	Non-OECD Europe
1.60	0.75	0.19	2 471	3.07	4.92	2.30	0.59	China
0.65	0.58	0.16	719	2.14	1.38	1.25	0.35	Asia
1.24	0.28	0.15	1 956	1.86	2.31	0.52	0.27	Latin America
0.67	0.75	0.26	571	1.36	0.90	1.02	0.36	Africa
0.66	0.37	0.12	1 373	1.85	1.23	0.68	0.22	Albania
1.08	0.49	0.17	957	2.38	2.56	1.17	0.40	Algeria
0.61	0.45	0.20	189	0.96	0.59	0.43	0.19	Angola
1.91	0.19	0.12	2 789	2.28	4.36	0.44	0.28	Argentina
0.97	0.64	0.16	1 578	1.75	1.71	1.12	0.29	Armenia
6.05	0.25	0.19	11 174	3.06	18.48	0.77	0.59	Australia
3.99	0.15	0.12	8 218	2.09	8.31	0.31	0.25	Austria
1.54	0.72	0.19	2 318	2.19	3.37	1.58	0.42	Azerbaijan
12.03	0.71	0.54	13 291	2.42	29.08	1.71	1.30	Bahrain
0.17	0.38	0.09	208	1.66	0.29	0.63	0.15	Bangladesh
2.91	1.17	0.31	3 427	2.28	6.63	2.67	0.71	Belarus
5.47	0.22	0.18	8 523	1.89	10.36	0.41	0.34	Belgium
0.35	0.97	0.31	76	1.09	0.38	1.05	0.34	Benin
0.59	0.50	0.21	561	2.26	1.33	1.13	0.48	Bolivia
1.59	0.71	0.17	2 467	3.26	5.18	2.32	0.57	Bosnia and Herzegovina
1.11	0.25	0.11	1 516	2.13	2.37	0.53	0.23	Botswana
1.29	0.29	0.15	2 232	1.47	1.90	0.43	0.22	Brazil

(c) TPES for world includes international aviation and international marine bunkers as well as electricity and heat trade.

(d) CO₂ emissions for world include emissions from international aviation and international marine bunkers.

Region/ Country/ Economy	Popu- lation (million)	GDP (billion 2000 USD)	GDP (PPP) (billion 2000 USD)	Energy prod. (Mtoe)	Net imports (Mtoe)	TPES (Mtoe)	Elec. cons. ^(a) (TWh)	CO ₂ emissions ^(b) (Mt of CO ₂)
Brunei Darrussalam	0.40	6.88	8.21	21.13	-17.34	3.63	3.26	7.49
Bulgaria	7.62	19.59	76.04	10.24	10.50	19.78	35.02	48.78
Cambodia	14.70	7.52	45.78	3.64	1.61	5.22	1.64	4.60
Cameroon	18.90	13.42	37.16	10.12	-2.87	7.10	5.01	4.29
Canada	33.33	870.39	1 049.49	407.38	-144.67	266.77	568.32	550.91
Chile	16.76	104.63	198.19	9.01	22.38	31.45	55.78	72.98
People's Rep. of China	1 325.64	2 602.57	10 803.84	1 993.31	184.70	2 116.43	3 252.28	6 508.24
Chinese Taipei	22.92	416.51	637.10	12.68	97.45	105.49	229.74	264.29
Colombia	44.53	134.41	399.46	93.60	-60.17	30.77	43.83	60.02
Congo	3.62	4.39	4.94	13.25	-11.74	1.37	0.54	1.48
Dem. Rep. of Congo	64.21	6.33	44.23	22.66	-0.38	22.25	6.11	2.83
Costa Rica	4.53	23.52	47.34	2.67	2.48	4.90	8.43	6.58
Cote d'Ivoire	20.59	10.90	27.82	11.42	-1.33	10.28	3.84	6.47
Croatia	4.43	30.14	67.12	3.95	5.51	9.08	17.20	20.93
Cuba	11.25	43.57	100.54	5.12	7.82	12.06	14.87	30.51
Cyprus	0.80	12.29	17.88	0.08	3.05	2.59	4.93	7.57
Czech Republic	10.43	79.15	214.95	32.82	12.37	44.63	67.39	116.83
Denmark	5.49	177.59	170.70	26.59	-4.67	19.01	35.49	48.41
Dominican Republic	9.84	36.07	102.01	1.69	6.58	8.16	13.70	19.56
Ecuador	13.48	23.54	58.69	28.55	-16.97	10.35	15.34	25.90
Egypt	81.53	145.47	345.79	87.49	-15.52	70.71	116.21	174.03
El Salvador	6.13	16.42	36.09	3.01	1.98	4.88	5.85	5.82
Eritrea	5.00	0.74	4.23	0.55	0.14	0.68	0.24	0.45
Estonia	1.34	9.46	22.53	4.22	1.47	5.40	8.51	17.62
Ethiopia	80.71	15.32	101.56	29.58	2.12	31.70	3.42	6.83
Finland	5.31	153.64	167.61	16.56	19.79	35.26	86.87	56.58
France	64.12	1 515.00	1 751.04	136.63	139.34	266.50	493.95	368.23
Gabon	1.45	6.02	8.84	13.52	-11.30	2.07	1.68	2.98
Georgia	4.36	5.46	16.85	1.08	1.95	2.99	7.23	4.71
Germany	82.12	2 095.18	2 351.80	134.11	210.90	335.28	587.01	803.86
Ghana	23.35	7.63	58.54	6.86	2.79	9.46	6.25	7.33

(a) Gross production + imports – exports – losses.

(b) CO₂ emissions from fuel combustion only. Emissions are calculated using the IEA's energy balances and the Revised 1996 IPCC Guidelines

TPES/ pop. (toe/capita)	TPES/ GDP (toe/000 2000 USD)	TPES/ GDP (PPP) (toe/000 2000 USD)	Elec. cons./pop. (kWh/ capita)	CO ₂ / TPES (t CO ₂ / toe)	CO ₂ / pop. (t CO ₂ / capita)	CO ₂ / GDP (kg CO ₂ / 2000 USD)	CO ₂ / GDP (PPP) (kg CO ₂ / 2000 USD)	Region/ Country/ Economy
9.14	0.53	0.44	8 209	2.06	18.87	1.09	0.91	Brunei Darrussalam
2.59	1.01	0.26	4 595	2.47	6.40	2.49	0.64	Bulgaria
0.36	0.69	0.11	112	0.88	0.31	0.61	0.10	Cambodia
0.38	0.53	0.19	265	0.60	0.23	0.32	0.12	Cameroon
8.00	0.31	0.25	17 053	2.07	16.53	0.63	0.52	Canada
1.88	0.30	0.16	3 327	2.32	4.35	0.70	0.37	Chile
1.60	0.81	0.20	2 453	3.08	4.91	2.50	0.60	People's Rep. of China
4.60	0.25	0.17	10 023	2.51	11.53	0.63	0.41	Chinese Taipei
0.69	0.23	0.08	984	1.95	1.35	0.45	0.15	Colombia
0.38	0.31	0.28	150	1.09	0.41	0.34	0.30	Congo
0.35	3.52	0.50	95	0.13	0.04	0.45	0.06	Dem. Rep. of Congo
1.08	0.21	0.10	1 863	1.34	1.45	0.28	0.14	Costa Rica
0.50	0.94	0.37	186	0.63	0.31	0.59	0.23	Cote d'Ivoire
2.05	0.30	0.14	3 878	2.31	4.72	0.69	0.31	Croatia
1.07	0.28	0.12	1 322	2.53	2.71	0.70	0.30	Cuba
3.24	0.21	0.14	6 172	2.93	9.49	0.62	0.42	Cyprus
4.28	0.56	0.21	6 461	2.62	11.20	1.48	0.54	Czech Republic
3.46	0.11	0.11	6 462	2.55	8.82	0.27	0.28	Denmark
0.83	0.23	0.08	1 393	2.40	1.99	0.54	0.19	Dominican Republic
0.77	0.44	0.18	1 138	2.50	1.92	1.10	0.44	Ecuador
0.87	0.49	0.20	1 425	2.46	2.13	1.20	0.50	Egypt
0.80	0.30	0.14	953	1.19	0.95	0.35	0.16	El Salvador
0.14	0.92	0.16	48	0.66	0.09	0.61	0.11	Eritrea
4.03	0.57	0.24	6 346	3.26	13.14	1.86	0.78	Estonia
0.39	2.07	0.31	42	0.22	0.08	0.45	0.07	Ethiopia
6.64	0.23	0.21	16 351	1.60	10.65	0.37	0.34	Finland
4.16	0.18	0.15	7 703	1.38	5.74	0.24	0.21	France
1.43	0.34	0.23	1 158	1.44	2.06	0.50	0.34	Gabon
0.68	0.55	0.18	1 657	1.58	1.08	0.86	0.28	Georgia
4.08	0.16	0.14	7 148	2.40	9.79	0.38	0.34	Germany
0.41	1.24	0.16	268	0.78	0.31	0.96	0.13	Ghana

Region/ Country/ Economy	Popu- lation (million)	GDP (billion 2000 USD)	GDP (PPP) (billion 2000 USD)	Energy prod. (Mtoe)	Net imports (Mtoe)	TPES (Mtoe)	Elec. cons. ^(a) (TWh)	CO ₂ emissions ^(b) (Mt of CO ₂)
Gibraltar	0.03	0.90	0.94	0.00	1.39	0.16	0.17	0.49
Greece	11.24	172.92	273.51	9.86	25.16	30.42	64.31	93.39
Guatemala	13.68	26.09	61.13	5.40	2.82	8.07	7.43	10.61
Haiti	9.78	4.01	13.40	1.99	0.81	2.77	0.23	2.34
Honduras	7.24	10.50	32.52	2.08	2.41	4.62	5.18	7.80
Hong Kong (China)	6.98	241.34	249.86	0.05	25.72	14.14	40.93	42.25
Hungary	10.04	61.49	160.83	10.50	16.99	26.46	40.04	53.01
Iceland	0.32	11.98	11.17	4.36	1.07	5.25	15.89	2.20
India	1 139.97	825.77	4 310.30	468.31	157.89	620.97	645.25	1 427.64
Indonesia	228.25	247.23	897.80	346.99	-147.34	198.68	134.40	385.38
Islamic Rep. of Iran	71.96	160.30	585.04	326.85	-122.90	202.05	174.33	505.01
Iraq	28.22	22.90	31.30	117.71	-83.05	33.99	35.75	97.38
Ireland	4.44	136.54	154.07	1.52	14.36	14.98	27.89	43.75
Israel	7.31	159.84	189.39	3.27	19.55	22.01	51.56	63.12
Italy	59.89	1 176.14	1 562.23	26.94	155.59	176.03	338.72	430.10
Jamaica	2.69	10.20	11.83	0.51	4.18	4.39	6.86	11.95
Japan	127.69	5 166.27	3 597.63	88.66	418.89	495.84	1 030.70	1 151.14
Jordan	5.91	14.01	33.35	0.28	7.17	7.06	12.13	18.42
Kazakhstan	15.68	37.27	131.77	148.19	-77.32	70.92	73.50	201.63
Kenya	38.53	17.87	44.59	15.11	3.50	18.02	6.02	8.62
Korea	48.61	750.81	1 139.38	44.73	195.11	226.95	430.32	501.27
DPR of Korea	23.86	11.62	40.85	20.81	-0.55	20.26	19.54	69.37
Kuwait	2.73	66.89	76.11	152.80	-124.81	26.29	45.69	69.49
Kyrgyzstan	5.28	1.98	10.64	1.19	2.07	2.86	7.65	5.92
Latvia	2.27	13.67	33.02	1.79	2.77	4.48	7.00	7.91
Lebanon	4.14	23.70	22.86	0.19	5.23	5.24	9.51	15.23
Libyan Arab Jamahiriya	6.28	52.96	71.97	103.74	-85.24	18.22	24.61	44.85
Lithuania	3.36	20.14	53.81	3.85	5.35	9.18	11.95	14.24
Luxembourg	0.49	27.19	31.40	0.08	4.50	4.12	7.77	10.40
FYR of Macedonia	2.04	4.45	15.08	1.72	1.40	3.10	7.60	8.96

(a) Gross production + imports – exports – losses.

(b) CO₂ emissions from fuel combustion only. Emissions are calculated using the IEA's energy balances and the Revised 1996 IPCC Guidelines.

TPES/ pop. (toe/capita)	TPES/ GDP (toe/000 2000 USD)	TPES/ GDP (PPP) (toe/000 2000 USD)	Elec. cons./pop. (kWh/ capita)	CO ₂ / TPES (t CO ₂ / toe)	CO ₂ / pop. (t CO ₂ / capita)	CO ₂ / GDP (kg CO ₂ / 2000 USD)	CO ₂ / GDP (PPP) (kg CO ₂ / 2000 USD)	Region/ Country/ Economy
5.67	0.18	0.17	5 929	3.06	17.34	0.54	0.52	Gibraltar
2.71	0.18	0.11	5 723	3.07	8.31	0.54	0.34	Greece
0.59	0.31	0.13	543	1.31	0.78	0.41	0.17	Guatemala
0.28	0.69	0.21	23	0.84	0.24	0.58	0.17	Haiti
0.64	0.44	0.14	715	1.69	1.08	0.74	0.24	Honduras
2.03	0.06	0.06	5 866	2.99	6.05	0.18	0.17	Hong Kong (China)
2.64	0.43	0.16	3 989	2.00	5.28	0.86	0.33	Hungary
16.47	0.44	0.47	49 818	0.42	6.89	0.18	0.20	Iceland
0.54	0.75	0.14	566	2.30	1.25	1.73	0.33	India
0.87	0.80	0.22	589	1.94	1.69	1.56	0.43	Indonesia
2.81	1.26	0.35	2 423	2.50	7.02	3.15	0.86	Islamic Rep. of Iran
1.20	1.48	1.09	1 267	2.86	3.45	4.25	3.11	Iraq
3.37	0.11	0.10	6 277	2.92	9.85	0.32	0.28	Ireland
3.01	0.14	0.12	7 053	2.87	8.63	0.39	0.33	Israel
2.94	0.15	0.11	5 656	2.44	7.18	0.37	0.28	Italy
1.63	0.43	0.37	2 550	2.72	4.44	1.17	1.01	Jamaica
3.88	0.10	0.14	8 072	2.32	9.02	0.22	0.32	Japan
1.20	0.50	0.21	2 054	2.61	3.12	1.31	0.55	Jordan
4.52	1.90	0.54	4 689	2.84	12.86	5.41	1.53	Kazakhstan
0.47	1.01	0.40	156	0.48	0.22	0.48	0.19	Kenya
4.67	0.30	0.20	8 853	2.21	10.31	0.67	0.44	Korea
0.85	1.74	0.50	819	3.42	2.91	5.97	1.70	DPR of Korea
9.64	0.39	0.35	16 747	2.64	25.47	1.04	0.91	Kuwait
0.54	1.44	0.27	1 449	2.07	1.12	2.99	0.56	Kyrgyzstan
1.98	0.33	0.14	3 087	1.77	3.49	0.58	0.24	Latvia
1.27	0.22	0.23	2 297	2.91	3.68	0.64	0.67	Lebanon
2.90	0.34	0.25	3 920	2.46	7.15	0.85	0.62	Libyan Arab Jamahiriya
2.73	0.46	0.17	3 557	1.55	4.24	0.71	0.26	Lithuania
8.42	0.15	0.13	15 883	2.53	21.27	0.38	0.33	Luxembourg
1.52	0.70	0.21	3 729	2.89	4.40	2.02	0.59	FYR of Macedonia

Region/ Country/ Economy	Popu- lation (million)	GDP (billion 2000 USD)	GDP (PPP) (billion 2000 USD)	Energy prod. (Mtoe)	Net imports (Mtoe)	TPES (Mtoe)	Elec. cons. ^(a) (TWh)	CO ₂ emissions ^(b) (Mt of CO ₂)
Malaysia	26.99	139.16	303.78	93.12	-17.61	72.75	94.28	180.87
Malta	0.41	4.42	7.84	0.00	1.86	0.82	1.98	2.56
Mexico	106.57	769.26	1 192.56	233.60	-47.21	180.61	214.80	408.30
Republic of Moldova	3.63	2.10	9.20	0.10	3.07	3.15	4.68	7.07
Mongolia	2.63	1.94	7.54	3.89	-0.68	3.15	3.89	11.40
Morocco	31.23	55.28	166.96	0.64	14.24	14.98	23.25	42.09
Mozambique	21.78	7.94	30.10	11.46	-2.07	9.31	10.33	1.93
Myanmar	49.19	19.16	115.88	23.10	-7.29	15.67	4.83	11.72
Namibia	2.11	5.69	18.44	0.32	1.43	1.75	3.83	3.93
Nepal	28.58	7.31	43.09	8.73	1.14	9.80	2.57	3.33
Netherlands	16.44	449.28	546.32	66.54	34.14	79.68	118.84	177.86
Netherlands Antilles	0.19	1.34	3.01	0.00	4.05	2.16	1.04	4.45
New Zealand	4.31	66.24	100.99	14.88	2.93	16.93	40.52	33.30
Nicaragua	5.68	5.13	20.08	2.16	1.35	3.52	2.59	4.14
Nigeria	151.32	73.68	169.23	226.79	-115.44	111.16	19.12	52.35
Norway	4.77	200.90	193.70	219.66	-188.71	29.67	118.57	37.61
Oman	2.79	30.82	47.76	63.49	-42.72	16.44	13.63	34.92
Pakistan	166.04	112.53	398.63	63.33	20.21	82.84	72.44	133.79
Panama	3.40	18.97	29.12	0.70	2.25	2.90	5.60	6.53
Paraguay	6.23	9.45	29.77	7.39	-2.94	4.36	6.25	3.68
Peru	28.84	84.29	193.90	12.31	3.53	14.71	29.77	34.86
Philippines	90.35	110.71	445.54	23.25	18.80	41.07	53.14	72.34
Poland	38.12	237.47	560.54	71.39	30.29	97.88	142.27	298.69
Portugal	10.62	121.46	188.42	4.45	21.43	24.16	51.22	52.44
Qatar	1.28	37.71	33.78	124.83	-99.80	24.12	20.09	53.91
Romania	21.51	61.09	218.09	28.78	10.65	39.38	53.52	89.93
Russian Federation	141.79	429.55	1 651.17	1 253.92	-536.57	686.76	913.51	1 593.83
Saudi Arabia	24.65	252.08	375.69	579.02	-412.41	161.60	186.73	389.16
Senegal	12.21	6.47	21.86	1.23	2.15	2.86	1.93	5.07
Serbia	7.35	13.88	51.08	9.92	6.38	16.03	31.49	49.21
Singapore	4.84	135.46	138.49	0.00	55.85	18.52	39.61	44.31

(a) Gross production + imports – exports – losses.

(b) CO₂ emissions from fuel combustion only. Emissions are calculated using the IEA's energy balances and the Revised 1996 IPCC Guidelines.

TPES/ pop. (toe/capita)	TPES/ GDP (toe/000 2000 USD)	TPES/ GDP (PPP) (toe/000 2000 USD)	Elec. cons./pop. (kWh/ capita)	CO ₂ / TPES (t CO ₂ / toe)	CO ₂ / pop. (t CO ₂ / capita)	CO ₂ / GDP (kg CO ₂ / 2000 USD)	CO ₂ / GDP (PPP) (kg CO ₂ / 2000 USD)	Region/ Country/ Economy
2.70	0.52	0.24	3 493	2.49	6.70	1.30	0.60	Malaysia
1.99	0.19	0.10	4 818	3.13	6.23	0.58	0.33	Malta
1.69	0.23	0.15	2 016	2.26	3.83	0.53	0.34	Mexico
0.87	1.50	0.34	1 287	2.24	1.95	3.37	0.77	Republic of Moldova
1.20	1.62	0.42	1 478	3.62	4.33	5.87	1.51	Mongolia
0.48	0.27	0.09	744	2.81	1.35	0.76	0.25	Morocco
0.43	1.17	0.31	474	0.21	0.09	0.24	0.06	Mozambique
0.32	0.82	0.14	98	0.75	0.24	0.61	0.10	Myanmar
0.83	0.31	0.09	1 811	2.25	1.86	0.69	0.21	Namibia
0.34	1.34	0.23	90	0.34	0.12	0.46	0.08	Nepal
4.85	0.18	0.15	7 229	2.23	10.82	0.40	0.33	Netherlands
11.15	1.62	0.72	5 376	2.05	22.91	3.33	1.48	Netherlands Antilles
3.93	0.26	0.17	9 413	1.97	7.74	0.50	0.33	New Zealand
0.62	0.69	0.18	456	1.18	0.73	0.81	0.21	Nicaragua
0.73	1.51	0.66	126	0.47	0.35	0.71	0.31	Nigeria
6.22	0.15	0.15	24 868	1.27	7.89	0.19	0.19	Norway
5.90	0.53	0.34	4 895	2.12	12.54	1.13	0.73	Oman
0.50	0.74	0.21	436	1.62	0.81	1.19	0.34	Pakistan
0.85	0.15	0.10	1 648	2.25	1.92	0.34	0.22	Panama
0.70	0.46	0.15	1 004	0.84	0.59	0.39	0.12	Paraguay
0.51	0.17	0.08	1 032	2.37	1.21	0.41	0.18	Peru
0.45	0.37	0.09	588	1.76	0.80	0.65	0.16	Philippines
2.57	0.41	0.17	3 733	3.05	7.84	1.26	0.53	Poland
2.27	0.20	0.13	4 822	2.17	4.94	0.43	0.28	Portugal
18.83	0.64	0.71	15 680	2.24	42.09	1.43	1.60	Qatar
1.83	0.64	0.18	2 488	2.28	4.18	1.47	0.41	Romania
4.84	1.60	0.42	6 443	2.32	11.24	3.71	0.97	Russian Federation
6.56	0.64	0.43	7 576	2.41	15.79	1.54	1.04	Saudi Arabia
0.23	0.44	0.13	158	1.77	0.42	0.78	0.23	Senegal
2.18	1.16	0.31	4 284	3.07	6.69	3.55	0.96	Serbia
3.83	0.14	0.13	8 186	2.39	9.16	0.33	0.32	Singapore

Region/ Country/ Economy	Popu- lation (million)	GDP (billion 2000 USD)	GDP (PPP) (billion 2000 USD)	Energy prod. (Mtoe)	Net imports (Mtoe)	TPES (Mtoe)	Elec. cons. ^(a) (TWh)	CO ₂ emissions ^(b) (Mt of CO ₂)
Slovak Republic	5.41	32.99	95.91	6.42	11.97	18.30	28.48	36.23
Slovenia	2.02	27.88	48.71	3.67	4.30	7.74	13.99	16.73
South Africa	48.69	183.25	531.82	162.95	-17.44	134.49	232.23	337.42
Spain	45.59	740.85	1 095.37	30.42	122.99	138.79	287.71	317.63
Sri Lanka	20.16	24.17	98.65	5.07	4.24	8.93	8.23	12.22
Sudan	41.35	22.00	88.19	34.87	-19.06	15.37	3.99	12.06
Sweden	9.26	297.17	298.05	33.24	19.68	49.59	137.09	45.87
Switzerland	7.71	291.43	265.84	12.73	15.44	26.70	63.53	43.70
Syrian Arab Republic	21.23	27.37	75.30	23.48	-3.71	19.70	31.31	54.44
Tajikistan	6.84	1.68	8.54	1.49	1.01	2.49	14.17	3.03
United Rep. of Tanzania	42.48	15.39	29.90	17.47	1.62	18.96	3.56	5.79
Thailand	67.39	178.25	564.09	63.88	46.24	107.20	140.08	229.47
Togo	6.46	1.58	8.67	2.14	0.38	2.56	0.64	1.10
Trinidad and Tobago	1.34	14.69	21.04	39.98	-20.41	19.41	7.72	37.96
Tunisia	10.33	28.50	88.02	7.53	1.78	9.18	13.41	20.75
Turkey	71.08	375.96	831.16	28.98	72.52	98.50	170.60	263.53
Turkmenistan	5.03	8.58	46.27	68.63	-49.81	18.81	11.46	47.29
Ukraine	46.26	53.47	339.52	81.29	59.36	136.14	163.49	309.58
United Arab Emirates	4.48	123.44	121.96	180.55	-102.85	58.44	75.76	146.95
United Kingdom	61.35	1 772.81	1 842.30	166.69	57.77	208.45	372.19	510.63
United States	304.53	11 742.29	11 742.29	1 706.06	634.45	2 283.72	4 155.92	5 595.92
Uruguay	3.33	29.30	41.49	1.39	3.05	4.18	7.98	7.62
Uzbekistan	27.31	22.93	61.53	62.02	-11.52	50.50	44.97	114.92
Venezuela	27.94	166.62	199.12	180.72	-115.25	64.10	85.89	145.71
Vietnam	86.21	55.79	283.45	71.38	-10.63	59.42	68.91	102.96
Yemen	23.05	12.86	20.09	15.25	-7.91	7.48	5.04	21.93
Zambia	12.62	4.89	12.69	6.79	0.61	7.35	7.60	1.59
Zimbabwe	12.46	4.72	20.07	8.53	0.97	9.51	12.74	8.78

(a) Gross production + imports – exports – losses.

(b) CO₂ emissions from fuel combustion only. Emissions are calculated using the IEA's energy balances and the Revised 1996 IPCC Guidelines.

TPES/ pop. (toe/capita)	TPES/ GDP (toe/000 2000 USD)	TPES/ GDP (PPP) (toe/000 2000 USD)	Elec. cons./pop. (kWh/ capita)	CO ₂ / TPES (t CO ₂ / toe)	CO ₂ / pop. (t CO ₂ / capita)	CO ₂ / GDP (kg CO ₂ / 2000 USD)	CO ₂ / GDP (PPP) (kg CO ₂ / 2000 USD)	Region/ Country/ Economy
3.39	0.55	0.19	5 268	1.98	6.70	1.10	0.38	Slovak Republic
3.83	0.28	0.16	6 918	2.16	8.27	0.60	0.34	Slovenia
2.76	0.73	0.25	4 770	2.51	6.93	1.84	0.63	South Africa
3.04	0.19	0.13	6 310	2.29	6.97	0.43	0.29	Spain
0.44	0.37	0.09	409	1.37	0.61	0.51	0.12	Sri Lanka
0.37	0.70	0.17	96	0.78	0.29	0.55	0.14	Sudan
5.36	0.17	0.17	14 811	0.92	4.96	0.15	0.15	Sweden
3.46	0.09	0.10	8 240	1.64	5.67	0.15	0.16	Switzerland
0.93	0.72	0.26	1 475	2.76	2.56	1.99	0.72	Syrian Arab Republic
0.36	1.49	0.29	2 072	1.22	0.44	1.81	0.36	Tajikistan
0.45	1.23	0.63	84	0.31	0.14	0.38	0.19	United Rep. of Tanzania
1.59	0.60	0.19	2 079	2.14	3.41	1.29	0.41	Thailand
0.40	1.62	0.30	99	0.43	0.17	0.70	0.13	Togo
14.51	1.32	0.92	5 769	1.96	28.37	2.58	1.80	Trinidad and Tobago
0.89	0.32	0.10	1 298	2.26	2.01	0.73	0.24	Tunisia
1.39	0.26	0.12	2 400	2.68	3.71	0.70	0.32	Turkey
3.74	2.19	0.41	2 280	2.51	9.41	5.52	1.02	Turkmenistan
2.94	2.55	0.40	3 534	2.27	6.69	5.79	0.91	Ukraine
13.03	0.47	0.48	16 895	2.51	32.77	1.19	1.20	United Arab Emirates
3.40	0.12	0.11	6 067	2.45	8.32	0.29	0.28	United Kingdom
7.50	0.19	0.19	13 647	2.45	18.38	0.48	0.48	United States
1.25	0.14	0.10	2 394	1.82	2.29	0.26	0.18	Uruguay
1.85	2.20	0.82	1 646	2.28	4.21	5.01	1.87	Uzbekistan
2.29	0.38	0.32	3 074	2.27	5.21	0.87	0.73	Venezuela
0.69	1.06	0.21	799	1.73	1.19	1.85	0.36	Vietnam
0.32	0.58	0.37	219	2.93	0.95	1.70	1.09	Yemen
0.58	1.50	0.58	602	0.22	0.13	0.33	0.13	Zambia
0.76	2.02	0.47	1 022	0.92	0.70	1.86	0.44	Zimbabwe

Sources: Energy data: IEA.

Population: OECD/World Bank.

GDP and GDP(PPP) (in 2000 USD): OECD/World Bank/CEPII (Paris).

General conversion factors for energy

To:	TJ	Gcal	Mtoe	MBtu	GWh
From:	<i>multiply by:</i>				
TJ	1	238.8	2.388×10^{-5}	947.8	0.2778
Gcal	4.1868×10^{-3}	1	10^{-7}	3.968	1.163×10^{-3}
Mtoe	4.1868×10^4	10^7	1	3.968×10^7	11630
MBtu	1.0551×10^{-3}	0.252	2.52×10^{-8}	1	2.931×10^{-4}
GWh	3.6	860	8.6×10^{-5}	3412	1

Conversion factors for mass

To:	kg	t	lt	st	lb
From:	<i>multiply by:</i>				
kilogramme (kg)	1	0.001	9.84×10^{-4}	1.102×10^{-3}	2.2046
tonne (t)	1 000	1	0.984	1.1023	2 204.6
long ton (lt)	1 016	1.016	1	1.120	2 240.0
short ton (st)	907.2	0.9072	0.893	1	2 000.0
pound (lb)	0.454	4.54×10^{-4}	4.46×10^{-4}	5.0×10^{-4}	1

Conversion factors for volume

To:	gal U.S.	gal U.K.	bbl	ft ³	l	m ³
From:	<i>multiply by:</i>					
U.S. gallon (gal)	1	0.8327	0.02381	0.1337	3.785	0.0038
U.K. gallon (gal)	1.201	1	0.02859	0.1605	4.546	0.0045
barrel (bbl)	42.0	34.97	1	5.615	159.0	0.159
cubic foot (ft ³)	7.48	6.229	0.1781	1	28.3	0.0283
litre (l)	0.2642	0.220	0.0063	0.0353	1	0.001
cubic metre (m ³)	264.2	220.0	6.289	35.3147	1000.0	1

Selected country-specific net calorific values

Coal*

	toe/tonne
People's Rep. of China	0.530
United States	0.641
India	0.441
Australia	0.689
Indonesia	0.616
South Africa	0.564
Russian Federation	0.595
Kazakhstan	0.444
Poland	0.549
Colombia	0.650

*steam coal for the top-ten producers in 2009.

Crude oil*

	toe/tonne
Russian Federation	1.005
Saudi Arabia	1.016
United States	1.033
Islamic Rep. of Iran	1.019
People's Rep. of China	1.000
Canada	1.022
Mexico	1.081
Venezuela	1.068
Kuwait	1.016
United Arab Emirates	1.018

*for the top-ten producers in 2009.

Default net calorific values

Oil products

	OECD Europe*	OECD North America	OECD Pacific	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	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	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

*Defaults for OECD Europe were also applied to non-OECD Europe and Former Soviet Union countries.

Selected country-specific gross calorific values

Natural gas*

	kJ/m ³
United States	38 267
Russian Federation	37 578
Canada	38 320
Islamic Rep. of Iran	39 356
Norway	39 720
People's Rep. of China	38 931
Qatar	41 400
Algeria	42 000
Netherlands	33 339
Indonesia	40 600

*for the top-ten producers in 2009.

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, 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. In the case of electricity produced from geothermal heat, if the actual geothermal efficiency is not known, then the primary equivalent is calculated assuming an efficiency of 10%, so 1 TWh = (0.086 ÷ 0.1) Mtoe.

Coal/peat	<i>Coal/peat</i> includes all coal, both primary (including hard coal and lignite/brown coal) and derived fuels (including patent fuel, coke oven coke, gas coke, BKB, coke oven gas, blast furnace gas and oxygen steel furnace gas). Peat is also included in this category.
Crude oil	<i>Crude oil</i> comprises crude oil, natural gas liquids, refinery feedstocks and additives as well as other hydrocarbons.
Oil products	<i>Oil products</i> 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.
Gas	<i>Gas</i> includes natural gas (excluding natural gas liquids) and gas works gas. The latter appears as a positive figure in the "gas works" row but is not part of indigenous production.
Nuclear	<i>Nuclear</i> shows the primary heat equivalent of the electricity produced by a nuclear power plant with an average thermal efficiency of 33%.
Hydro	<i>Hydro</i> shows the energy content of the electricity produced in hydro power plants. Hydro output excludes output from pumped storage plants.
Combustible renewables & waste	<i>Combustible renewables & waste</i> comprises solid biomass, liquid biomass, biogas, industrial waste and municipal waste. Biomass is 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.
Other	<i>Other</i> includes geothermal, solar, wind, tide/wave/ocean energy, electricity and heat. Unless the actual efficiency of the geothermal process is known, the quantity of geothermal energy entering electricity generation is inferred from the electricity production at geothermal plants assuming an average thermal efficiency of 10%. For solar, 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. hard coal, lignite/brown coal, peat, crude oil, NGLs, natural gas, combustible renewables and waste, nuclear, hydro, geothermal, solar 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 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.

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	<i>Stock changes</i> 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 primary energy supply (TPES)	<i>Total primary energy supply (TPES)</i> 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 TPES.
Transfers	<i>Transfers</i> includes both interproduct transfers, products transferred and recycled products.
Statistical differences	<i>Statistical differences</i> includes the sum of the unexplained statistical differences for individual fuels, as they appear in the basic energy statistics. It also includes the statistical differences that arise because of the variety of conversion factors in the coal and oil columns.
Electricity plants	<i>Electricity plants</i> 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 can not 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.
Combined heat and power plants	<i>Combined heat and power plants</i> refers to plants which are designed to produce both heat and electricity, sometimes referred as co-generation power stations. If possible, fuel inputs and electricity/heat outputs are on a unit basis rather than on a plant basis. However, if data are not available on a unit basis, the convention for defining a CHP plant noted above is adopted. Both main activity producers and autoproducer plants are included here.
Heat plants	<i>Heat plants</i> refers to plants (including heat pumps and electric boilers) designed to produce heat only, which is sold to a third party under the provisions of a contract. Both main activity producers and autoproducer plants are included here.
Blast furnaces	<i>Blast furnaces</i> contains inputs to and outputs of fuels from blast furnaces.
Gas works	<i>Gas works</i> is treated similarly to electricity generation, with the quantity produced appearing as a positive figure in the gas column, inputs as negative entries in the coal and oil products columns, and conversion losses appearing in the total column.

Coke ovens	<i>Coke ovens</i> contains losses in transformation of coal from primary to secondary fuels and from secondary to tertiary fuels (hard coal to coke and patent fuel, lignite to BKB, etc.).
Oil refineries	<i>Oil refineries</i> 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.
Petrochemical plants	<i>Petrochemical plants</i> covers backflows returned from the petrochemical industry. Note that backflows from oil products that are used for non-energy purposes (<i>i.e.</i> white spirit and lubricants) are not included here, but in non-energy use.
Liquefaction plants	<i>Liquefaction plants</i> includes diverse liquefaction processes, such as coal liquefaction plants and gas-to-liquid plants.
Other transformation	<i>Other transformation</i> covers non-specified transformation not shown elsewhere, such as the transformation of primary solid biomass into charcoal.
Energy industry own use	<i>Energy industry own use</i> 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].
Losses	<i>Losses</i> includes losses in energy distribution, transmission and transport.
Total final consumption (TFC)	<i>Total final consumption (TFC)</i> is the sum of consumption by the different end-use sectors. Backflows from the petrochemical industry are not included in final consumption.
Industry	<i>Industry</i> consumption is specified in the following subsectors (energy used for transport by industry is not included here but reported under transport): <ul style="list-style-type: none">■ <i>Iron and steel industry</i> [ISIC Group 241 and Class 2431];■ <i>Chemical and petrochemical industry</i> [ISIC Divisions 20 and 21] excluding petrochemical feedstocks;■ <i>Non-ferrous metals</i> basic industries [ISIC Group 242 and Class 2432];■ <i>Non-metallic minerals</i> such as glass, ceramic, cement, etc. [ISIC Division 23];■ <i>Transport equipment</i> [ISIC Divisions 29 and 30];■ <i>Machinery</i> comprises fabricated metal products, machinery and equipment other than transport equipment [ISIC Divisions 25 to 28];

Industry (ctd.)

- *Mining (excluding fuels) and quarrying* [ISIC Divisions 07 and 08 and Group 099];
- *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];
- *Construction* [ISIC Divisions 41 to 43];
- *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.

Other

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*.

Unit abbreviations

bcm	billion cubic metres	kWh	kilowatt hour
Gcal	gigacalorie	MBtu	million British thermal units
GCV	gross calorific value	Mt	million tonnes
GW	gigawatt	Mtoe	million tonnes of oil equivalent
GW/h	gigawatt hour	PPP	purchasing power parity
kb/cd	thousand barrels per calendar day	t	metric ton = tonne = 1000 kg
kcal	kilocalorie	TJ	terajoule
kg	kilogramme	toe	tonne of oil equivalent = 10 ⁷ kcal
kJ	kilojoule	TWh	terawatt hour

GEOGRAPHICAL COVERAGE

OECD*	Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, 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.
Middle East	Bahrain, Islamic Republic of Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates and Yemen.
Former Soviet Union	Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.
Non-OECD Europe	Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Gibraltar, the Former Yugoslav Republic of Macedonia, Malta, Romania, Serbia** and Slovenia*.
China	People's Republic of China and Hong Kong (China).
Asia	Bangladesh, Brunei Darussalam, Cambodia, Chinese Taipei, India, Indonesia, Democratic People's Republic of Korea, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, Vietnam and Other Asia.
Latin America	Argentina, Bolivia, Brazil, Chile*, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Netherlands Antilles, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, Uruguay, Venezuela and Other Latin America.
Africa	Algeria, Angola, Benin, Botswana, Cameroon, Congo, Democratic Republic of Congo, Côte d'Ivoire, Egypt, Eritrea, Ethiopia, Gabon, Ghana, Kenya, Libyan Arab Jamahiriya, Morocco, Mozambique, Namibia, Nigeria, Senegal, South Africa, Sudan, United Republic of Tanzania, Togo, Tunisia, Zambia, Zimbabwe and Other Africa.
OECD +	OECD countries and those EU countries that are not members of the OECD (<i>i.e.</i> Bulgaria, Cyprus, Estonia, Latvia, Lithuania, Malta, Romania and Slovenia*).
OME (Other Major Economies)	Brazil, China, India, Indonesia, Russian Federation and Middle East.
OC (Other Countries)	World excluding OECD+ and OME.

* Chile and Slovenia became OECD members in 2010 just at the time of the production of this publication. Therefore, in this edition their data are still included in non-OECD statistics.

** Includes Montenegro until 2004 and Kosovo until 1999.

Note: The countries listed above are those for which the IEA Secretariat has direct statistics contacts.

Ten Annual Publications

Energy Statistics of OECD Countries

No other publication offers such in-depth statistical coverage. It is intended for anyone involved in analytical or policy work related to energy issues. It contains data on energy supply and consumption in original units for coal, oil, natural gas, combustible renewables/wastes and products derived from these primary fuels, as well as for electricity and heat. Data are presented in detailed supply and consumption tables. Historical tables summarise data on production, trade and final consumption. Each issue includes definitions of products and flows and explanatory notes on the individual country data.

Price: € 120

Energy Balances of OECD Countries

A companion volume to *Energy Statistics of OECD Countries*, this publication presents standardised energy balances expressed in million tonnes of oil equivalent. Energy supply and consumption data are divided by main fuel: coal, oil, gas, nuclear, hydro, geothermal/solar, combustible renewables/wastes, electricity and heat. This allows for easy comparison of the contributions each fuel makes to the economy and their interrelationships through the conversion of one fuel to another. All of this is essential for estimating total energy supply, forecasting, energy conservation, and analysing the potential for interfuel substitution. Historical tables summarise key energy and economic indicators as well as data on production, trade and final consumption. Each issue includes definitions of products and flows and explanatory notes on the individual country data as well as conversion factors from original units to tonnes of oil equivalent.

Price: € 120

Energy Statistics of Non-OECD Countries

This publication offers the same in-depth statistical coverage as the homonymous publication covering OECD countries. It includes data in original units for more than 100 individual countries and nine main regions. The consistency of OECD and non-OECD countries' detailed statistics provides an accurate picture of the global energy situation. For a description of the content, please see *Energy Statistics of OECD Countries* above.

Price: € 120

Energy Balances of Non-OECD Countries

A companion volume to the publication *Energy Statistics of Non-OECD Countries*, this publication presents energy balances in million tonnes of oil equivalent and key economic and energy indicators for more than 100 individual countries and nine main regions. It offers the same statistical coverage as the homonymous publication covering OECD Countries, and thus provides an accurate picture of the global energy situation. For a description of the content, please see *Energy Balances of OECD Countries* above.

Price: € 120

Electricity Information

This reference document provides essential statistics on electricity and heat for each OECD member country by bringing together information on production, installed capacity, input energy mix to electricity and heat production, input fuel prices, consumption, end-user electricity prices and electricity trades. The document also presents selected non-OECD country statistics on the main electricity and heat flows. It is an essential document for electricity and heat market and policy analysts.

Price: € 150

Coal Information

This well-established publication provides detailed information on past and current evolution of the world coal market. It presents country specific statistics for OECD member countries and selected non-OECD countries on coal production, demand, trade and prices. This publication represents a key reference tool for all those involved in the coal supply or consumption stream, as well as institutions and governments involved in market and policy analysis of the world coal market.

Price: € 165

Natural Gas Information

A detailed reference work on gas supply and demand, covering not only the OECD countries but also the rest of the world. Contains essential information on LNG and pipeline trade, gas reserves, storage capacity and prices. The main part of the book, however, concentrates on OECD countries, showing a detailed gas supply and demand balance for each individual country and for the three OECD regions: North America, Europe and Asia-Pacific, as well as a breakdown of gas consumption by end-user. Import and export data are reported by source and destination.

Price: € 165

Oil Information

A comprehensive reference book on current developments in oil supply and demand. The first part of this publication contains key data on world production, trade, prices and consumption of major oil product groups, with time series back to the early 1970s. The second part gives a more detailed and comprehensive picture of oil supply, demand, trade, production and consumption by end-user for each OECD country individually and for the OECD regions. Trade data are reported extensively by origin and destination.

Price: € 165

Renewables Information

This reference document brings together in one volume essential statistics on renewables and waste energy sources. It presents a detailed and comprehensive picture of developments for renewable and waste energy sources for each of the OECD member countries, encompassing energy indicators, generating capacity, electricity and heat production from renewable and waste sources, as well as production and consumption of renewable and waste products. It also includes a selection of indicators for non-OECD countries. This report provides a strong foundation for renewables energy policy and market analysis to assess progress towards domestic and international objectives.

Price: € 110

CO₂ Emissions from Fuel Combustion

In order for nations to tackle the problem of climate change, they need accurate greenhouse gas emissions data. This publication provides a basis for comparative analysis of CO₂ emissions from fossil fuel combustion, a major source of anthropogenic emissions. The data in this book are designed to assist in understanding the evolution of the emissions of CO₂ since 1971 for more than 140 countries and regions by sector and by fuel. Emissions were calculated using IEA energy databases and the default methods and emissions factors from the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*.

Price: € 165

Two Quarterlies

Oil, Gas, Coal and Electricity, Quarterly Statistics

This publication provides up-to-date, detailed quarterly statistics on oil, coal, natural gas and electricity for the OECD countries. Oil statistics cover production, trade, refinery intake and output, stock changes and consumption for crude oil, NGL and nine selected oil product groups. Statistics for electricity, natural gas and coal show supply and trade. Import and export data are reported by origin and destination. Moreover, oil as well as hard coal and brown coal production are reported on a worldwide basis.

Price: € 120 (Annual subscription: €380)

Energy Prices and Taxes

This publication responds to the needs of the energy industry and OECD governments for up-to-date information on prices and taxes in national and international energy markets. It contains prices at all market levels for OECD countries and certain non-OECD countries: import prices, industry prices and consumer prices. The statistics cover the main oil products, gas, coal and electricity, giving for imported products an average price both for importing country and country of origin. Every issue includes full notes on sources and methods and a description of price mechanisms in each country.

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| ■ Energy Balances of Non-OECD Countries, 1971-2008 | Price: €550 |
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The IEA Monthly Oil Data Service provides the detailed databases of historical and projected information which is used in preparing the IEA monthly Oil Market Report (OMR). The IEA Monthly Oil Data Service comprises three packages available separately or combined as a subscriber service on the Internet. The data are available at the same time as the official release of the Oil Market Report.

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- | | |
|---------------------------------------|---------------|
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| ■ Field-by-Field Supply | Price: €3 000 |
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For more information, please feel free to contact the Energy Statistics Division of the IEA by

E-mail: stats@iea.org

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Each month, *the* primary source of data on supply, demand, stocks, prices and refining

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NOTES

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