INTERNATIONAL ENERGY AGENCY

KEY WORLD ENERGY STATISTICS

2008

INTERNATIONAL ENERGY AGENCY
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www.iea.org

KEY WORLD ENERGY STATISTICS

IEA participating countries*

Australia
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Luxembourg
Netherlands
New Zealand
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Portugal
Slovak Republic
Spain
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*Poland is expected to become a member country of the IEA in 2008

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 South Africa 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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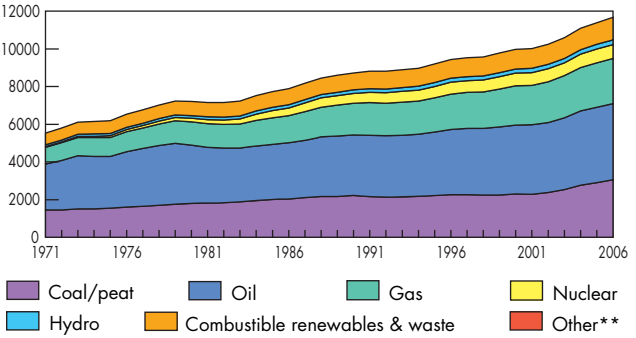
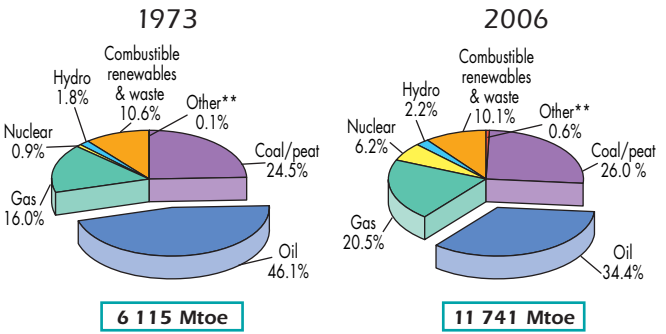
World

Evolution from 1971 to 2006 of world total primary energy supply* by fuel (Mtoe)



1973 and 2006 fuel shares of TPES*

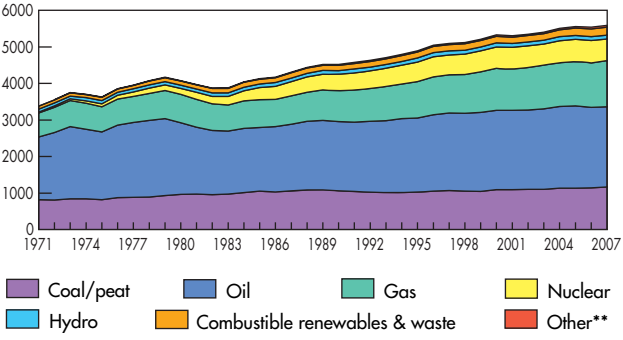


*Excludes electricity trade.
**Other includes geothermal, solar, wind, heat, etc.

BY FUEL

OECD

Evolution from 1971 to 2007 of OECD total primary energy supply* by fuel (Mtoe)



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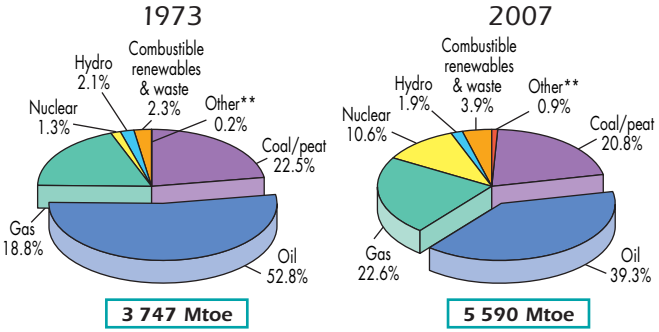

*Excludes electricity trade.
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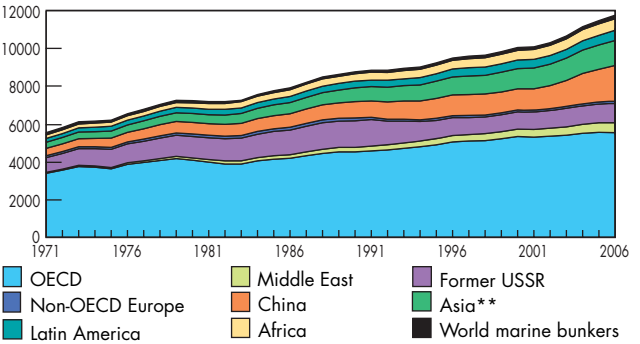
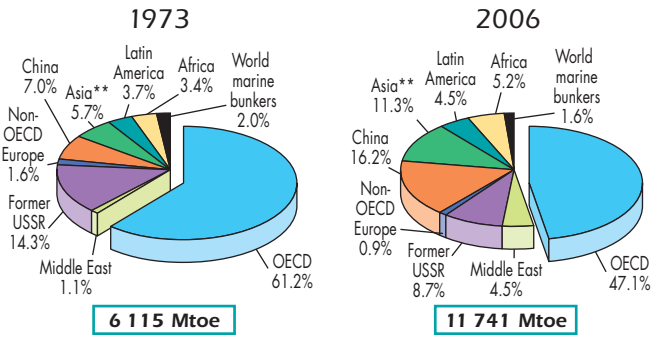
TOTAL PRIMARY ENERGY SUPPLY

World

Evolution from 1971 to 2006 of world total primary energy supply* by region (Mtoe)



1973 and 2006 regional shares of TPES*

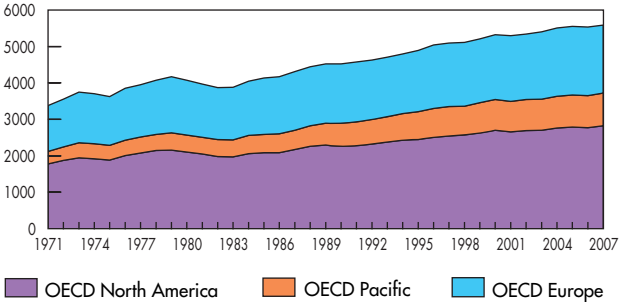


*Excludes electricity trade.
**Asia excludes China.

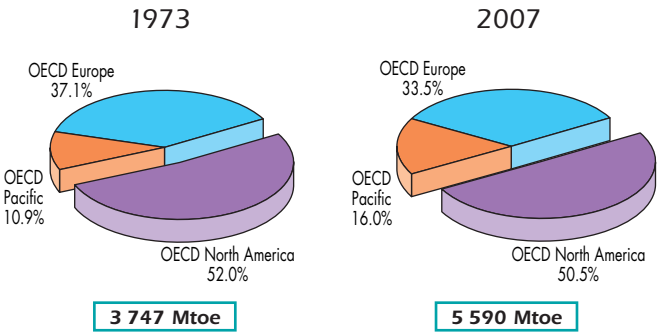
BY REGION

OECD

Evolution from 1971 to 2007 of OECD total primary energy supply* by region (Mtoe)



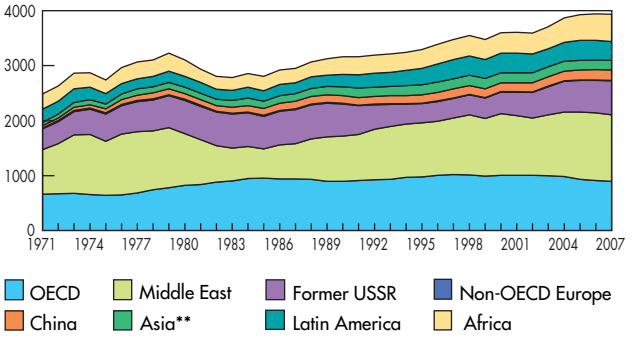
1973 and 2007 regional shares of TPES*



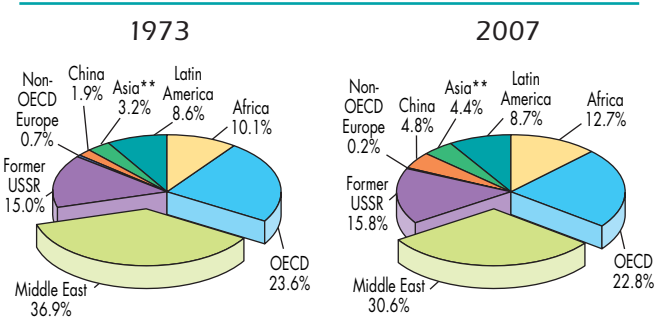
*Excludes electricity trade.

Crude Oil Production

Evolution from 1971 to 2007 of crude oil* production by region (Mt)



1973 and 2007 regional shares of crude oil* production



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

Producers, exporters and importers of crude oil*

Producers	Mt	% of world total
Russia	487	12.4
Saudi Arabia	483	12.3
United States	310	7.9
Islamic Rep. of Iran	218	5.5
People's Rep. of China	188	4.8
Mexico	173	4.4
Canada	157	4.0
Venezuela	138	3.5
Kuwait	136	3.5
United Arab Emirates	131	3.3
Rest of the world	1 516	38.4
World	**3 937**	**100.0**

2007 data

Exporters	Mt
Saudi Arabia	358
Russia	248
Islamic Rep. of Iran	130
Nigeria	119
Norway	109
United Arab Emirates	106
Mexico	99
Canada	93
Venezuela	89
Kuwait	88
Rest of the world	764
World	**2 203**

2006 data

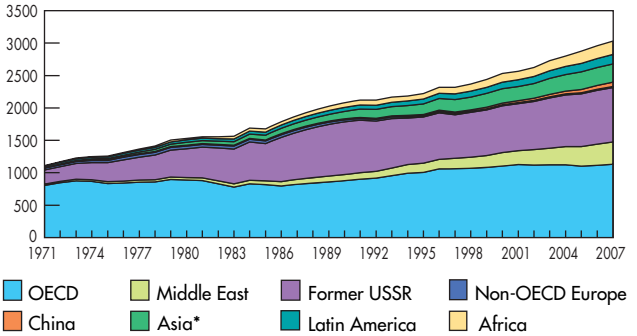
Importers	Mt
United States	587
Japan	203
People's Rep. of China	145
Korea	120
India	111
Germany	110
Italy	94
France	82
Spain	61
United Kingdom	59
Rest of the world	713
World	**2 285**

2006 data

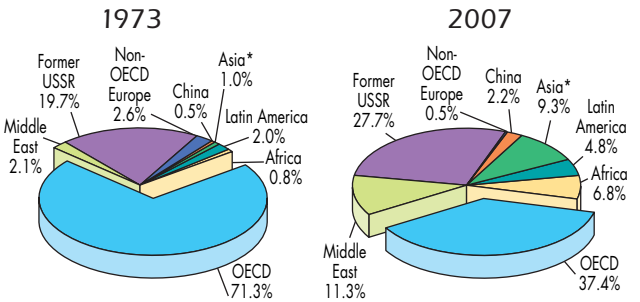
**Includes crude oil, NGL, feedstocks, additives and other hydrocarbons.*

Natural Gas Production

Evolution from 1971 to 2007 of natural gas production by region (billion cubic metres)



1973 and 2007 regional shares of natural gas production



*Asia excludes China.

Producers, exporters and importers* of natural gas

Producers	mcm	% of world total
Russia	650 993	21.5
United States	546 140	18.0
Canada	183 395	6.0
Islamic Rep. of Iran	106 693	3.5
Norway	90 839	3.0
Algeria	89 970	3.0
Netherlands	76 334	2.5
United Kingdom	76 004	2.5
Indonesia	69 691	2.3
People's Rep. of China	67 746	2.2
Rest of the world	1 073 596	35.5
World	**3 031 401**	**100.0**

2007 data

Exporters	mcm
Russia	191 892
Canada	106 988
Norway	85 136
Algeria	62 676
Netherlands	55 666
Turkmenistan	51 064
Qatar	38 329
Indonesia	33 554
Malaysia	32 039
United States	22 905
Rest of the world	219 939
World	**900 188**

2007 data

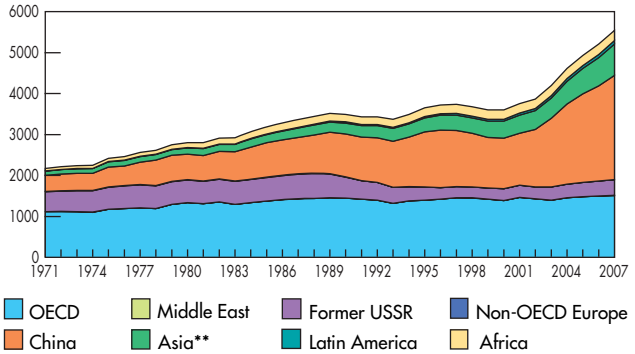
Importers	mcm
United States	130 300
Japan	95 627
Germany	88 355
Italy	73 950
Ukraine	50 087
France	42 902
Turkey	35 832
Spain	34 474
Korea	33 385
United Kingdom	30 837
Rest of the world	283 334
World	**899 083**

2007 data

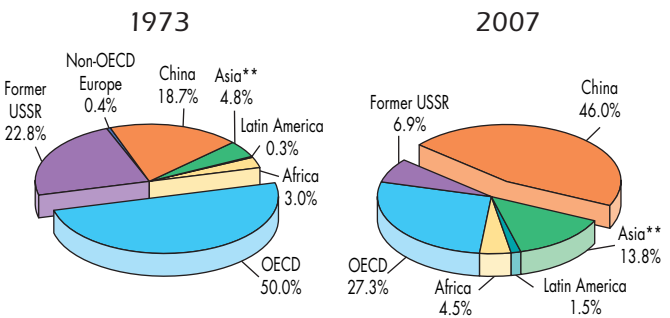
**Exports and imports include pipeline gas and LNG.*

Hard Coal Production

Evolution from 1971 to 2007 of hard coal* production by region (Mt)



1973 and 2007 regional shares of hard coal* production



*Includes recovered coal.
**Asia excludes China.

Producers, exporters and importers of coal

Producers	Hard coal* (Mt)	Brown coal (Mt)
People's Rep. of China	2 549	**
United States	981	71
India	452	33
Australia	323	72
South Africa	244	0
Russia	241	72
Indonesia	231	28
Poland	90	58
Kazakhstan	83	3
Colombia	72	0
Rest of the world	277	608
World	**5 543**	**945**

2007 data

Exporters	Hard coal (Mt)
Australia	244
Indonesia	202
Russia	100
Colombia	67
South Africa	67
People's Rep. of China	54
United States	53
Canada	30
Vietnam	30
Kazakhstan	23
Rest of the world	47
World	**917**

2007 data

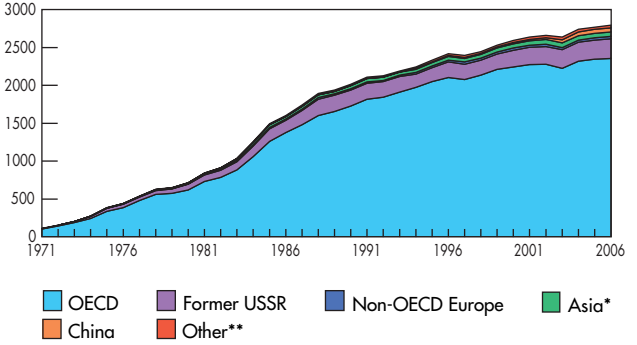
Importers	Hard coal (Mt)
Japan	182
Korea	88
Chinese Taipei	69
India	54
United Kingdom	50
People's Rep. of China	48
Germany	46
United States	33
Italy	25
Spain	24
Rest of the world	273
World	**892**

2007 data

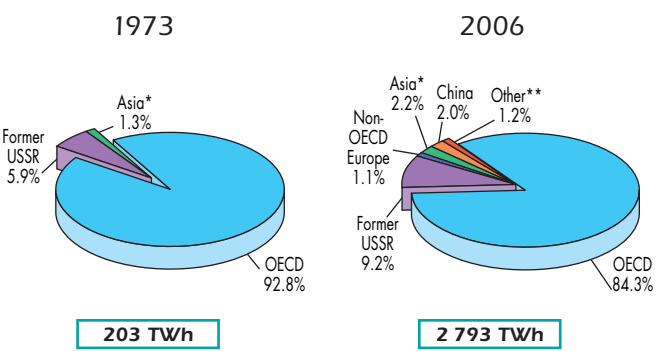
*Includes recovered coal.
**Included in hard coal.

Nuclear Production

Evolution from 1971 to 2006 of nuclear production by region (TWh)



1973 and 2006 regional shares of nuclear production



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

Producers of nuclear electricity

Producers	TWh	% of world total
United States	816	29.2
France	450	16.1
Japan	303	10.8
Germany	167	6.0
Russia	156	5.6
Korea	149	5.3
Canada	98	3.5
Ukraine	90	3.2
United Kingdom	75	2.7
Sweden	67	2.4
Rest of the world	422	15.2
World	**2 793**	**100.0**

2006 data

Installed capacity	GW
United States	99
France	63
Japan	48
Russia	22
Germany	20
Korea	17
Ukraine	13
Canada	13
United Kingdom	10
Sweden	9
Rest of the world	55
World	**369**

2006 data
Source: Commissariat à l'Énergie Atomique (France).

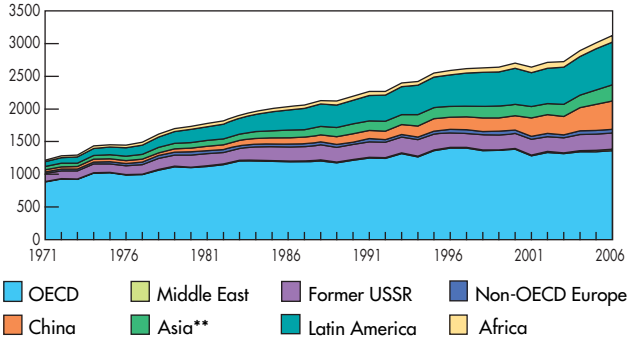
Country (based on first 10 producers)	% of nuclear in total domestic electricity generation
France	79.1
Sweden	46.7
Ukraine	46.7
Korea	37.0
Japan	27.8
Germany	26.6
United Kingdom	19.1
United States	19.1
Canada	16.0
Russia	15.7
Rest of the world*	7.2
World	**14.8**

2006 data

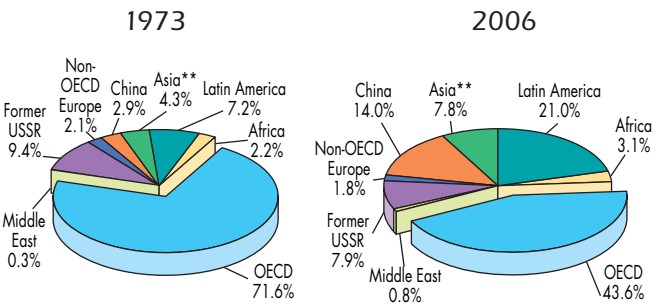
**Excludes countries with no nuclear production.*

Hydro Production

Evolution from 1971 to 2006 of hydro* production by region (TWh)



1973 and 2006 regional shares of hydro* production



1 295 TWh **3 121 TWh**

*Includes pumped storage.
**Asia excludes China.

Producers of hydro* electricity

Producers	TWh	% of world total
People's Rep. of China	436	14.0
Canada	356	11.3
Brazil	349	11.2
United States	318	10.2
Russia	175	5.6
Norway	120	3.8
India	114	3.6
Japan	96	3.1
Venezuela	79	2.5
Sweden	62	2.0
Rest of the world	1 016	32.7
World	**3 121**	**100.0**

2006 data

**Includes pumped storage.*
***Excludes countries with no hydro production.*

Installed capacity (based on production)	GW
People's Rep. of China	118
United States	99
Brazil	71
Canada	72
Japan	47
Russia	46
India	32
Norway	28
France	25
Italy	21
Rest of the world	308
World	**867**

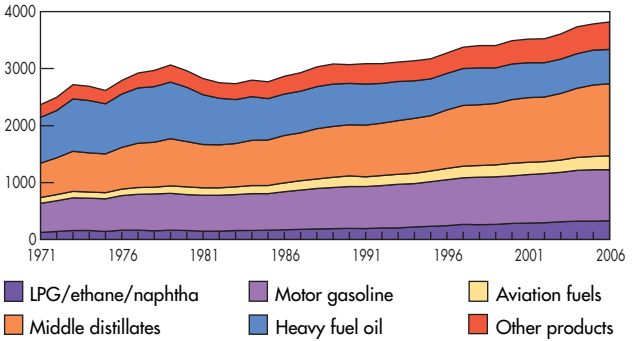
2005 data
Sources: United Nations, IEA.

Country (based on first 10 producers)	% of hydro in total domestic electricity generation
Norway	98.5
Brazil	83.2
Venezuela	72.0
Canada	58.0
Sweden	43.1
Russia	17.6
India	15.3
People's Rep. of China	15.2
Japan	8.7
United States	7.4
Rest of the world**	14.3
World	**16.4**

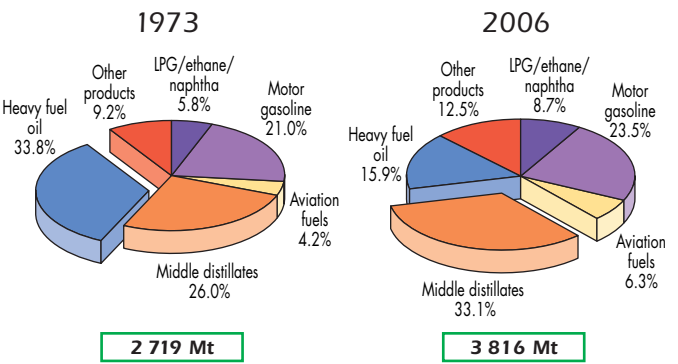
2006 data

Refining by Product

Evolution from 1971 to 2006 of world refinery production by product (Mt)



1973 and 2006 shares of refinery production by product



Producers, exporters and importers of petroleum products

Producers	Mt	% of world total
United States	840	22.0
People's Rep. of China	298	7.8
Russia	217	5.7
Japan	196	5.1
India	146	3.8
Korea	122	3.2
Germany	121	3.2
Canada	101	2.6
Italy	99	2.6
Saudi Arabia	99	2.6
Rest of the world	1 577	41.4
World	**3 816**	**100.0**

2006 data

Exporters	Mt
Russia	88
Netherlands	83
United States	65
Singapore	62
Saudi Arabia	58
Korea	38
Venezuela	35
Kuwait	34
India	32
United Kingdom	29
Rest of the world	474
World	**998**

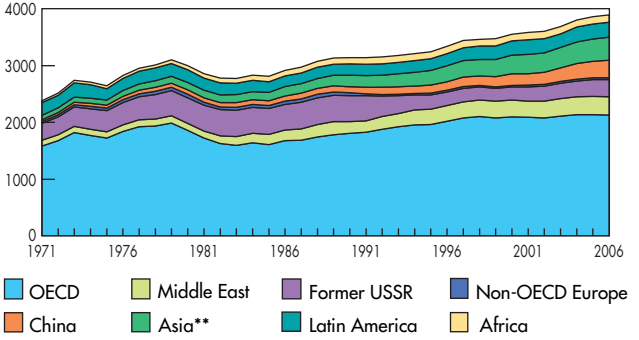
2006 data

Importers	Mt
United States	110
Netherlands	72
Singapore	57
Japan	47
People's Rep. of China	44
France	38
Germany	37
Spain	28
United Kingdom	27
Korea	21
Rest of the world	445
World	**926**

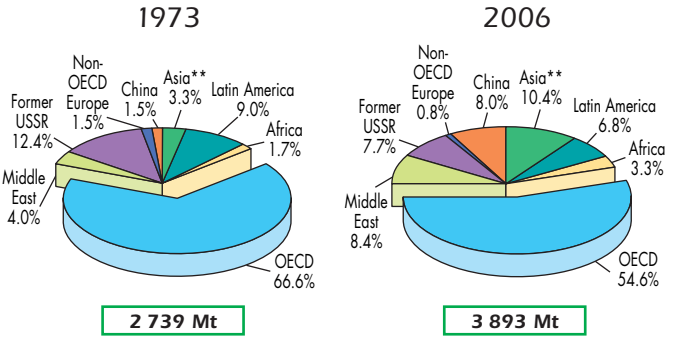
2006 data

Refining by Region

Evolution from 1971 to 2006 of world refinery throughput* by region (Mt)



1973 and 2006 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*

Crude distillation capacity	kb/d	% of world total
United States	17 440	20.2
Former USSR	7 740	8.5
People's Rep. of China**	7 300	9.0
Japan	4 670	5.4
India	3 070	3.0
Korea	2 610	2.8
Germany	2 420	2.7
Italy	2 320	3.6
Saudi Arabia	2 100	2.4
Canada	2 040	2.4
Rest of the world	34 590	40.0
World	**86 300**	**100.0**

2007 data

Net exporters	Mt
Saudi Arabia	413
Russia	334
Islamic Rep. of Iran	137
Venezuela	124
Kuwait	122
Norway	120
Nigeria	113
United Arab Emirates	108
Mexico	85
Libya	75
Rest of the world	612

2006 data

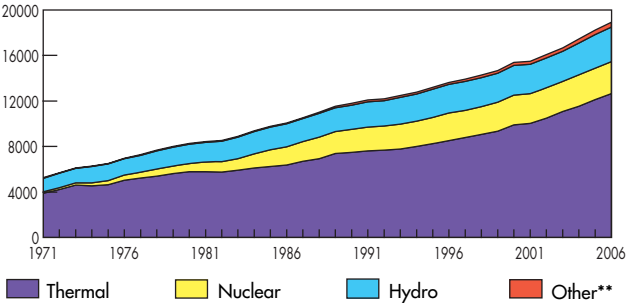
Net importers	Mt
United States	625
Japan	240
People's Rep. of China	168
Germany	119
Korea	103
India	95
France	93
Italy	80
Spain	79
Chinese Taipei	48
Rest of the world	602

2006 data

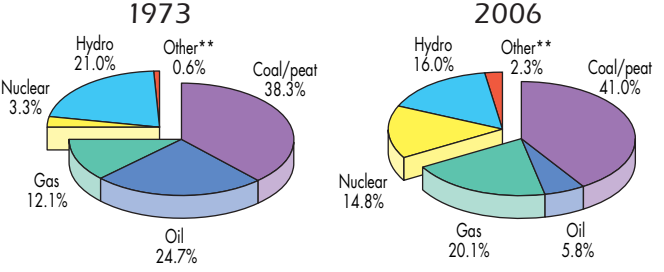
**Crude oil and petroleum products.*
***Does not include unlisted small teapot refineries which are estimated at between 200 and 500 kb/d.*

Electricity Generation* by Fuel

Evolution from 1971 to 2006 of world electricity generation* by fuel (TWh)



1973 and 2006 fuel shares of electricity generation*



*Excludes pumped storage.

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

Electricity production from fossil fuels

Coal/peat	TWh
People's Rep. of China	2 301
United States	2 128
India	508
Germany	302
Japan	299
South Africa	236
Australia	199
Russia	179
Korea	153
United Kingdom	152
Rest of the world	1 298
World	**7 755**

2006 data

Oil	TWh
Japan	121
Saudi Arabia	94
United States	81
Mexico	54
People's Rep. of China	51
Italy	46
Indonesia	39
Islamic Rep. of Iran	35
Kuwait	35
India	31
Rest of the world	509
World	**1 096**

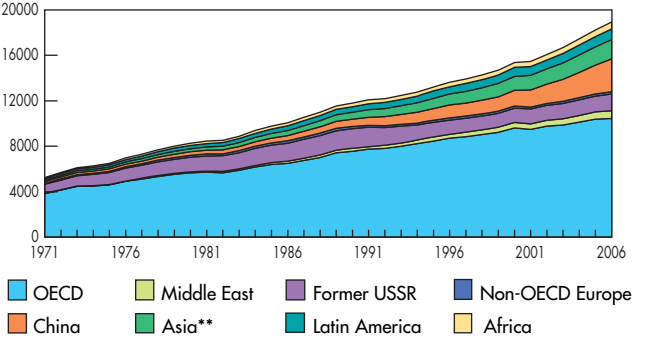
2006 data

Gas	TWh
United States	839
Russia	458
Japan	254
Italy	158
Islamic Rep. of Iran	148
United Kingdom	141
Mexico	114
Thailand	94
Spain	90
Saudi Arabia	86
Rest of the world	1 425
World	**3 807**

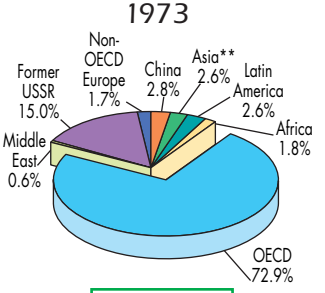
2006 data

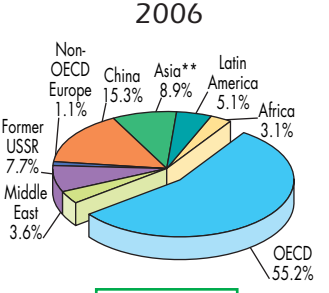
Electricity Generation* by Region

Evolution from 1971 to 2006 of world electricity generation* by region (TWh)



1973 and 2006 regional shares of electricity generation*





*Excludes pumped storage.

**Asia excludes China.

Producers, exporters and importers of electricity

Producers*	TWh	% of world total
United States	4 274	22.6
People's Rep. of China	2 864	15.1
Japan	1 091	5.8
Russia	994	5.3
India	744	3.9
Germany	629	3.3
Canada	612	3.2
France	569	3.0
Brazil	419	2.2
Korea	402	2.1
Rest of the world	6 332	33.5
World	**18 930**	**100.0**

2006 data

Exporters**	TWh
France	72
Germany	65
Paraguay	46
Canada	43
Switzerland	31
United States	24
Czech Republic	24
Russia	21
Poland	16
Austria	14
Rest of the world	258
World	**614**

2006 data

Importers**	TWh
Germany	48
Italy	47
United States	43
Brazil	41
Switzerland	34
Netherlands	27
Canada	24
Austria	21
Belgium	19
Sweden	18
Rest of the world	285
World	**607**

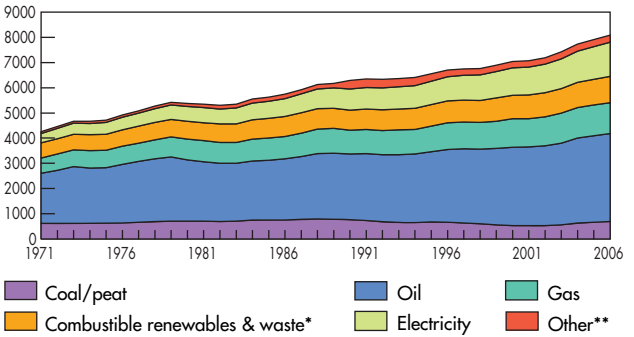
2006 data

**Gross production minus production from pumped storage plants.*
***Total exports and total imports (including transit).*

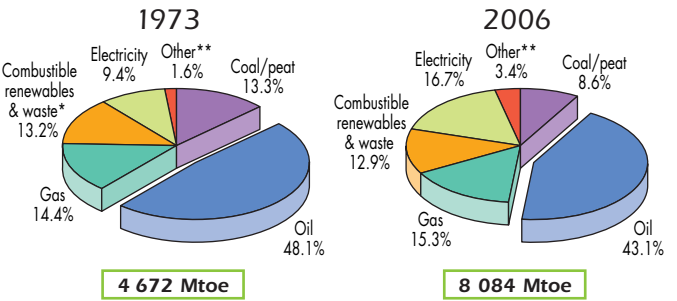
TOTAL FINAL CONSUMPTION

World

Evolution from 1971 to 2006 of world total final consumption by fuel (Mtoe)



1973 and 2006 fuel shares of total final consumption

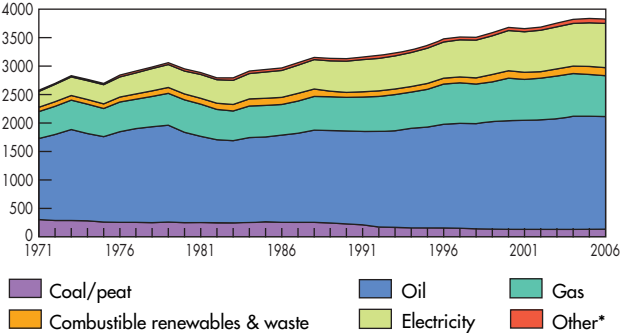


**Prior to 1994 combustible renewables & waste final consumption has been estimated.*
***Other includes geothermal, solar, wind, heat, etc.*

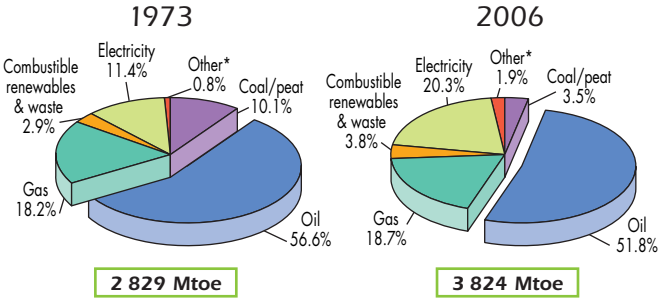
BY FUEL

OECD

Evolution from 1971 to 2006 of OECD total final consumption by fuel (Mtoe)



1973 and 2006 fuel shares of total final consumption

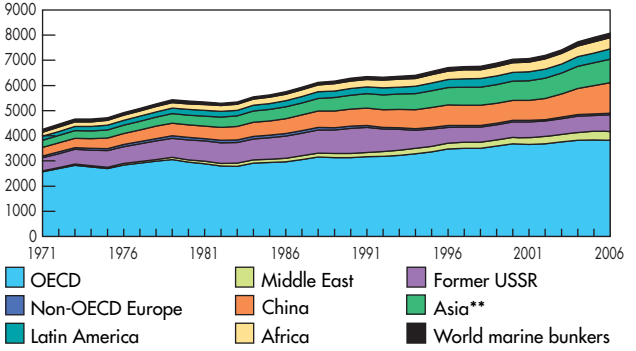


*Other includes geothermal, solar, wind, heat, etc.

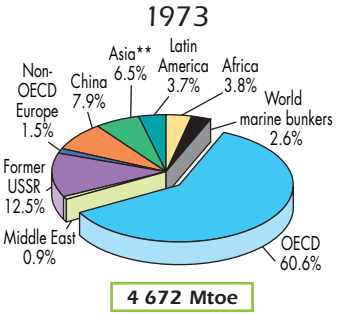
TOTAL FINAL CONSUMPTION

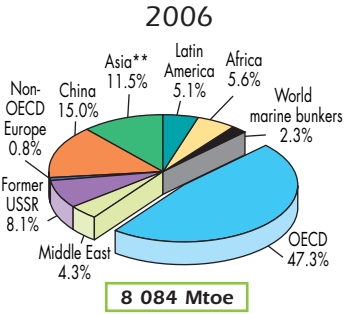
World

Evolution from 1971 to 2006 of world total final consumption* by region (Mtoe)



1973 and 2006 regional shares of total final consumption*



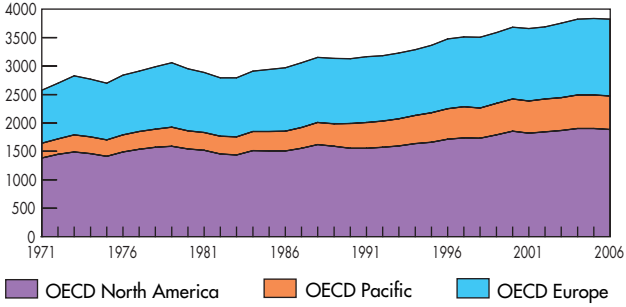


Prior to 1994 combustible renewables & waste final consumption has been estimated.
***Asia excludes China.*

BY REGION

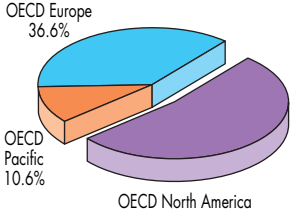
OECD

Evolution from 1971 to 2006 of OECD total final consumption by region (Mtoe)



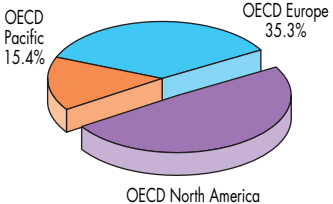
1973 and 2006 regional shares of total final consumption

1973



2 829 Mtoe

2006

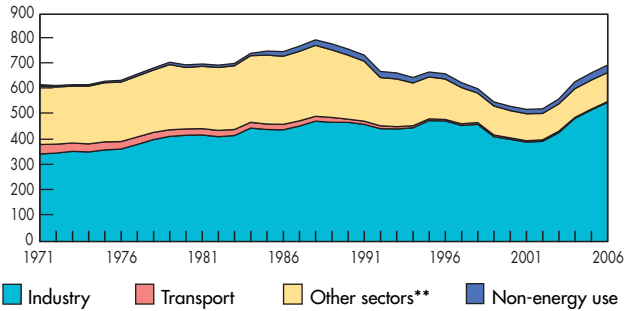


3 824 Mtoe

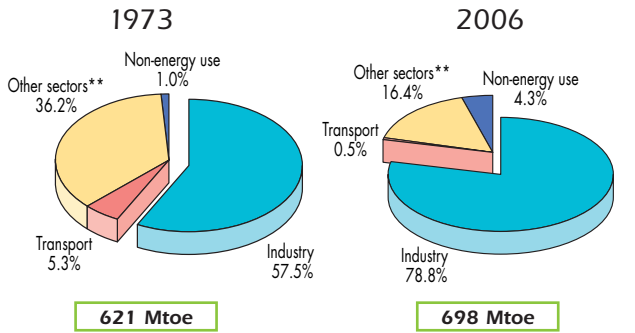
TOTAL FINAL CONSUMPTION

Coal*

Evolution from 1971 to 2006 of total final consumption by sector (Mtoe)



1973 and 2006 shares of world coal* consumption

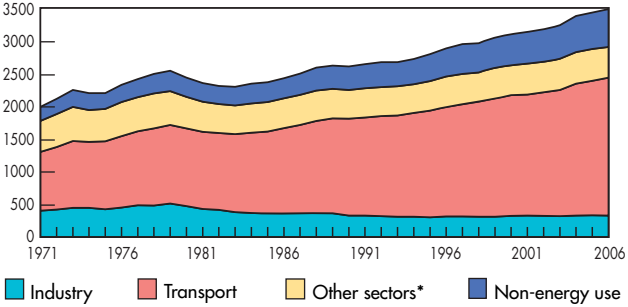


*Coal refers to coal/peat. **Includes agriculture, commercial & public services, residential and non-specified other sectors.

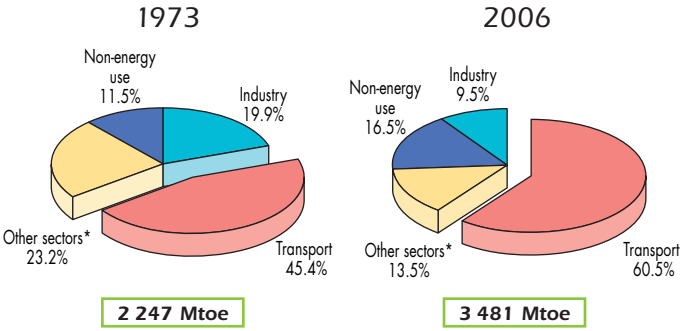
BY SECTOR

Oil

Evolution from 1971 to 2006 of total final consumption by sector (Mtoe)



1973 and 2006 shares of world oil consumption

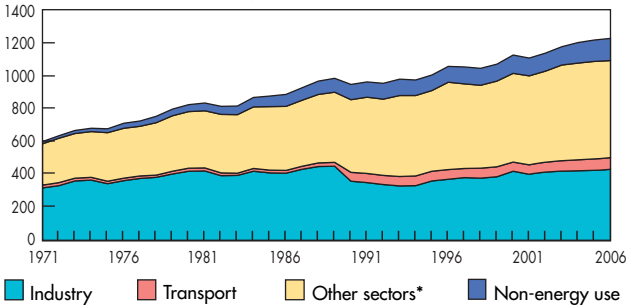


**Includes agriculture, commercial & public services, residential and non-specified other sectors.*

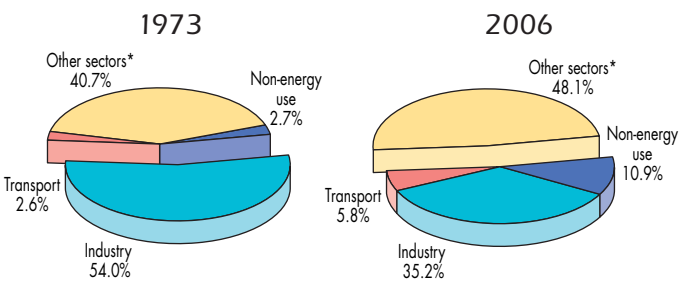
TOTAL FINAL CONSUMPTION

Gas

Evolution from 1971 to 2006 of total final consumption by sector (Mtoe)



1973 and 2006 shares of world gas consumption

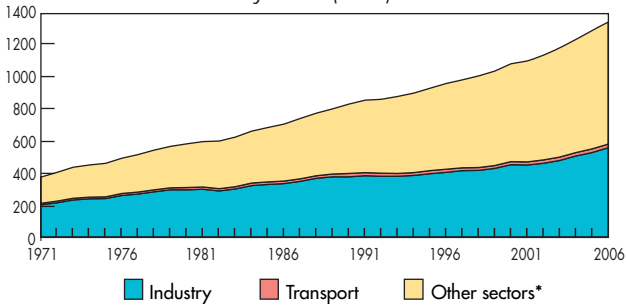


*Includes agriculture, commercial & public services, residential and non-specified other sectors.

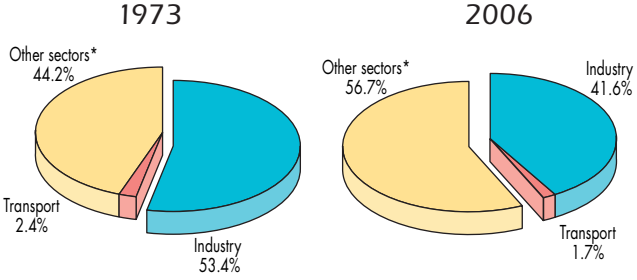
BY SECTOR

Electricity

Evolution from 1971 to 2006 of total final consumption by sector (Mtoe)



1973 and 2006 shares of world electricity consumption



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

SIMPLIFIED ENERGY

World

1973

(Mtoe)

SUPPLY AND CONSUMPTION	Coal/ peat	Crude oil	Petroleum products	Gas	Nuclear	Hydro	Combustible renewables & waste[a]	Other[b]	Total
Production	1479.01	2936.72	–	993.47	53.05	110.23	645.25	6.13	6223.87
Imports	140.04	1562.28	408.20	73.41	_	–	0.12	8.14	2192.19
Exports	–130.37	–1611.16	–438.70	–72.80	–	–	–0.19	–8.27	–2261.50
Stock changes	12.22	–21.59	–15.80	–15.00	–	–	0.06	–	–40.11
TPES	**1500.90**	**2866.25**	**–46.30**	**979.07**	**53.05**	**110.23**	**645.23**	**6.00**	**6114.45**
Transfers	–	–46.49	48.52	–	–	–	–	–	2.02
Statistical diff.	10.04	11.86	–6.66	4.79	–	–	–0.04	–0.03	19.97
Electricity plants	–559.58	–22.55	–319.91	–160.05	–52.95	–110.23	–2.94	502.69	–725.52
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
Gas works	–9.86	–0.60	–9.10	13.52	–	–	–	–	6.04
Pet. refineries	–	–2783.39	2761.32	–	–	–	–	–	–22.07
Coal transf.	–183.72	–	–3.40	–0.19	–	–	–0.08	–	–187.39
Liquefaction	–0.73	0.23	–	–	–	–	–	–	–0.50
Other transf.	–	5.08	–5.48	–0.03	–	–	–23.91	–	–24.33
Own use	–34.10	–2.62	–162.88	–106.68	–	–	–0.19	–57.78	–364.25
Distribution losses	–7.40	–7.07	–0.27	–7.50	–	–	–0.29	–43.07	–65.60
TFC	**621.44**	**20.70**	**2226.68**	**671.40**	**–**	**–**	**616.24**	**515.63**	**4672.10**
Industry sector	357.27	16.38	431.93	362.04	–	–	90.96	286.35	1544.93
Transport sector [c]	33.00	–	1018.32	17.72	–	–	0.33	10.59	1079.96
Other sectors	225.18	0.00	521.25	273.27	–	–	524.96	218.68	1763.33
Non-energy use	6.00	4.32	255.19	18.37	–	–	–	–	283.88

(a) Combustible renewables & waste final consumption has been estimated.
(b) Other includes geothermal, solar, electricity and heat, wind, etc.
(c) Includes international marine bunkers.

BALANCE TABLE

World

2006

(Mtoe)

SUPPLY AND CONSUMPTION	Coal/ peat	Crude oil	Petroleum products	Gas	Nuclear	Hydro	Combustible renewables & waste	Other[a]	Total
Production	3076.95	4029.64	–	2439.13	728.42	261.14	1184.36	76.13	11795.75
Imports	561.99	2325.76	942.31	727.68	–	–	5.30	52.18	4615.21
Exports	–565.95	–2245.93	–1013.64	–729.85	–	–	–4.17	–52.83	–4612.37
Stock changes	–19.45	–2.42	–7.05	–29.14	–	–	–0.57	–	–58.64
TPES	**3053.54**	**4107.05**	**–78.39**	**2407.82**	**728.42**	**261.14**	**1184.91**	**75.48**	**11739.96**
Transfers	–	–122.86	141.83	–	–	–	–	–	18.97
Statistical diff.	4.15	–12.31	5.71	2.98	–	–	0.18	0.42	1.13
Electricity plants	–1788.46	–22.62	–210.68	–562.38	–720.93	–261.14	–39.08	1406.29	–2199.00
CHP plants	–190.53	–0.06	–29.63	–293.63	–7.48	–	–34.22	317.33	–238.22
Heat plants	–98.24	–0.77	–13.60	–90.68	–	–	–7.38	171.06	–39.62
Gas works	–13.58	–	–3.23	10.69	–	–	–	–	–6.12
Pet. refineries	–	–3963.56	3907.24	–0.78	–	–	–	–	–57.11
Coal transf.	–184.60	0.02	–2.80	–0.17	–	–	–0.01	–	–187.56
Liquefaction	–17.56	8.86	–	–6.54	–	–	–	–	–15.24
Other transf.	0.00	30.15	–31.56	–1.68	–	–	–54.59	–	–57.68
Own use	–64.01	–8.33	–214.30	–200.88	–	–	–9.46	–176.35	–673.32
Distribution losses	–2.47	–4.50	–0.28	–31.32	–	–	–0.23	–162.95	–201.76
TFC	**698.24**	**11.06**	**3470.31**	**1233.44**	**–**	**–**	**1040.12**	**1631.26**	**8084.44**
Industry sector	550.57	4.19	325.35	434.28	–	–	187.83	678.24	2180.46
Transport sector [b]	3.78	0.01	2104.85	71.28	–	–	23.71	22.80	2226.43
Other sectors	114.21	0.32	471.39	592.90	–	–	828.57	930.22	2937.62
Non–energy use	29.69	6.55	568.72	134.99	–	–	–	–	739.94

(a) Other includes geothermal, solar, electricity and heat, wind, etc.
(b) Includes international marine bunkers.

SIMPLIFIED ENERGY

OECD

1973

(Mtoe)

SUPPLY AND CONSUMPTION	Coal/ peat	Crude oil	Petroleum 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	2446.32
Imports	121.72	1271.51	335.85	62.56	–	–	0.03	7.55	1799.22
Exports	–111.07	–63.58	–172.35	–50.39	–	–	–0.01	–7.00	–404.41
Intl. marine bunkers	–	–	–73.47	–	–	–	–	–	–73.47
Stock changes	14.41	–10.91	–11.23	–11.98	–	–	0.06	–	–19.66
TPES	**843.35**	**1899.63**	**78.81**	**705.83**	**49.22**	**78.46**	**86.04**	**6.67**	**3748.00**
Transfers	–	–41.02	42.21	–	–	–	–	–	1.19
Statistical diff.	14.85	13.07	2.56	–5.62	–	–	–0.00	–	24.85
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
Gas works	–8.40	–0.60	–8.65	13.02	–	–	–	–	–4.62
Pet. refineries	–	–1854.21	1857.54	–	–	–	–	–	3.33
Coal transf.	–90.95	–	–3.40	–0.19	–	–	–0.02	–	–94.56
Liquefaction	–	0.02	–	–	–	–	–	–	0.02
Other transf.	–	4.88	–5.27	–0.03	–	–	–	–	–0.42
Own use	–23.62	–0.99	–128.36	–72.86	–	–	–0.07	–33.37	–259.26
Distribution losses	–2.32	–	–0.23	–3.95	–	–	–	–30.33	–36.83
TFC	**285.69**	**0.21**	**1600.75**	**515.53**	**–**	**–**	**82.99**	**344.21**	**2829.38**
Industry sector	179.28	0.21	310.99	253.72	–	–	42.02	168.80	955.02
Transport sector	7.21	–	686.52	17.00	–	–	0.00	5.29	716.02
Other sectors	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.

BALANCE TABLE

OECD

2006

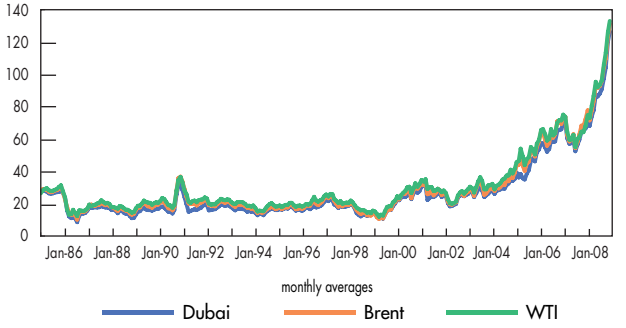
(Mtoe)

SUPPLY AND CONSUMPTION	Coal/ peat	Crude oil	Petroleum products	Gas	Nuclear	Hydro	Combustible renewables & waste	Other[a]	Total
Production	1011.86	937.70	–	918.56	614.00	110.62	206.83	42.75	3842.31
Imports	376.81	1664.27	550.24	565.52	–	–	5.15	34.68	3196.68
Exports	–231.94	–399.46	–429.85	–255.46	–	–	–1.20	–33.43	–1351.34
Intl. marine bunkers	–	–	–101.04	–	–	–	–	–	–101.04
Stock changes	–18.07	–1.70	–10.75	–18.37	–	–	–0.29	–	–49.19
TPES	**1138.65**	**2200.82**	**8.60**	**1210.25**	**614.00**	**110.62**	**210.49**	**44.00**	**5537.42**
Transfers	–	–34.00	45.53	–	–	–	–	–	11.53
Statistical diff.	–9.49	–13.73	0.68	4.76	–	–	0.04	0.18	–17.57
Electricity plants	–827.90	–6.10	–69.51	–291.90	–609.18	–110.62	–29.00	773.58	–1170.63
CHP plants	–89.26	–	–17.44	–111.42	–4.82	–	–32.23	149.28	–105.90
Heat plants	–4.15	–	–1.47	–5.30	–	–	–3.47	14.97	0.57
Gas works	–2.58	–	–1.79	2.99	–	–	–	–	–1.37
Pet. refineries	–	–2171.72	2165.20	–0.78	–	–	–	–	–7.30
Coal transf.	–57.44	0.02	–2.19	–0.17	–	–	–	–	–59.78
Liquefaction	–	0.63	–	–1.17	–	–	–	–	–0.54
Other transf.	0.00	24.70	–25.03	–0.00	–	–	–0.10	–	–0.42
Own use	–11.85	–0.07	–123.16	–89.80	–	–	–0.09	–69.50	–294.48
Distribution losses	–1.03	–	–0.01	–3.05	–	–	–0.01	–63.05	–67.15
TFC	**134.95**	**0.55**	**1979.42**	**714.38**	**–**	**–**	**145.62**	**849.45**	**3824.38**
Industry sector	115.07	0.04	143.55	248.32	–	–	69.24	289.38	865.60
Transport sector	0.08	–	1251.78	21.79	–	–	16.90	9.87	1300.42
Other sectors	17.85	–	234.33	410.49	–	–	59.49	550.21	1272.36
Non–energy use	1.96	0.51	349.76	33.78	–	–	–	–	386.00

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

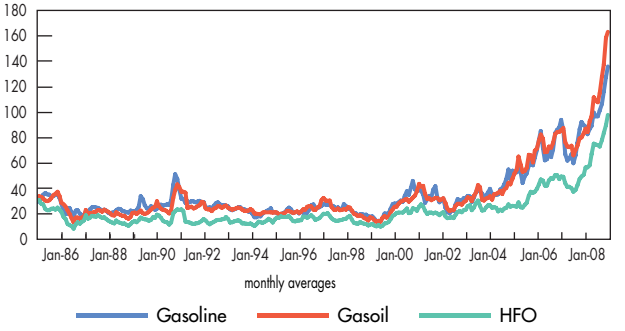
Crude Oil

Key crude oil spot prices in US dollars/barrel



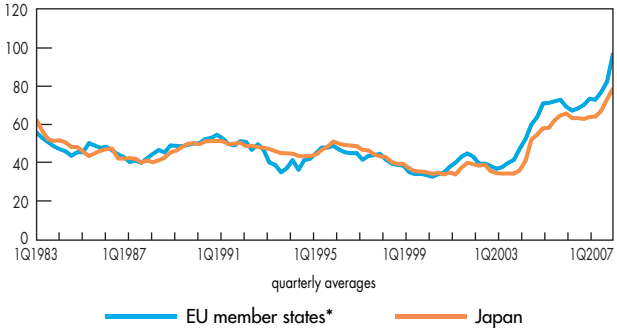
Petroleum Products

Rotterdam oil product spot prices in US dollars/barrel



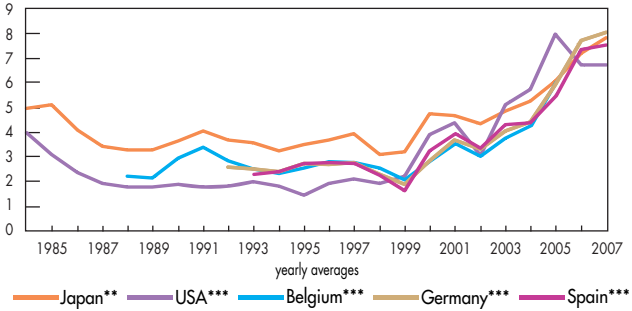
Coal

Steam coal import costs in US dollars/tonne



Natural Gas

Natural gas import prices in US dollars/MBtu



**European Union member states excluding Romania and Bulgaria, where information is available.*
***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	..	..	..	1.243
Austria	657.70	1 178.11	1.252	1.812
Belgium	577.38	1 069.77	1.490	2.202
Canada	523.48	1 021.75	1.141	1.080
Chinese Taipei	482.43	x	0.860	0.960
Czech Republic	479.54	1 156.57	1.543	1.806
Denmark	616.28	1 727.24	1.481	2.051
Finland	660.55	1 198.90	1.506	2.122
France	567.66	1 186.17	1.537	2.030
Germany	544.83	1 076.91	1.630	2.099
Greece	..	..	..	..
Hungary	585.79	x	1.459	1.708
India	..	..	..	..
Ireland	442.13	1 268.46	1.469	1.774
Italy	626.78	1 857.81	1.616	2.055
Japan	806.36	919.94	1.039	1.457
Korea	681.97	1 060.62	..	1.733
Luxembourg	..	981.62	1.384	1.762
Mexico	384.34	..	0.481	0.656
Netherlands	647.56	1 496.55	1.542	2.283
New Zealand	475.78	..	0.881	1.354
Norway	..	1 570.43	1.760	2.317
Poland	593.85	1 197.26	1.401	1.791
Portugal	763.12	1 334.33	1.655	2.070
Slovak Republic	438.31	..	1.578	1.789
Spain	613.53	1 138.22	1.397	1.637
Sweden	1 299.83	1 872.37	1.612	1.986
Switzerland	..	948.22	1.563	1.654
Turkey	979.94	2 061.24	2.180	2.599
United Kingdom	c	1 047.45	1.854	2.067
United States	518.83	906.71	0.932	0.820

(a) Prices are for 1st quarter 2008 for petroleum products, and latest available (L) 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.

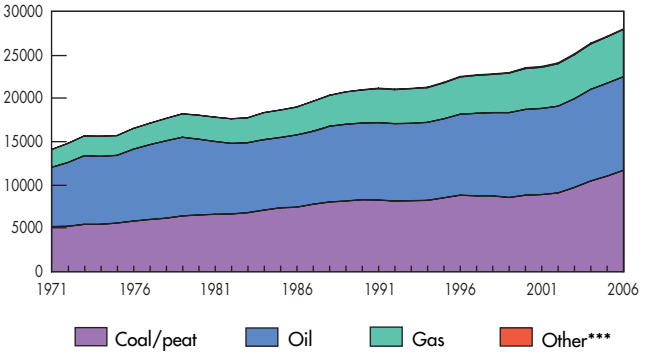
IN SELECTED COUNTRIES in US dollars/unit

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[(g)] (kWh)	Electricity for households[(g)] (kWh)	
..	..	..	..	..	Australia
..	1019.44	228.57	0.1406 L	0.2261 L	Austria
c	..	..	..	..	Belgium
246.57	445.93	..	..	..	Canada
502.48	452.72	..	0.0563	0.0740	Chinese Taipei
545.31	772.92	c	0.1523	0.1917	Czech Republic
c	..	..	..	0.3815 L	Denmark
339.60	482.17	185.31	0.0952	0.1711	Finland
539.24	894.74	..	0.0610	0.1733	France
..	..	..	..	..	Germany
..	..	..	..	..	Greece
648.95	669.43	..	0.1591	0.2558	Hungary
..	..	45.86	..	0.0543 L	India
569.72	927.40	..	0.1806	0.2463	Ireland
506.90 L	1006.98 L	103.58 L	0.2550 L	0.2715 L	Italy
..	..	88.56	..	..	Japan
561.36	712.56	89.18	0.0680	0.0964	Korea
..	..	..	..	0.2307 L	Luxembourg
415.22	717.70	x	0.1117	0.1076	Mexico
..	1223.30	..	c	0.2417	Netherlands
221.84 L	1630.21 L	c	0.0771	0.1782	New Zealand
x	x	..	0.0654	0.1752	Norway
456.54	757.21	98.95	0.1152	0.1792	Poland
514.66	1227.54	..	0.1406	0.2334	Portugal
525.37	760.78	..	0.1709	0.2009	Slovak Republic
444.41	971.20	..	0.0896	0.1870	Spain
..	..	..	..	..	Sweden
718.26	1004.96	165.94	0.0940	0.1556	Switzerland
513.57	580.08	90.87	0.1321	0.1577	Turkey
396.34 L	763.72	106.52	0.1339	0.2271 L	United Kingdom
343.31	486.67	60.56	0.0628	0.1027	United States

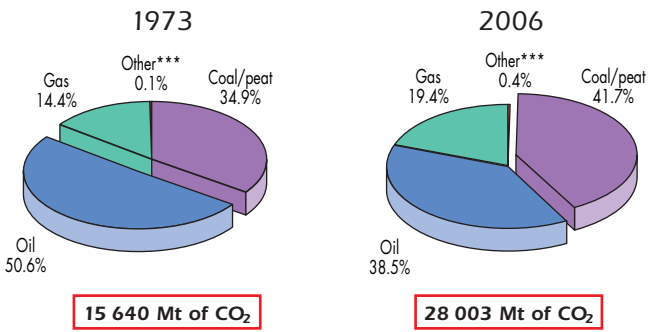
(d) Unleaded premium gasoline (95 RON); unleaded regular for Australia, Canada, Japan, Korea, Mexico, New Zealand and the United States. (e) Gross calorific value. (f) Brown coal for Turkey. (g) Prices excluding tax for the United States.
.. not available x not applicable c confidential

CO_2 Emissions by Fuel

Evolution from 1971 to 2006 of world* CO_2 emissions** by fuel (Mt of CO_2)



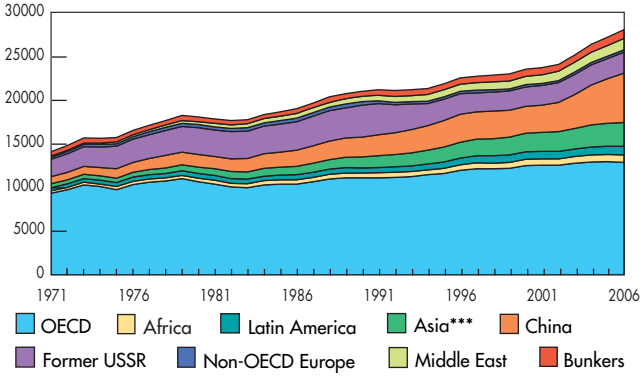
1973 and 2006 fuel shares of CO_2 emissions**



**World includes international aviation and international marine bunkers.*
***Calculated using the IEA's energy balances and the Revised 1996 IPCC Guidelines. CO_2 emissions are from fuel combustion only. ***Other includes industrial waste and non-renewable municipal waste.*

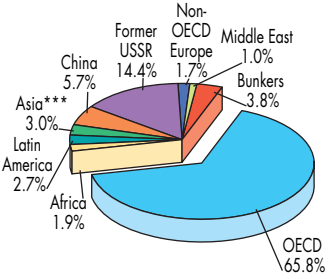
CO_2 Emissions by Region

Evolution from 1971 to 2006 of world* CO_2 emissions** by region (Mt of CO_2)



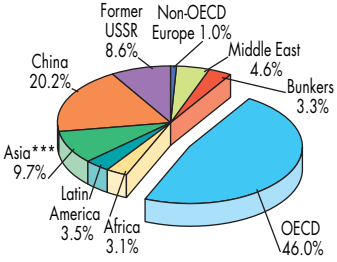
1973 and 2006 regional shares of CO_2 emissions**

1973



15 640 Mt of CO_2

2006

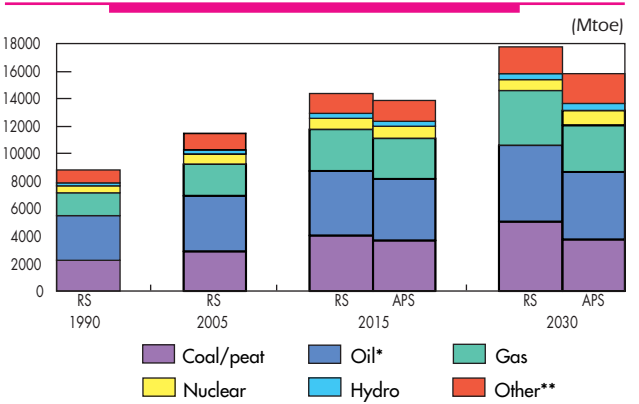


28 003 Mt of CO_2

**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. CO_2 emissions are from fuel combustion only. ***Asia excludes China.*

OUTLOOK FOR WORLD TPES

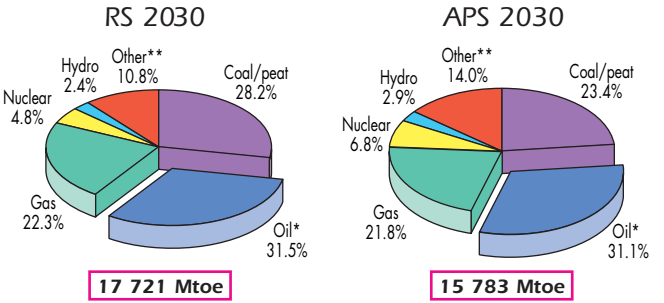
TPES* Outlook by Fuel



RS: Reference Scenario (based on current policies)

APS: Alternative Policy Scenario (based on policies under consideration)

Fuel shares of TPES* in 2030 for the Reference Scenario and Alternative Policy Scenario

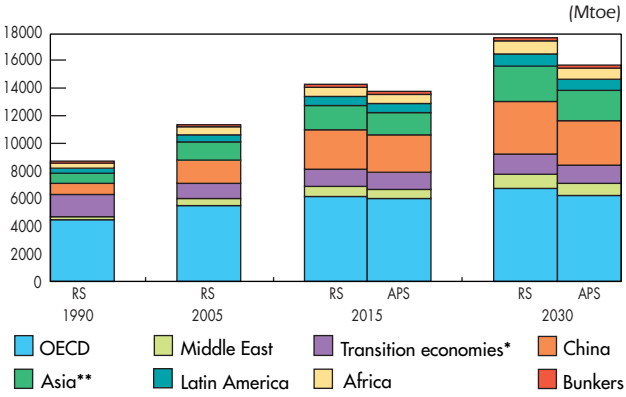


*Includes bunkers.

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

(Source: IEA WEO 2007)

TPES Outlook by Region



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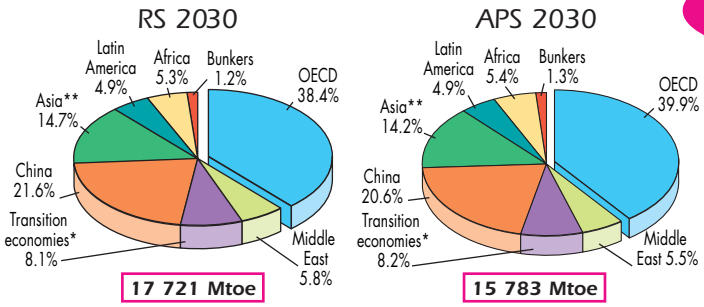
Regional shares of TPES in 2030 for the Reference Scenario and Alternative Policy Scenario



**Includes Former USSR and Non-OECD Europe.*
***Asia excludes China.*

Selected Indicators for 2006

Region/ Country/ Economy	Population (million)	GDP (billion 2000$)	GDP (PPP) (billion 2000$)	Energy prod. (Mtoe)	Net imports (Mtoe)	TPES (Mtoe)	Elec. cons.[a] (TWh)	CO_2 emissions[b] (Mt of CO_2)
World	6536	37759	57564	11796	-	11740[c]	17377	28003[d]
OECD	1178	29169	31158	3842	1845	5537	9872	12874
Middle East	189	838	1456	1529	-990	523	599	1291
Former USSR	284	568	2266	1610	-577	1017	1274	2395
Non-OECD Europe	54	162	477	64	45	108	171	271
China	1319	2315	8916	1749	161	1897	2716	5648
Asia	2120	2139	7661	1187	176	1330	1414	2718
Latin America	455	1796	3425	704	-169	531	808	972
Africa	937	773	2207	1110	-489	614	522	854
Albania	3.17	5.03	15.55	1.20	1.07	2.27	3.05	4.23
Algeria	33.35	71.79	212.61	173.21	-135.48	36.70	29.01	85.91
Angola	16.56	17.11	37.94	79.16	-68.27	10.26	2.53	8.56
Argentina	39.13	340.15	534.09	83.86	-14.18	69.10	102.53	148.73
Armenia	3.01	3.86	15.07	0.85	1.74	2.59	4.85	4.14
Australia	20.74	481.40	631.93	267.79	-145.74	122.47	234.56	394.45
Austria	8.28	215.20	259.10	9.93	24.98	34.23	67.00	72.84
Azerbaijan	8.48	13.35	50.45	38.13	-24.20	14.08	21.33	30.23
Bahrain	0.74	11.42	14.96	16.33	-7.94	8.77	9.33	19.97
Bangladesh	155.99	65.48	276.59	20.33	4.63	25.04	22.77	38.06
Belarus	9.73	20.11	75.88	3.90	24.69	28.61	32.33	64.09
Belgium	10.54	258.10	313.97	15.48	53.87	60.99	91.60	117.24
Benin	8.76	2.84	8.83	1.72	1.08	2.82	0.60	3.01
Bolivia	9.35	10.19	24.10	14.29	-9.40	5.85	4.53	12.75
Bosnia and Herzegovina	3.93	6.83	27.76	3.96	1.42	5.39	9.01	17.16
Botswana	1.86	8.39	19.89	1.08	0.88	1.96	2.64	4.54
Brazil	189.32	765.13	1476.68	206.72	20.35	224.13	389.95	332.42

[a] Gross production + imports – exports – transmission/distribution losses.
[b] CO_2 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$)	TPES/ GDP (PPP) (toe/000 2000$ PPP)	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$)	CO_2/ GDP (PPP) (kg CO_2/ 2000$ PPP)	Region/ Country/ Economy
1.80	0.31	0.20	2659	2.39	4.28	0.74	0.49	World
4.70	0.19	0.18	8381	2.32	10.93	0.44	0.41	OECD
2.76	0.62	0.36	3163	2.47	6.82	1.54	0.89	Middle East
3.58	1.79	0.45	4481	2.35	8.42	4.22	1.06	Former USSR
2.02	0.67	0.23	3199	2.51	5.07	1.67	0.57	Non-OECD Europe
1.44	0.82	0.21	2060	2.98	4.28	2.44	0.63	China
0.63	0.62	0.17	667	2.04	1.28	1.27	0.35	Asia
1.17	0.30	0.15	1777	1.83	2.14	0.54	0.28	Latin America
0.66	0.79	0.28	557	1.39	0.91	1.10	0.39	Africa
0.71	0.45	0.15	961	1.86	1.33	0.84	0.27	Albania
1.10	0.51	0.17	870	2.34	2.58	1.20	0.40	Algeria
0.62	0.60	0.27	153	0.83	0.52	0.50	0.23	Angola
1.77	0.20	0.13	2620	2.15	3.80	0.44	0.28	Argentina
0.86	0.67	0.17	1612	1.60	1.38	1.07	0.27	Armenia
5.90	0.25	0.19	11309	3.22	19.02	0.82	0.62	Australia
4.13	0.16	0.13	8090	2.13	8.80	0.34	0.28	Austria
1.66	1.05	0.28	2514	2.15	3.56	2.26	0.60	Azerbaijan
11.87	0.77	0.59	12627	2.28	27.02	1.75	1.33	Bahrain
0.16	0.38	0.09	146	1.52	0.24	0.58	0.14	Bangladesh
2.94	1.42	0.38	3322	2.24	6.58	3.19	0.84	Belarus
5.79	0.24	0.19	8688	1.92	11.12	0.45	0.37	Belgium
0.32	0.99	0.32	69	1.07	0.34	1.06	0.34	Benin
0.63	0.57	0.24	485	2.18	1.36	1.25	0.53	Bolivia
1.37	0.79	0.19	2295	3.18	4.37	2.51	0.62	Bosnia and Herzegovina
1.05	0.23	0.10	1419	2.32	2.44	0.54	0.23	Botswana
1.18	0.29	0.15	2060	1.48	1.76	0.43	0.23	Brazil

(c) TPES for world includes international marine bunkers as well as electricity and heat trade.
(d) CO_2 emissions for world include emissions from international aviation and international marine bunkers.

Region/ Country/ Economy	Population (million)	GDP (billion 2000$)	GDP (PPP) (billion 2000$)	Energy prod. (Mtoe)	Net imports (Mtoe)	TPES (Mtoe)	Elec. cons.[a] (TWh)	CO_2 emissions[b] (Mt of CO_2)
Brunei Darrussalam	0.38	5.03	6.01	21.79	-19.06	2.81	3.12	5.77
Bulgaria	7.69	17.37	67.40	11.08	9.58	20.70	33.19	47.54
Cambodia	14.20	6.28	37.73	3.56	1.42	4.99	1.25	4.06
Cameroon	18.18	12.53	34.69	10.31	-3.20	7.08	3.37	3.12
Canada	32.62	844.60	1017.03	411.74	-141.83	269.74	546.97	538.82
Chile	16.43	96.17	179.96	9.97	22.07	29.78	52.70	59.84
People's Rep. of China	1311.80	2092.15	8684.98	1749.29	135.88	1878.74	2675.65	5606.54
Chinese Taipei	22.78	393.58	602.02	12.18	98.84	107.88	227.45	270.33
Colombia	45.56	105.55	313.70	84.59	-55.29	30.21	42.05	59.39
Congo	3.69	4.23	4.76	15.42	-14.22	1.21	0.57	1.18
Dem. Rep. of Congo	60.64	5.51	38.50	17.82	-0.31	17.51	5.80	2.33
Costa Rica	4.40	21.03	42.33	2.35	2.25	4.57	7.92	5.92
Cote d'Ivoire	18.91	10.65	27.16	9.34	-2.20	7.29	3.43	6.13
Croatia	4.44	24.24	53.98	4.15	4.86	8.96	16.14	20.70
Cuba	11.27	39.90	92.07	5.01	5.75	10.64	13.87	26.61
Cyprus	0.77	11.08	16.12	0.05	2.98	2.62	4.43	7.04
Czech Republic	10.27	72.50	196.69	33.42	12.76	46.05	66.85	120.97
Denmark	5.44	177.20	170.07	29.57	-8.11	20.93	37.32	55.18
Dominican Republic	9.62	25.90	73.24	1.54	6.29	7.84	12.58	18.65
Ecuador	13.20	21.42	53.41	29.82	-18.27	11.24	10.02	25.02
Egypt	74.17	127.85	303.93	77.83	-14.37	62.50	102.48	152.74
El Salvador	6.76	15.19	33.39	2.63	2.14	4.71	4.88	5.82
Eritrea	4.69	0.75	4.30	0.51	0.16	0.70	0.23	0.53
Estonia	1.34	9.31	21.30	3.56	1.65	4.89	7.90	15.14
Ethiopia	77.15	11.30	74.91	20.36	1.74	22.32	2.94	5.27
Finland	5.27	145.00	158.04	18.05	20.54	37.44	90.46	66.84
France	63.20	1468.30	1694.97	137.02	140.22	272.67	479.33	377.49
Gabon	1.31	5.59	8.20	12.14	-10.33	1.82	1.42	2.09
Georgia	4.43	4.75	14.66	1.20	2.15	3.34	6.87	4.61
Germany	82.37	2011.20	2254.73	136.76	215.56	348.56	590.98	823.46
Ghana	23.01	6.75	51.81	6.50	2.99	9.50	6.99	8.64

[a] Gross production + imports – exports – transmission/distribution losses.
[b] CO_2 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$)	TPES/ GDP (PPP) (toe/000 2000$ PPP)	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$)	CO_2/ GDP (PPP) (kg CO_2/ 2000$ PPP)	Region/ Country/ Economy
7.34	0.56	0.47	8173	2.06	15.10	1.15	0.96	Brunei Darussalam
2.69	1.19	0.31	4315	2.30	6.18	2.74	0.71	Bulgaria
0.35	0.79	0.13	88	0.81	0.29	0.65	0.11	Cambodia
0.39	0.57	0.20	186	0.44	0.17	0.25	0.09	Cameroon
8.27	0.32	0.27	16766	2.00	16.52	0.64	0.53	Canada
1.81	0.31	0.17	3207	2.01	3.64	0.62	0.33	Chile
1.43	0.90	0.22	2040	2.98	4.27	2.68	0.65	People's Rep. of China
4.74	0.27	0.18	9984	2.51	11.87	0.69	0.45	Chinese Taipei
0.66	0.29	0.10	923	1.97	1.30	0.56	0.19	Colombia
0.33	0.28	0.25	155	0.98	0.32	0.28	0.25	Congo
0.29	3.18	0.45	96	0.13	0.04	0.42	0.06	Dem. Rep. of Congo
1.04	0.22	0.11	1801	1.30	1.35	0.28	0.14	Costa Rica
0.39	0.68	0.27	182	0.84	0.32	0.58	0.23	Cote d'Ivoire
2.02	0.37	0.17	3635	2.31	4.66	0.85	0.38	Croatia
0.94	0.27	0.12	1231	2.50	2.36	0.67	0.29	Cuba
3.39	0.24	0.16	5746	2.69	9.13	0.64	0.44	Cyprus
4.49	0.64	0.23	6511	2.63	11.78	1.67	0.62	Czech Republic
3.85	0.12	0.12	6864	2.64	10.15	0.31	0.32	Denmark
0.82	0.30	0.11	1309	2.38	1.94	0.72	0.25	Dominican Republic
0.85	0.52	0.21	759	2.23	1.89	1.17	0.47	Ecuador
0.84	0.49	0.21	1382	2.44	2.06	1.19	0.50	Egypt
0.70	0.31	0.14	721	1.23	0.86	0.38	0.17	El Salvador
0.15	0.94	0.16	49	0.76	0.11	0.71	0.12	Eritrea
3.64	0.52	0.23	5890	3.10	11.28	1.63	0.71	Estonia
0.29	1.98	0.30	38	0.24	0.07	0.47	0.07	Ethiopia
7.11	0.26	0.24	17178	1.79	12.69	0.46	0.42	Finland
4.31	0.19	0.16	7585	1.38	5.97	0.26	0.22	France
1.39	0.33	0.22	1083	1.15	1.60	0.37	0.26	Gabon
0.75	0.70	0.23	1549	1.38	1.04	0.97	0.31	Georgia
4.23	0.17	0.15	7175	2.36	10.00	0.41	0.37	Germany
0.41	1.41	0.18	304	0.91	0.38	1.28	0.17	Ghana

Region/ Country/ Economy	Population (million)	GDP (billion 2000$)	GDP (PPP) (billion 2000$)	Energy prod. (Mtoe)	Net imports (Mtoe)	TPES (Mtoe)	Elec. cons.[a] (TWh)	CO_2 emissions[b] (Mt of CO_2)
Gibraltar	0.03	0.85	0.89	0.00	1.32	0.15	0.15	0.45
Greece	11.15	164.00	259.04	10.03	24.49	31.12	59.89	93.96
Guatemala	13.03	22.85	53.55	5.44	2.67	8.18	6.89	11.01
Haiti	9.45	3.83	12.79	1.97	0.60	2.57	0.35	1.72
Honduras	6.97	7.53	23.32	2.02	2.50	4.33	4.47	7.11
Hong Kong (China)	6.86	222.80	230.67	0.05	25.30	18.19	40.34	41.92
Hungary	10.07	61.50	160.68	10.33	17.33	27.59	39.10	56.37
Iceland	0.30	10.90	10.20	3.26	1.08	4.33	9.52	2.18
India	1109.81	703.33	3671.20	435.64	134.83	565.82	557.97	1249.74
Indonesia	223.04	219.27	796.27	307.70	-127.81	179.07	118.15	334.64
Islamic Rep. of Iran	70.10	140.31	512.09	309.33	-137.99	170.89	160.55	432.83
Iraq	26.78	19.87	27.16	101.12	-70.89	32.02	31.11	86.55
Ireland	4.25	133.20	150.10	1.60	14.15	15.46	27.64	44.93
Israel	7.05	133.65	167.51	2.66	19.02	21.28	48.59	62.64
Italy	58.86	1157.00	1534.96	27.43	163.19	184.17	339.18	448.03
Jamaica	2.67	8.97	10.41	0.50	4.12	4.59	6.53	11.54
Japan	127.76	5087.10	3538.13	101.07	431.11	527.56	1050.13	1212.70
Jordan	5.54	12.15	28.91	0.29	6.91	7.16	10.54	18.30
Kazakhstan	15.31	33.13	117.14	130.97	-69.29	61.42	65.71	181.96
Kenya	36.55	16.02	39.97	14.26	3.53	17.95	5.31	11.00
Korea	48.30	671.30	1013.90	43.73	185.92	216.50	389.43	476.10
DPR of Korea	23.71	11.51	40.48	22.25	-0.59	21.66	18.89	75.43
Kuwait	2.60	54.78	62.34	150.60	-124.68	25.29	42.40	66.69
Kyrgyzstan	5.19	1.69	9.10	1.49	1.33	2.81	10.46	5.23
Latvia	2.29	13.00	31.38	1.85	3.16	4.61	6.58	8.03
Lebanon	4.06	20.50	19.77	0.19	4.58	4.76	8.68	13.33
Libya	6.04	46.46	63.15	101.97	-84.11	17.77	22.27	42.44
Lithuania	3.40	17.82	47.63	3.48	5.37	8.54	10.97	13.67
Luxembourg	0.47	25.80	29.78	0.08	4.66	4.71	7.76	11.18
FYR of Macedonia	2.04	3.95	13.41	1.45	1.32	2.76	7.12	8.02

(a) Gross production + imports – exports – transmission/distribution losses.
(b) CO_2 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$)	TPES/ GDP (PPP) (toe/000 2000$ PPP)	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$)	CO_2/ GDP (PPP) (kg CO_2/ 2000$ PPP)	Region/ Country/ Economy
5.39	0.18	0.17	5393	2.97	16.02	0.53	0.50	Gibraltar
2.79	0.19	0.12	5372	3.02	8.43	0.57	0.36	Greece
0.63	0.36	0.15	529	1.35	0.84	0.48	0.21	Guatemala
0.27	0.67	0.20	37	0.67	0.18	0.45	0.13	Haiti
0.62	0.58	0.19	642	1.64	1.02	0.94	0.30	Honduras
2.65	0.08	0.08	5883	2.30	6.11	0.19	0.18	Hong Kong (China)
2.74	0.45	0.17	3883	2.04	5.60	0.92	0.35	Hungary
14.23	0.40	0.42	31306	0.50	7.18	0.20	0.21	Iceland
0.51	0.80	0.15	503	2.21	1.13	1.78	0.34	India
0.80	0.82	0.22	530	1.87	1.50	1.53	0.42	Indonesia
2.44	1.22	0.33	2290	2.53	6.17	3.08	0.85	Islamic Rep. of Iran
1.20	1.61	1.18	1161	2.70	3.23	4.36	3.19	Iraq
3.63	0.12	0.10	6500	2.91	10.56	0.34	0.30	Ireland
3.02	0.16	0.13	6893	2.94	8.89	0.47	0.37	Israel
3.13	0.16	0.12	5762	2.43	7.61	0.39	0.29	Italy
1.72	0.51	0.44	2450	2.51	4.33	1.29	1.11	Jamaica
4.13	0.10	0.15	8220	2.30	9.49	0.24	0.34	Japan
1.29	0.59	0.25	1904	2.55	3.30	1.51	0.63	Jordan
4.01	1.85	0.52	4293	2.96	11.89	5.49	1.55	Kazakhstan
0.49	1.12	0.45	145	0.61	0.30	0.69	0.28	Kenya
4.48	0.32	0.21	8063	2.20	9.86	0.71	0.47	Korea
0.91	1.88	0.54	797	3.48	3.18	6.55	1.86	DPR of Korea
9.73	0.46	0.41	16314	2.64	25.66	1.22	1.07	Kuwait
0.54	1.66	0.31	2015	1.86	1.01	3.09	0.57	Kyrgyzstan
2.02	0.36	0.15	2876	1.74	3.51	0.62	0.26	Latvia
1.17	0.23	0.24	2142	2.80	3.29	0.65	0.67	Lebanon
2.94	0.38	0.28	3688	2.39	7.03	0.91	0.67	Libya
2.52	0.48	0.18	3232	1.60	4.03	0.77	0.29	Lithuania
9.96	0.18	0.16	16402	2.37	23.64	0.43	0.38	Luxembourg
1.36	0.70	0.21	3496	2.91	3.94	2.03	0.60	FYR of Macedonia

Region/ Country/ Economy	Population (million)	GDP (billion 2000$)	GDP (PPP) (billion 2000$)	Energy prod. (Mtoe)	Net imports (Mtoe)	TPES (Mtoe)	Elec. cons.[a] (TWh)	CO_2 emissions[b] (Mt of CO_2)
Malaysia	26.11	119.11	260.01	97.94	–29.13	68.33	88.46	153.95
Malta	0.41	3.98	7.06	0.00	0.90	0.88	2.02	2.50
Mexico	104.75	665.50	1030.48	255.97	–76.75	177.43	208.77	416.26
Republic of Moldova	3.83	1.89	8.27	0.09	3.29	3.39	5.81	7.42
Mongolia	2.59	1.36	5.26	2.98	–0.21	2.79	3.35	10.15
Morocco	30.50	43.88	132.55	0.67	13.33	13.98	20.89	39.80
Mozambique	20.97	6.18	23.41	10.70	–1.87	8.80	9.68	1.62
Myanmar	48.38	17.38	105.11	22.13	–7.79	14.29	4.49	9.83
Namibia	2.05	4.46	14.43	0.32	1.16	1.48	3.16	2.98
Nepal	27.64	6.47	38.14	8.35	1.06	9.41	2.20	3.10
Netherlands	16.34	421.30	511.67	60.77	36.82	80.12	115.32	178.31
Netherlands Antilles	0.19	1.29	2.89	0.00	3.40	1.73	1.07	3.93
New Zealand	4.14	63.60	96.72	13.05	4.73	17.54	40.37	36.80
Nicaragua	5.53	4.75	18.58	2.10	1.37	3.45	2.36	3.98
Nigeria	144.72	63.53	145.92	235.34	–129.69	105.07	16.85	51.42
Norway	4.66	191.80	184.73	222.94	–195.79	26.09	113.24	36.85
Oman	2.55	26.22	40.63	60.56	–44.44	15.42	11.35	29.45
Pakistan	159.00	99.03	350.81	61.34	18.08	79.29	76.34	125.73
Panama	3.29	15.47	23.76	0.79	1.99	2.78	4.95	6.02
Paraguay	6.02	8.34	26.28	6.71	–2.75	3.97	5.42	3.56
Peru	27.59	70.60	162.41	11.47	3.45	13.55	24.81	27.93
Philippines	86.26	99.43	400.16	24.70	18.53	42.97	49.85	66.50
Poland	38.13	211.60	498.83	77.88	19.63	97.72	136.74	305.96
Portugal	10.58	118.90	184.16	4.33	21.66	25.43	50.80	56.33
Qatar	0.82	28.36	25.40	94.95	–76.87	18.12	14.11	39.67
Romania	21.59	52.63	187.88	27.99	11.34	40.15	51.85	94.68
Russia	142.50	373.20	1473.50	1219.98	–531.12	676.20	872.39	1587.18
Saudi Arabia	23.68	239.64	357.15	570.71	–422.16	146.11	167.64	340.03
Senegal	12.07	5.65	19.07	1.23	1.99	3.02	1.82	4.46
Serbia	7.44	12.23	45.01	10.56	6.48	17.07	29.95	53.43
Singapore	4.48	121.63	124.35	0.00	53.21	30.67	37.50	43.13

(a) Gross production + imports – exports – transmission/distribution losses.
(b) CO_2 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$)	TPES/ GDP (PPP) (toe/000 2000$ PPP)	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$)	CO_2/ GDP (PPP) (kg CO_2/ 2000$ PPP)	Region/ Country/ Economy
2.62	0.57	0.26	3388	2.25	5.90	1.29	0.59	Malaysia
2.16	0.22	0.12	4975	2.86	6.15	0.63	0.35	Malta
1.69	0.27	0.17	1993	2.35	3.97	0.63	0.40	Mexico
0.88	1.80	0.41	1516	2.19	1.94	3.94	0.90	Republic of Moldova
1.08	2.06	0.53	1297	3.64	3.93	7.49	1.93	Mongolia
0.46	0.32	0.11	685	2.85	1.31	0.91	0.30	Morocco
0.42	1.42	0.38	461	0.18	0.08	0.26	0.07	Mozambique
0.30	0.82	0.14	93	0.69	0.20	0.57	0.09	Myanmar
0.72	0.33	0.10	1545	2.02	1.46	0.67	0.21	Namibia
0.34	1.45	0.25	80	0.33	0.11	0.48	0.08	Nepal
4.90	0.19	0.16	7057	2.23	10.91	0.42	0.35	Netherlands
9.15	1.35	0.60	5651	2.27	20.81	3.06	1.36	Netherlands Antilles
4.23	0.28	0.18	9746	2.10	8.88	0.58	0.38	New Zealand
0.62	0.73	0.19	426	1.15	0.72	0.84	0.21	Nicaragua
0.73	1.65	0.72	116	0.49	0.36	0.81	0.35	Nigeria
5.60	0.14	0.14	24295	1.41	7.91	0.19	0.20	Norway
6.06	0.59	0.38	4457	1.91	11.57	1.12	0.72	Oman
0.50	0.80	0.23	480	1.59	0.79	1.27	0.36	Pakistan
0.85	0.18	0.12	1506	2.17	1.83	0.39	0.25	Panama
0.66	0.48	0.15	900	0.90	0.59	0.43	0.14	Paraguay
0.49	0.19	0.08	899	2.06	1.01	0.40	0.17	Peru
0.50	0.43	0.11	578	1.55	0.77	0.67	0.17	Philippines
2.56	0.46	0.20	3586	3.13	8.02	1.45	0.61	Poland
2.40	0.21	0.14	4799	2.22	5.32	0.47	0.31	Portugal
22.07	0.64	0.71	17188	2.19	48.32	1.40	1.56	Qatar
1.86	0.76	0.21	2401	2.36	4.39	1.80	0.50	Romania
4.75	1.81	0.46	6122	2.35	11.14	4.25	1.08	Russia
6.17	0.61	0.41	7079	2.33	14.36	1.42	0.95	Saudi Arabia
0.25	0.53	0.16	150	1.48	0.37	0.79	0.23	Senegal
2.29	1.40	0.38	4026	3.13	7.18	4.37	1.19	Serbia
6.84	0.25	0.25	8363	1.41	9.62	0.35	0.35	Singapore

Region/ Country/ Economy	Population (million)	GDP (billion 2000$)	GDP (PPP) (billion 2000$)	Energy prod. (Mtoe)	Net imports (Mtoe)	TPES (Mtoe)	Elec. cons.[a] (TWh)	CO_2 emissions[b] (Mt of CO_2)
Slovak Republic	5.39	27.70	80.43	6.62	11.94	18.68	27.69	37.45
Slovenia	2.01	24.07	41.73	3.35	3.85	7.26	14.30	15.50
South Africa	47.39	168.81	489.92	158.68	–26.24	129.81	227.95	341.96
Spain	44.07	708.20	1045.82	31.36	124.33	144.56	273.81	327.65
Sri Lanka	19.89	21.27	86.82	5.50	4.14	9.39	7.96	11.39
Sudan	37.71	18.93	75.86	30.70	–12.07	17.71	3.57	11.43
Sweden	9.08	290.00	290.49	32.79	19.82	51.31	138.31	48.27
Switzerland	7.56	274.70	250.30	12.15	16.13	28.21	62.57	44.05
Syria	19.41	24.78	68.18	26.52	–7.59	18.92	28.46	51.50
Tajikistan	6.64	1.64	8.36	1.50	2.14	3.64	14.88	6.15
United Rep. of Tanzania	39.46	13.20	25.64	19.43	1.40	20.80	2.32	4.79
Thailand	63.44	164.95	522.01	56.23	46.88	103.39	131.97	217.01
Togo	6.41	1.50	8.23	2.04	0.32	2.40	0.63	0.90
Trinidad and Tobago	1.33	13.44	19.25	34.62	–20.49	14.30	6.65	26.94
Tunisia	10.13	25.45	78.61	6.63	2.17	8.74	12.36	19.70
Turkey	72.97	261.20	576.82	26.33	69.01	94.00	149.83	239.74
Turkmenistan	4.90	6.34	34.21	61.61	–44.34	17.27	10.40	43.58
Ukraine	46.79	48.44	307.61	82.77	56.20	137.43	159.06	310.29
United Arab Emirates	4.25	114.25	112.88	177.28	–117.66	46.89	61.89	110.29
United Kingdom	60.53	1684.70	1748.59	186.62	49.15	231.13	374.85	536.48
United States	299.83	11265.20	11265.20	1654.23	730.44	2320.70	4052.24	5696.77
Uruguay	3.31	23.16	32.79	0.78	2.68	3.19	6.77	6.14
Uzbekistan	26.54	19.21	51.55	58.17	–9.69	48.45	44.87	112.86
Venezuela	27.02	146.64	175.24	195.55	–136.82	62.22	85.79	149.20
Vietnam	84.11	48.42	246.00	71.94	–18.84	52.29	50.29	82.62
Yemen	21.73	11.88	18.56	18.72	–9.93	7.09	4.12	19.80
Zambia	11.70	4.34	11.26	6.66	0.70	7.31	8.53	2.26
Zimbabwe	13.23	5.35	22.75	8.76	0.82	9.58	11.90	9.88

[a] Gross production + imports – exports – transmission/distribution losses.
[b] CO_2 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$)	TPES/ GDP (PPP) (toe/000 2000$ PPP)	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$)	CO_2/ GDP (PPP) (kg CO_2/ 2000$ PPP)	Region/ Country/ Economy
3.46	0.67	0.23	5136	2.01	6.95	1.35	0.47	Slovak Republic
3.62	0.30	0.17	7123	2.13	7.72	0.64	0.37	Slovenia
2.74	0.77	0.26	4810	2.63	7.22	2.03	0.70	South Africa
3.28	0.20	0.14	6213	2.27	7.44	0.46	0.31	Spain
0.47	0.44	0.11	400	1.21	0.57	0.54	0.13	Sri Lanka
0.47	0.94	0.23	95	0.65	0.30	0.60	0.15	Sudan
5.65	0.18	0.18	15230	0.94	5.32	0.17	0.17	Sweden
3.73	0.10	0.11	8279	1.56	5.83	0.16	0.18	Switzerland
0.97	0.76	0.28	1466	2.72	2.65	2.08	0.76	Syria
0.55	2.22	0.43	2241	1.69	0.93	3.75	0.74	Tajikistan
0.53	1.58	0.81	59	0.23	0.12	0.36	0.19	United Rep. of Tanzania
1.63	0.63	0.20	2080	2.10	3.42	1.32	0.42	Thailand
0.38	1.60	0.29	98	0.37	0.14	0.60	0.11	Togo
10.77	1.06	0.74	5008	1.88	20.28	2.00	1.40	Trinidad and Tobago
0.86	0.34	0.11	1221	2.25	1.94	0.77	0.25	Tunisia
1.29	0.36	0.16	2053	2.55	3.29	0.92	0.42	Turkey
3.52	2.72	0.50	2123	2.52	8.90	6.87	1.27	Turkmenistan
2.94	2.84	0.45	3400	2.26	6.63	6.41	1.01	Ukraine
11.04	0.41	0.42	14569	2.35	25.96	0.97	0.98	United Arab Emirates
3.82	0.14	0.13	6192	2.32	8.86	0.32	0.31	United Kingdom
7.74	0.21	0.21	13515	2.45	19.00	0.51	0.51	United States
0.96	0.14	0.10	2042	1.92	1.85	0.27	0.19	Uruguay
1.83	2.52	0.94	1691	2.33	4.25	5.87	2.19	Uzbekistan
2.30	0.42	0.36	3175	2.40	5.52	1.02	0.85	Venezuela
0.62	1.08	0.21	598	1.58	0.98	1.71	0.34	Vietnam
0.33	0.60	0.38	190	2.79	0.91	1.67	1.07	Yemen
0.62	1.69	0.65	730	0.31	0.19	0.52	0.20	Zambia
0.72	1.79	0.42	900	1.03	0.75	1.85	0.43	Zimbabwe

Sources: Energy data: IEA
Population: OECD/World Bank
GDP and GDP(PPP) (in 2000 US$): OECD/World Bank/CEPII (Paris)

General conversion factors for energy

To: / From:	TJ	Gcal	Mtoe	MBtu	GWh
	multiply by:				
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: / From:	kg	t	lt	st	lb
	multiply by:				
kilogram (kg)	1	0.001	9.84×10^{-4}	1.102×10^{-3}	2.2046
tonne (t)	1000	1	0.984	1.1023	2204.6
long ton (lt)	1016	1.016	1	1.120	2240.0
short ton (st)	907.2	0.9072	0.893	1	2000.0
pound (lb)	0.454	4.54×10^{-4}	4.46×10^{-4}	5.0×10^{-4}	1

Conversion factors for volume

To: / From:	gal U.S.	gal U.K.	bbl	ft^3	l	m^3
	multiply by:					
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	0.531
United States	0.635
India	0.441
Australia	0.614
South Africa	0.564
Russia	0.545
Indonesia	0.616
Poland	0.554
Kazakhstan	0.444
Colombia	0.650

**steam coal for the top-ten producers in 2007.*

Crude oil*

	toe/tonne
Russia	1.005
Saudi Arabia	1.016
United States	1.029
Islamic Rep. of Iran	1.019
People's Rep. of China	1.000
Mexico	1.041
Canada	1.022
Venezuela	1.069
Kuwait	1.016
United Arab Emirates	1.018

**for the top-ten producers in 2007.*

Default net calorific values

Petroleum 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
Residual 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 petroleum products	0.955	0.955	0.955	0.955

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

Selected country-specific gross calorific values

Natural gas*

	kJ/m^3
Russia	37578
United States	38304
Canada	38260
Islamic Rep. of Iran	39356
Norway	39869
Algeria	42000
Netherlands	33339
United Kingdom	39933
Indonesia	40600
People's Rep. of China	38931

**for the top-ten producers in 2007.*
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

Coal/peat 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

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

Petroleum products

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

Gas

Gas 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

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

Hydro

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

Combustible renewables & waste

Combustible renewables & waste 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 sulfite lyes. Municipal waste comprises wastes produced by the residential, commercial and public service sectors that are collected by local authorities for disposal in a central location for the production of heat and/or power).

Other

Other 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 per cent. 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.

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.

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 primary energy supply (TPES)

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

Transfers

Transfers includes both interproduct transfers, products transferred and recycled products.

Statistical differences

Statistical differences 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

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 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

Combined heat and power plants refers to plants which are designed to produce both heat and electricity, sometimes referred to 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

Heat plants 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.

Gas works

Gas works 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 petroleum products columns, and conversion losses appearing in the total column.

Petroleum refineries

Petroleum refineries shows the use of primary energy for the manufacture of finished petroleum 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 the petroleum products.

Coal transformation

Coal transformation contains losses in transformation of coal from primary to secondary fuels and from secondary to tertiary fuels (hard coal to coke, coke to blast furnace gas, lignite to BKB, etc.).

Liquefaction

Liquefaction includes diverse liquefaction processes, such as coal liquefaction plants and gas-to-liquid plants.

Other transformation

Other transformation covers non-specified transformation not shown elsewhere. It also includes backflows from the petrochemical sector.

Own use

Own use contains the primary and secondary energy consumed by transformation industries for heating, pumping, traction and lighting purposes [International Standard Industrial Classification (ISIC) Divisions 10-12, 23 and 40]. These quantities are shown as negative figures. Included here are, for example, coal mines' own use of energy, power plants' own consumption (which includes net electricity consumed for pumped storage), and energy used for oil and gas extraction.

Distribution and transmission losses

Distribution and transmission losses includes losses in gas distribution, electricity transmission and coal transport.

Total final consumption (TFC)

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

Industry sector

Industry sector consumption is specified in the following subsectors (energy used for transport by industry is not included here but reported under transport):

- *Iron and steel industry* [ISIC Group 271 and Class 2731];
- *Chemical and petrochemical industry* [ISIC Division 24] excluding petrochemical feedstocks;
- *Non-ferrous metals* basic industries [ISIC Group 272 and Class 2732];
- *Non-metallic mineral products* such as glass, ceramic, cement, etc. [ISIC Division 26];
- *Transport equipment* [ISIC Divisions 34 and 35];
- *Machinery* comprises fabricated metal products, machinery and equipment other than transport equipment [ISIC Divisions 28 to 32];
- *Mining (excluding fuels) and quarrying* [ISIC Divisions 13 and 14];
- *Food and tobacco* [ISIC Divisions 15 and 16];

Industry sector (ctd.)

- *Paper, pulp and printing* [ISIC Divisions 21 and 22];
- *Wood and wood products* (other than pulp and paper) [ISIC Division 20];
- *Construction* [ISIC Division 45];
- *Textile and leather* [ISIC Divisions 17 to 19];
- *Non-specified* (any manufacturing industry not included above) [ISIC Divisions 25, 33, 36 and 37].

Transport sector

Transport sector includes all fuels used for transport [ISIC Divisions 60 to 62]. It includes transport in the industry sector and covers road, railway, aviation, domestic navigation, fuels used for transport of materials by pipeline and non-specified transport. Fuel used for ocean, coastal and inland fishing should be included in fishing (other sectors). Please note that international marine bunkers are also included here for world total.

Other sectors

Other sectors covers residential, commercial and public services [ISIC Divisions 41, 50-52, 55, 63-67, 70-75, 80, 85, 90-93, 95 and 99], agriculture/forestry [ISIC Divisions 01 and 02], fishing [ISIC Division 05] 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

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