INTERNATIONAL ENERGY AGENCY

KEY WORLD ENERGY STATISTICS

2004

KEY WORLD ENERGY STATISTICS

IEA participating countries are

Australia
Austria
Belgium
Canada
Czech Republic
Denmark
Finland
France
Germany
Greece
Hungary
Ireland
Italy
Japan
Korea
Luxembourg
Netherlands
New Zealand
Norway
Portugal
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 massive annual studies of oil, natural gas, coal and electricity 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 over the last seven years. ***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 fingertips the annual American 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 IEA's important 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;*
- *disseminates information on the world energy market and seeks to promote stable international trade in energy.*

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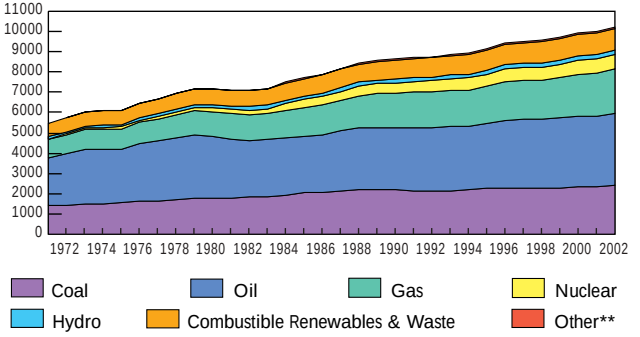
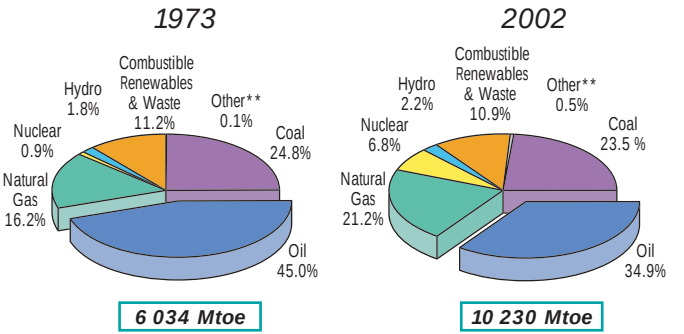
The World

Evolution from 1971 to 2002 of World Total Primary Energy Supply by Fuel (Mtoe)*



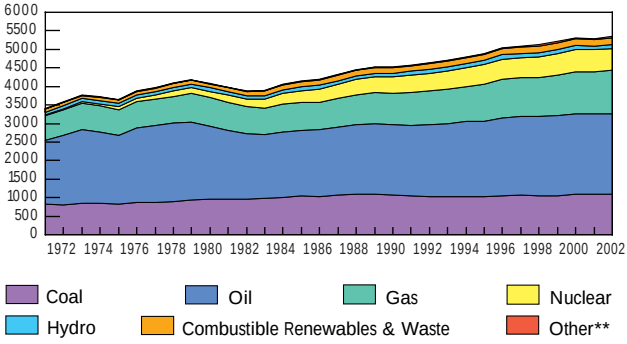
1973 and 2002 Fuel Shares of TPES*



*Excludes international marine bunkers and electricity trade.
**Other includes geothermal, solar, wind, heat, etc.

The OECD

Evolution from 1971 to 2002 of OECD Total Primary Energy Supply by Fuel (Mtoe)*



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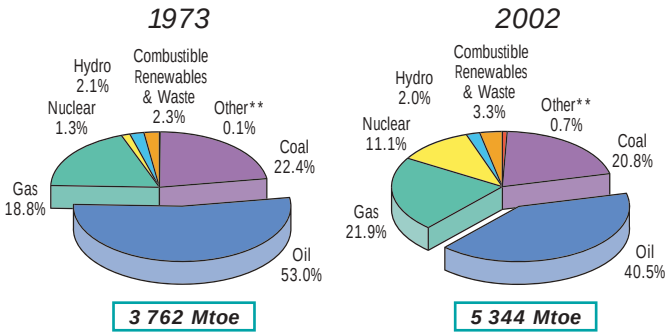

*Excludes electricity trade.
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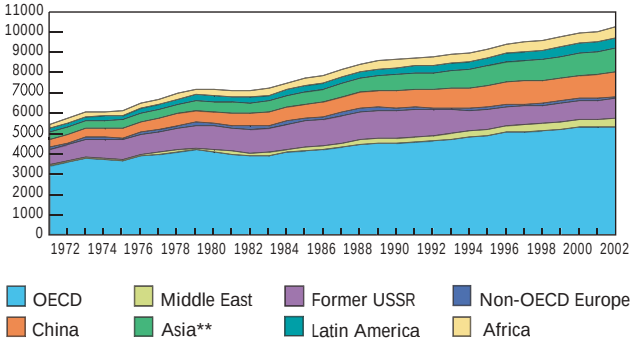
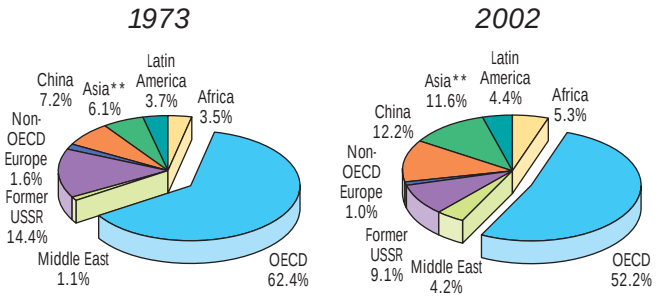
TOTAL PRIMARY ENERGY SUPPLY

The World

Evolution from 1971 to 2002 of World Total Primary Energy Supply by Region (Mtoe)*



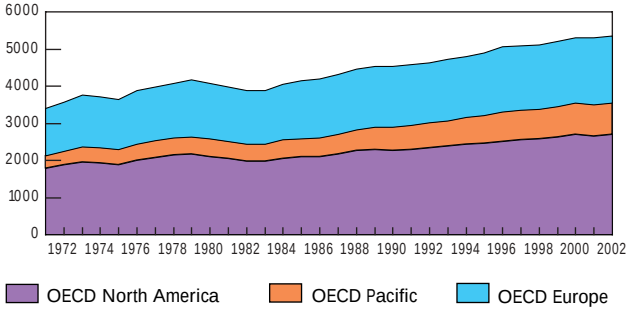
1973 and 2002 Regional Shares of TPES*



*Excludes international marine bunkers and electricity trade.
**Asia excludes China.

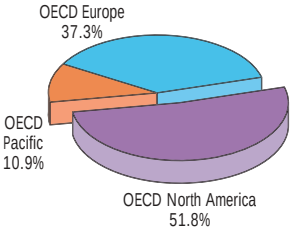
The OECD

Evolution from 1971 to 2002 of OECD Total Primary Energy Supply by Region (Mtoe)*



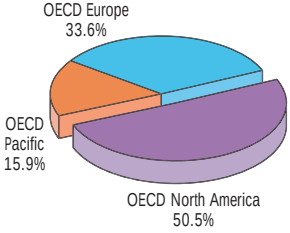
1973 and 2002 Regional Shares of TPES*

1973



3 762 Mtoe

2002

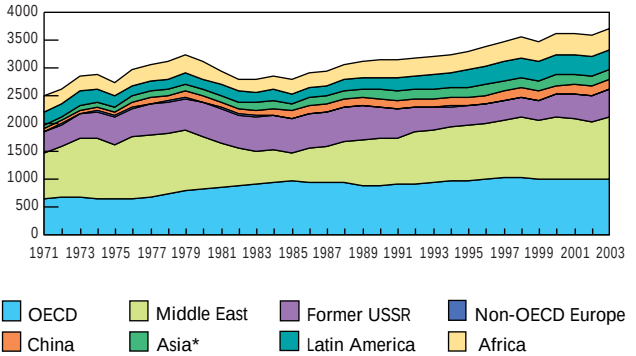


5 344 Mtoe

**Excludes electricity trade.*

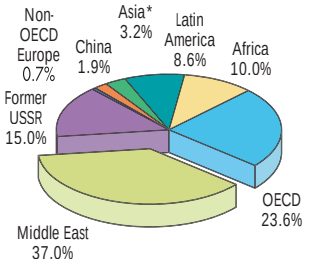
Crude Oil Production

Evolution from 1971 to 2003 of Crude Oil Production by Region (Mt)



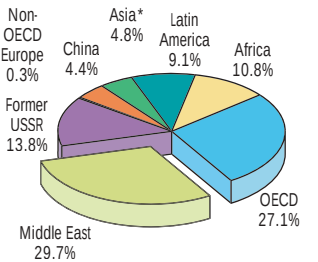
1973 and 2003 Regional Shares of Crude Oil Production

1973



2 867 Mt

2003



3 712 Mt

**Asia excludes China.*

Producers, Exporters and Importers of Crude Oil

Producers	Mt	% of World total
Saudi Arabia	470	12.7
Russia	419	11.3
United States	348	9.4
Islamic Rep. of Iran	194	5.2
Mexico	189	5.1
People's Rep. of China	165	4.4
Norway	151	4.1
Venezuela	149	4.0
Canada	138	3.7
United Arab Emirates	120	3.2
Rest of the World	1 369	36.9
World	**3 712**	**100.0**

2003 data

Exporters*	Mt
Saudi Arabia	289
Russia	188
Norway	140
Venezuela	110
Mexico	95
Islamic Rep. of Iran	95
Nigeria	92
United Kingdom	87
Canada	80
United Arab Emirates	79
Rest of the World	663
World	**1 918**

2002 data

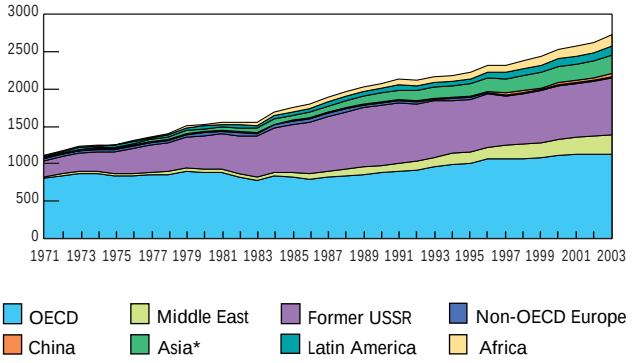
Importers*	Mt
United States	515
Japan	206
Korea	108
Germany	105
Italy	90
India	82
France	80
People's Rep. of China	69
Spain	58
United Kingdom	57
Rest of the World	667
World	**2 037**

2002 data

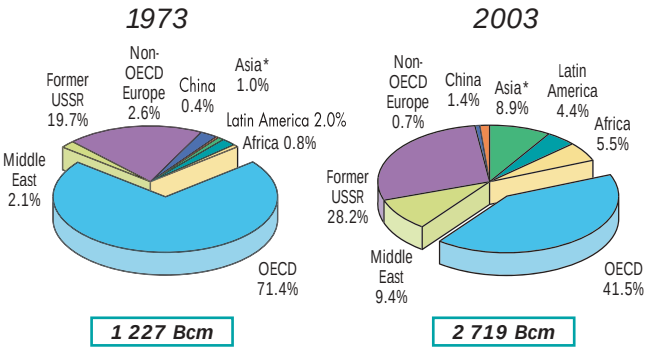
*Total exports and imports.

Natural Gas Production

Evolution from 1971 to 2003 of Natural Gas Production by Region (Billion Cubic Metres)



1973 and 2003 Regional Shares of Natural Gas Production



**Asia excludes China.*

Producers, Exporters and Importers* of Natural Gas

Producers	Mm^3	% of World total
Russia	608 332	22.4
United States	541 779	19.9
Canada	182 205	6.7
United Kingdom	108 438	4.0
Algeria	86 553	3.2
Indonesia	79 639	2.9
Islamic Rep. of Iran	77 923	2.9
Norway	76 832	2.8
Netherlands	73 128	2.7
Saudi Arabia	60 262	2.2
Rest of the World	823 719	30.3
World	**2 718 810**	**100.0**

2003 data

Exporters	Mm^3
Russia	186 102
Canada	102 156
Norway	70 978
Algeria	63 615
Netherlands	48 262
Turkmenistan	42 783
Indonesia	41 422
Austria	26 607
Malaysia	24 590
United States	19 592
Rest of the World	157 402
World**	**783 509**

2003 data

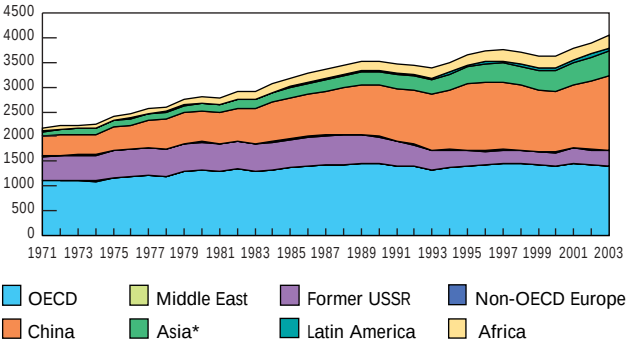
Importers	Mm^3
United States	111 221
Germany	84 478
Japan	81 200
Ukraine	66 461
Italy	62 094
France	43 138
Austria	33 628
Netherlands	25 569
Korea	25 378
Spain	23 177
Rest of the World	225 259
World**	**781 603**

2003 data

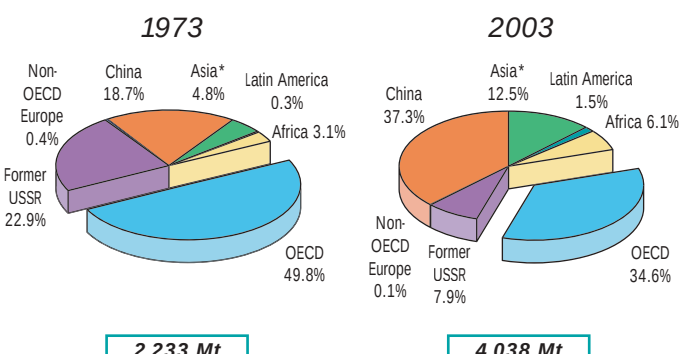
*Exports and imports include pipeline gas and LNG.
**World trade includes intra trade of Former USSR.

Hard Coal Production

Evolution from 1971 to 2003 of Hard Coal Production by Region (Mt)



1973 and 2003 Regional Shares of Hard Coal Production



2 233 Mt **4 038 Mt**

**Asia excludes China.*

Producers, Exporters and Importers of Coal

Producers	Hard Coal (Mt)	Brown Coal (Mt)
People's Rep. of China	1 502	*
United States	892	78
India	340	25
Australia	274	65
South Africa	239	0
Russia	188	78
Indonesia	120	0
Poland	100	61
Kazakhstan	75	4
Ukraine	57	1
Rest of the World	251	574
World	**4 038**	**886**

2003 data

Exporters	Hard Coal (Mt)
Australia	208
People's Rep. of China	93
Indonesia	90
South Africa	71
Russia	60
Colombia	46
United States	39
Canada	26
Kazakhstan	25
Poland	20
Rest of the World	40
World	**718**

2003 data

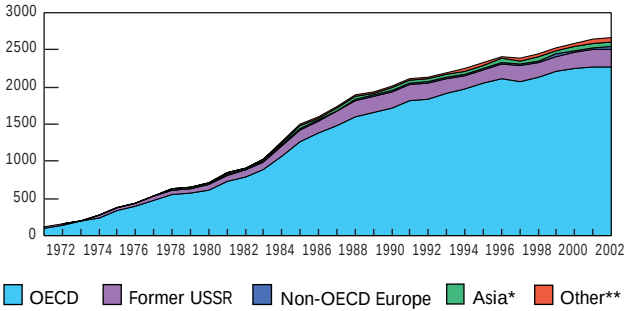
Importers	Hard Coal (Mt)
Japan	162
Korea	72
Chinese Taipei	54
Germany	35
United Kingdom	32
Russia	24
India	24
United States	23
Netherlands	22
Spain	22
Rest of the World	239
World	**709**

2003 data

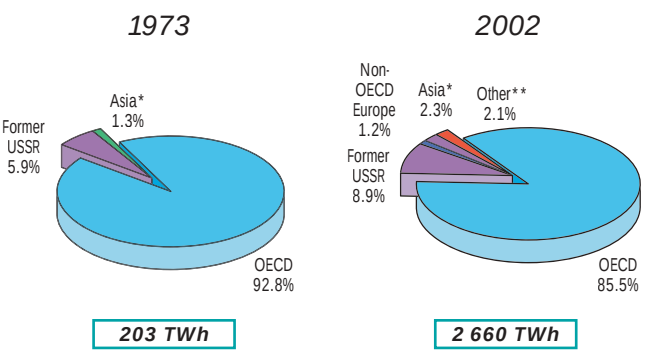
*Included in hard coal.

Nuclear Production

Evolution from 1971 to 2002 of Nuclear Production by Region (TWh)



1973 and 2002 Regional Shares of Nuclear Production



**Asia excludes China.*
*** Other includes Africa, Latin America & China.*

Producers of Nuclear Electricity

Producers	TWh	% of World total
United States	805	30.3
France	437	16.4
Japan	295	11.1
Germany	165	6.2
Russia	142	5.3
Korea	119	4.5
United Kingdom	88	3.3
Ukraine	78	2.9
Canada	76	2.9
Sweden	68	2.6
Rest of the World	387	14.5
World	**2 660**	**100.0**

2002 data

Installed Capacity	GW
United States	98
France	63
Japan	44
Germany	21
Russia	21
Korea	15
United Kingdom	12
Ukraine	11
Canada	10
Sweden	9
Rest of the World	55
World	**359**

2002 data
Source: Commissariat à l'Énergie Atomique (France).

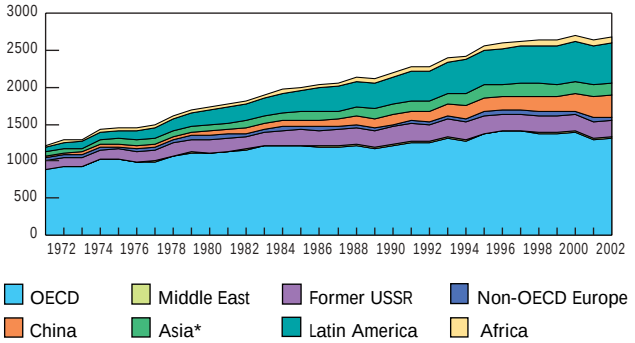
Country (based on first 10 producers)	% of nuclear in total domestic electricity generation
France	78
Sweden	46
Ukraine	45
Korea	36
Germany	29
Japan	27
United Kingdom	23
United States	20
Russia	16
Canada	13
Rest of the World*	9
World	**16**

*Countries with nuclear production only.

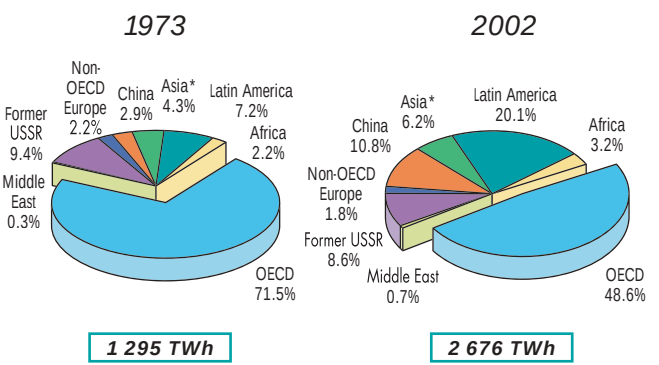
2002 data

Hydro Production

Evolution from 1971 to 2002 of Hydro Production by Region (TWh)



1973 and 2002 Regional Shares of Hydro Production



**Asia excludes China.*

Producers of Hydro Electricity

Producers	TWh	% of World total
Canada	350	13.1
People's Rep. of China	288	10.8
Brazil	285	10.7
United States	258	9.6
Russia	164	6.1
Norway	130	4.9
Japan	92	3.4
Sweden	67	2.5
France	66	2.5
India	64	2.4
Rest of the World	912	34.0
World	**2 676**	**100.0**

2002 data

Installed Capacity (based on production)	GW
United States	98
Canada	67
Brazil	63
People's Rep. of China	57
Japan	45
Russia	44
Norway	30
India	26
France	25
Italy	22
Rest of the World	289
World	**766**

2001 data

Sources: United Nations, IEA.

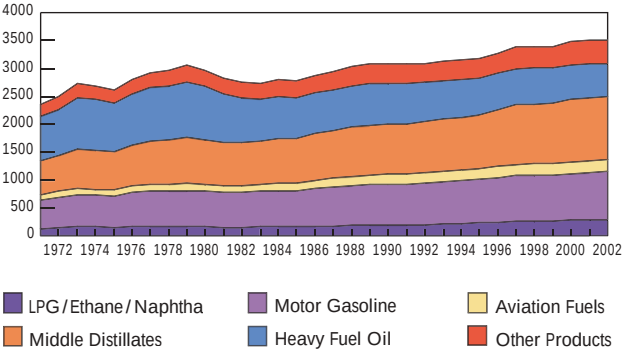
Country (based on first 10 producers)	% of hydro in total domestic electricity generation
Norway	99.3
Brazil	82.7
Canada	58.3
Sweden	45.6
Russia	18.4
People's Rep. of China	17.6
France	11.8
India	10.7
Japan	8.4
United States	6.4
Rest of the World*	15.9
World	**16.6**

2002 data

* Countries with hydro production only.

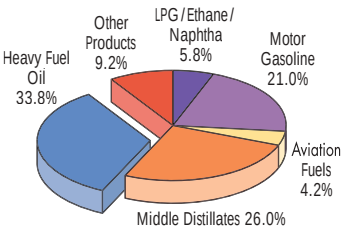
Refining by Product

Evolution from 1971 to 2002 of World Refinery Production by Product (Mt)



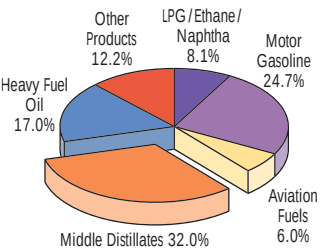
1973 and 2002 Shares of Refinery Production by Product

1973



2 719 Mt

2002



3 517 Mt

Producers, Exporters and Importers of Petroleum Products

Producers	Mt	% of World total
United States	816	23.2
People's Rep. of China	207	5.9
Japan	203	5.8
Russia	184	5.2
Germany	114	3.2
India	112	3.2
Korea	111	3.2
Canada	99	2.8
Italy	96	2.7
Brazil	85	2.4
Rest of the World	1 490	42.4
World	**3 517**	**100.0**

2002 data

Exporters	Mt
Russia	67
Netherlands	65
United States	50
Singapore	44
Saudi Arabia	39
Venezuela	33
Kuwait	31
Korea	31
United Kingdom	23
Italy	21
Rest of the World	392
World	**796**

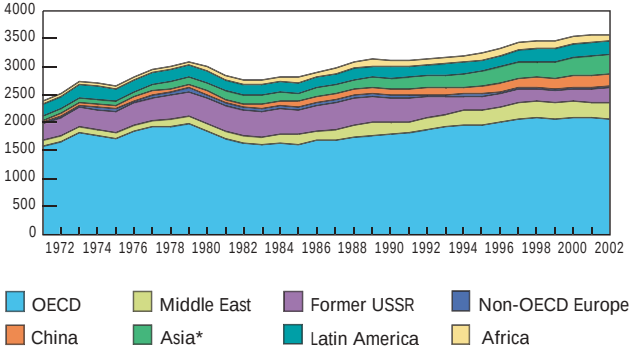
2002 data

Importers	Mt
United States	75
Netherlands	51
Japan	49
Singapore	45
Germany	36
France	32
People's Rep. of China	27
Korea	26
Spain	23
Italy	18
Rest of the World	340
World	**722**

2002 data

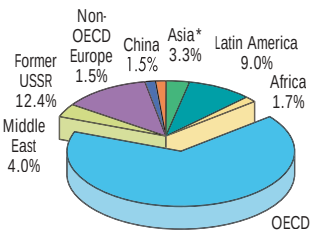
Refining by Region

Evolution from 1971 to 2002 of World Refinery Throughput by Region (Mt)



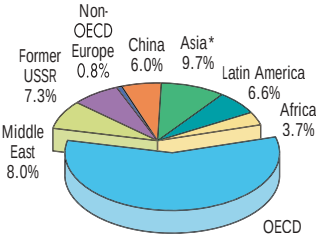
1973 and 2002 Regional Shares of Refinery Throughput

1973



2 739 Mt

2002



3 583 Mt

**Asia excludes China.*

Refinery Capacity, Net Exporters and Net Importers of Oil*

Crude Distillation Capacity	kb/cd	% of World total
United States	16 757	20.1
Former USSR	8 512	10.2
People's Rep. of China**	5 731	6.9
Japan	4 767	5.7
Korea	2 560	3.1
Germany	2 345	2.8
Italy	2 301	2.8
Canada	1 983	2.4
France	1 903	2.3
United Kingdom	1 789	2.1
Rest of the World	34 882	41.7
World	**83 530**	**100.0**

2003 data

Net Exporters	Mt
Saudi Arabia	327
Russia	250
Norway	148
Venezuela	143
Islamic Rep. of Iran	109
United Arab Emirates	89
Nigeria	88
Mexico	86
Kuwait	81
Iraq	75
Rest of the World	556

2002 data

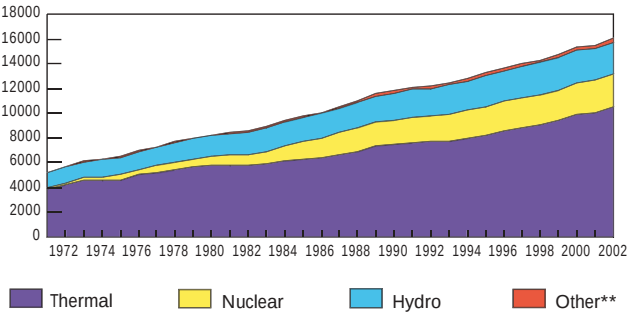
Net Importers	Mt
United States	536
Japan	252
Germany	121
Korea	104
France	93
Italy	87
India	79
People's Rep. of China	76
Spain	74
Chinese Taipei	43
Rest of the World	532

2002 data

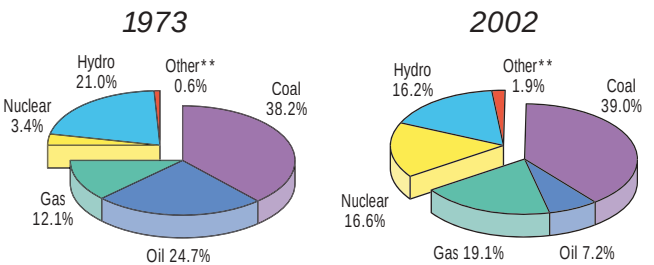
*Crude oil and petroleum products.
**Does not include unlisted small teapot refineries which are estimated at between 200 and 500 kb/cd.

Electricity Generation* by Fuel

Evolution from 1971 to 2002 of World Electricity Generation by Fuel (TWh)*



1973 and 2002 Fuel Shares of Electricity Generation*



6 111 TWh **16 054 TWh**

**Excludes pumped storage.*

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

Electricity Production from Fossil Fuels

Coal	TWh
United States	2 047
People's Rep. of China	1 271
India	418
Germany	292
Japan	291
South Africa	203
Australia	174
Russia	170
Poland	135
Korea	131
Rest of the World	1 132
World	**6 264**

2002 data

Oil	TWh
Japan	145
United States	99
Saudi Arabia	96
Italy	88
Mexico	79
People's Rep. of China	49
Korea	31
Iraq	31
Kuwait	29
Spain	29
Rest of the World	485
World	**1 161**

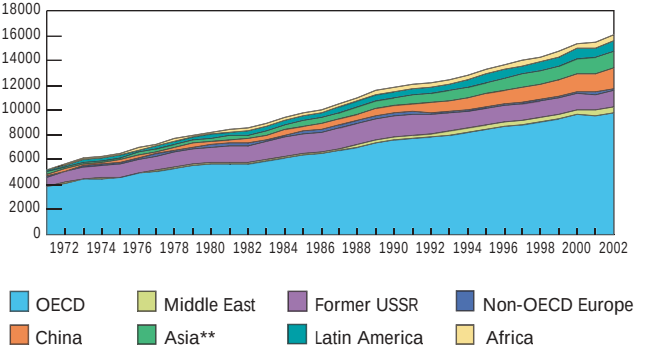
2002 data

Gas	TWh
United States	712
Russia	385
Japan	245
United Kingdom	152
Islamic Rep. of Iran	108
Italy	99
Thailand	79
Mexico	69
Egypt	65
India	63
Rest of the World	1 088
World	**3 065**

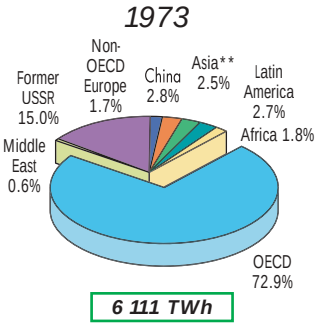
2002 data

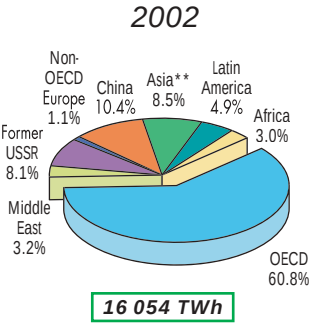
Electricity Generation* by Region

Evolution from 1971 to 2002 of World Electricity Generation by Region (TWh)*



1973 and 2002 Regional Shares of Electricity Generation*





** Excludes pumped storage.*

***Asia excludes China.*

Producers, Exporters and Importers of Electricity

Producers*	TWh	% of World total
United States	3 993	24.9
People's Rep. of China	1 640	10.2
Japan	1 088	6.8
Russia	889	5.5
Canada	601	3.7
India	597	3.7
Germany	567	3.5
France	555	3.5
United Kingdom	384	2.4
Brazil	345	2.1
Rest of the World	5 395	33.7
World	**16 054**	**100.0**

2002 data

Exporters**	TWh
France	80
Paraguay	42
Germany	38
Canada	36
Switzerland	32
Czech Republic	21
Russia	18
Norway	15
Sweden	15
Austria	15
Rest of the World	197
World	**509**

2002 data

Importers**	TWh
Italy	52
Germany	48
Brazil	37
United States	36
Switzerland	28
Netherlands	21
Sweden	20
Belgium	17
Canada	16
Austria	15
Rest of the World	233
World	**523**

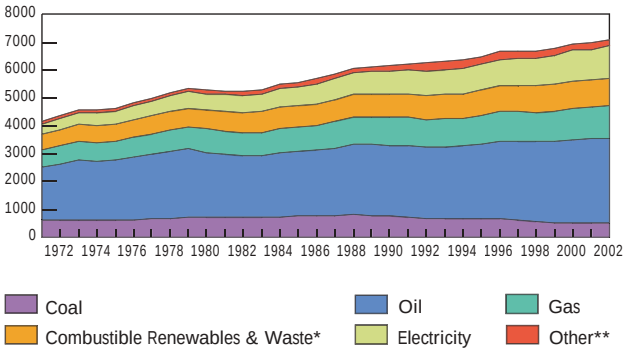
2002 data

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

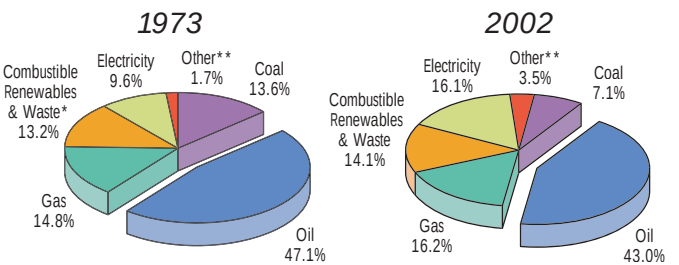
TOTAL FINAL CONSUMPTION

The World

Evolution from 1971 to 2002 of World Total Final Consumption by Fuel (Mtoe)



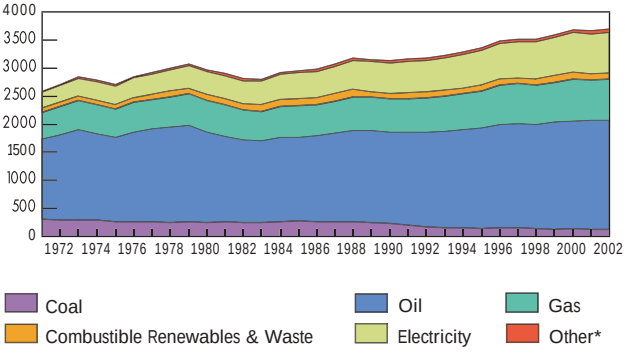
1973 and 2002 Fuel Shares of Total Final Consumption



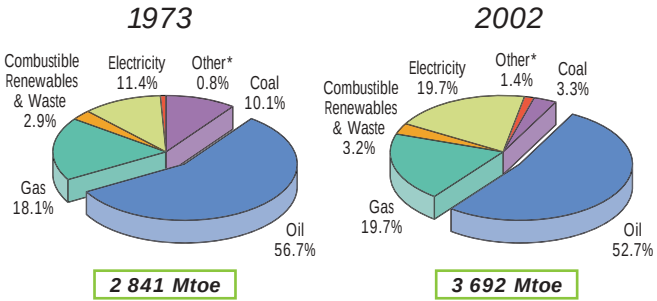
** Prior to 1994 combustible renewables & waste final consumption has been estimated based on TPES. **Other includes geothermal, solar, wind, heat, etc.*

The OECD

Evolution from 1971 to 2002 of OECD Total Final Consumption by Fuel (Mtoe)



1973 and 2002 Fuel Shares of Total Final Consumption

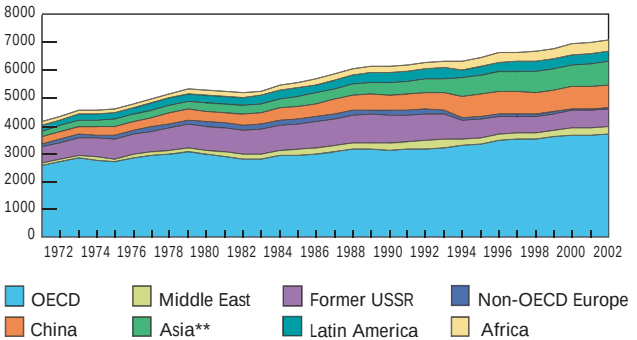


**Other includes geothermal, solar, wind, heat, etc.*

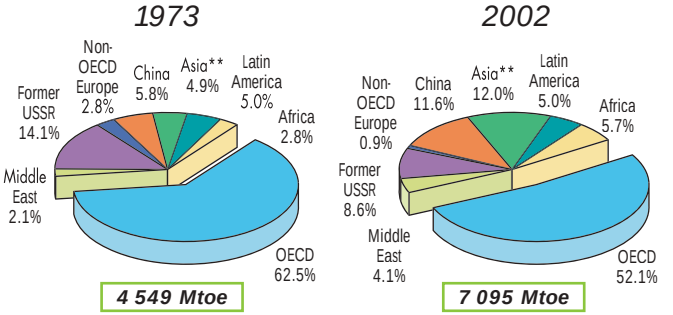
TOTAL FINAL CONSUMPTION

The World

Evolution from 1971 to 2002 of World Total Final Consumption by Region (Mtoe)*



1973 and 2002 Regional Shares of Total Final Consumption*

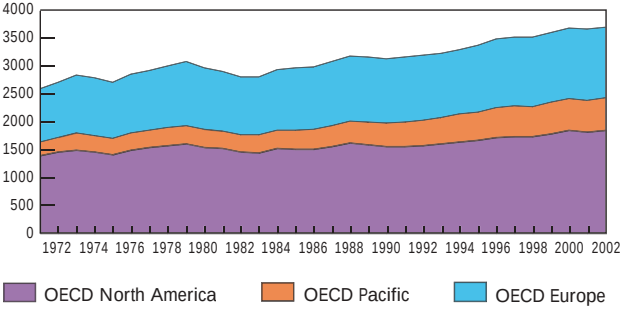


** Prior to 1994 combustible renewables & waste final consumption has been estimated based on TPES. **Asia excludes China.*

BY REGION

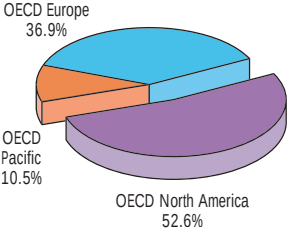
The OECD

Evolution from 1971 to 2002 of OECD Total Final Consumption by Region (Mtoe)



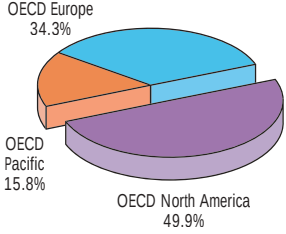
1973 and 2002 Regional Shares of Total Final Consumption

1973



2 841 Mtoe

2002

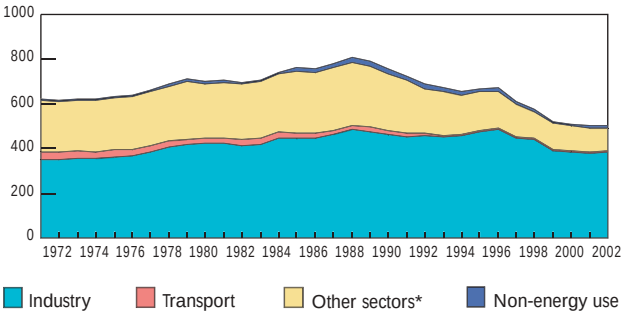


3 692 Mtoe

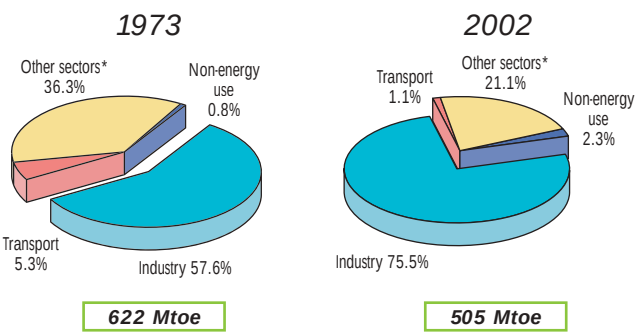
TOTAL FINAL CONSUMPTION

Coal

Evolution from 1971 to 2002 of Total Final Consumption by Sector (Mtoe)



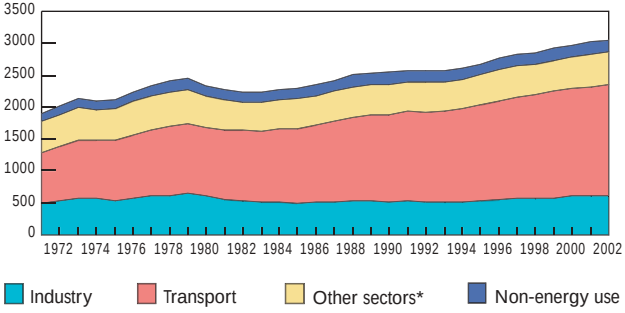
1973 and 2002 Shares of World Coal Consumption



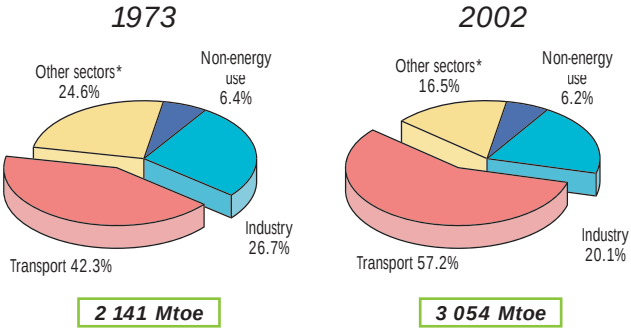
**Other sectors comprises agriculture, commercial & public service, residential and non-specified.*

Oil

Evolution from 1971 to 2002 of Total Final Consumption by Sector (Mtoe)



1973 and 2002 Shares of World Oil Consumption

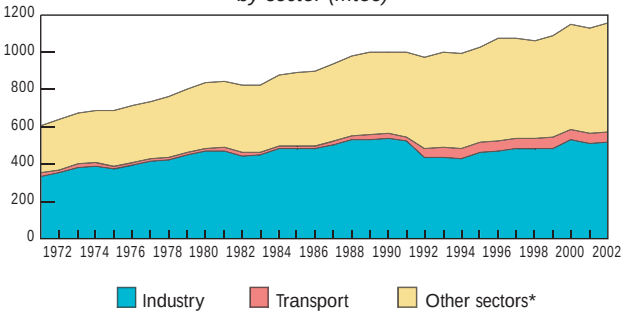


**Other sectors comprises agriculture, commercial & public service, residential and non-specified.*

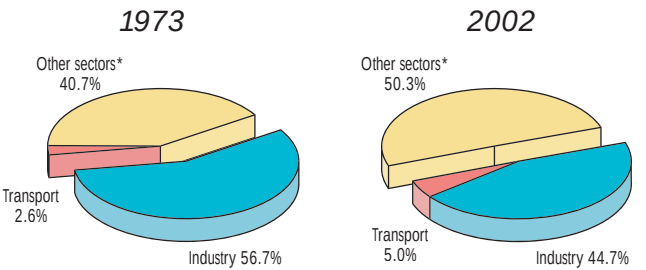
TOTAL FINAL CONSUMPTION

Gas

Evolution from 1971 to 2002 of Total Final Consumption by Sector (Mtoe)



1973 and 2002 Shares of World Gas Consumption

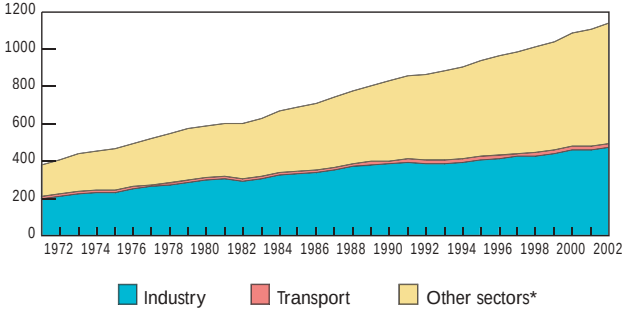


**Other sectors comprises agriculture, commercial & public service, residential and non-specified.*

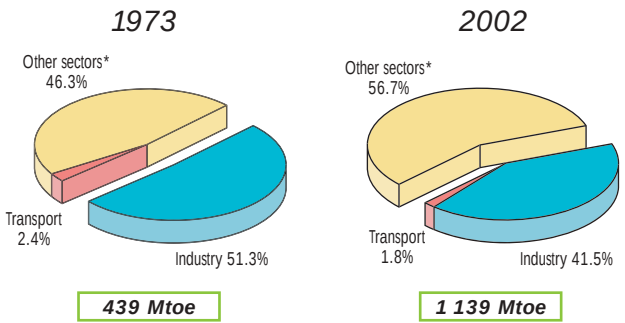
BY SECTOR

Electricity

Evolution from 1971 to 2002 of Total Final Consumption by Sector (Mtoe)



1973 and 2002 Shares of World Electricity Consumption



**Other sectors comprises agriculture, commercial & public service, residential and non-specified.*

SIMPLIFIED ENERGY

The World

1973

(Mtoe)

SUPPLY AND CONSUMPTION	Coal	Crude Oil	Petroleum Products	Gas	Nuclear	Hydro	Combustible Renewables & Waste*	Other**	Total
Indigenous Prod.	1476.05	2935.79	–	993.91	53.05	110.23	673.07	6.13	6248.23
Imports	140.01	1577.05	409.81	73.41	–	–	0.11	8.15	2208.53
Exports	–130.35	–1611.07	–440.98	–72.80	–	–	–0.19	–8.27	–2263.67
Stock Changes	12.22	–21.83	–16.07	–15.00	–	–	–0.23	–	–40.91
TPES	**1497.93**	**2879.95**	**–47.25**	**979.51**	**53.05**	**110.23**	**672.76**	**6.00**	**6152.18**
Intl. Marine Bunkers	–	–	–118.76	–	–	–	–	–	–118.76
Transfers	–	–43.43	48.64	–	–	–	–	–	5.21
Statistical Diff.	–0.47	11.98	–7.13	4.79	–	–	–	–0.11	9.06
Electricity Plants	–557.42	–22.65	–317.90	–159.43	–52.95	–110.23	–2.60	502.18	–720.99
CHP Plants	–87.77	–	–28.39	–50.85	–0.10	–	–0.89	100.76	–67.24
Heat Plants	–9.22	–	–0.91	–0.69	–	–	–0.80	7.11	–4.50
Gas Works	–8.96	–0.60	–9.27	13.52	–	–	–	–	–5.30
Pet. Refineries	–	–2800.49	2772.64	–	–	–	–	–	–27.85
Coal Transf.	–169.25	1.48	–3.38	–0.19	–	–	–0.08	–	–171.42
Liquefaction Plants	–1.60	0.21	–	–	–	–	–	–	–1.39
Other Transf.	–	3.95	–5.47	–0.03	–	–	–10.96	–	–12.51
Own Use	–34.13	–2.62	–161.80	–107.38	–	–	–0.07	–57.73	–363.74
Distribution Losses	–7.41	–7.07	–0.27	–7.50	–	–	–	–42.59	–64.85
TFC* **	**621.70**	**20.70**	**2120.73**	**671.76**	**–**	**–**	**657.38**	**515.62**	**4607.89**
Industry Sector	357.51	16.38	556.08	380.77	–	–	–	277.14	1651.52
Transport Sector	33.01	–	905.12	17.72	–	–	–	10.47	966.62
Other Sectors	225.93	–	527.70	273.27	–	–	–	228.01	1410.75
Non–Energy Use	5.24	4.32	131.84	–	–	–	–	–	141.40

** Combustible renewables & waste final consumption has been estimated based on TPES.*
*** Other includes geothermal, solar, electricity and heat, wind, etc. *** Totals may not always add up due to a lack of breakdown of consumption for combustible renewables & waste.*

BALANCE TABLE

The World

2002

(Mtoe)

SUPPLY AND CONSUMPTION	Coal	Crude Oil	Petroleum Products	Gas	Nuclear	Hydro	Combustible Renewables & Waste	Other*	Total
Indigenous Prod.	2403.16	3647.38	-	2169.03	693.84	223.67	1118.02	50.63	10305.74
Imports	446.57	2071.89	740.38	583.55	–	–	1.19	44.96	3888.54
Exports	–435.85	–1947.29	–812.63	–582.50	–	–	–1.50	–43.80	–3823.57
Stock Changes	–12.13	–1.62	16.35	3.12	–	–	–0.01	–	5.70
TPES	**2401.75**	**3770.36**	**–55.90**	**2173.21**	**693.84**	**223.67**	**1117.70**	**51.79**	**10376.42**
Intl. Marine Bunkers	–	–	–145.74	–	–	–	–	–	–145.74
Transfers	–	–103.72	118.74	–	–	–	–	–	15.01
Statistical Diff.	–20.90	–13.82	8.43	–4.89	–	–	0.13	0.20	–30.85
Electricity Plants	–1404.39	–27.79	–212.32	–446.71	–681.33	–223.67	–31.19	1189.10	–1838.30
CHP Plants	–178.43	–0.56	–29.86	–257.72	–12.52	–	–32.19	282.08	–229.20
Heat Plants	–62.39	–1.12	–17.35	–86.42	–	–	–8.58	148.11	–27.75
Gas Works	–11.15	–	–4.21	8.37	–	–	–	–	–6.99
Pet. Refineries	–	–3641.94	3618.17	–	–	–	–0.01	–	–23.78
Coal Transf.	–155.34	0.05	–2.72	–0.20	–	–	–	–	–158.22
Liquefaction Plants	–17.54	11.25	0.44	–7.69	–	–	–	–	–13.54
Other Transf.	0.01	29.96	–27.85	–3.75	–	–	–43.82	–	–45.44
Own Use	–44.74	–8.53	–206.87	–200.80	–	–	–2.33	–142.71	–605.97
Distribution Losses	–1.72	–3.06	–0.13	–20.83	–	–	–	–144.94	–170.68
TFC	**505.16**	**11.07**	**3042.85**	**1152.55**	**–**	**–**	**999.71**	**1383.62**	**7094.97**
Industry Sector	381.70	10.63	603.12	515.10	–	–	159.64	571.93	2242.13
Transport Sector	5.47	0.01	1745.66	57.28	–	–	8.42	20.19	1837.03
Other Sectors	106.47	0.43	504.19	580.17	–	–	831.65	791.51	2814.42
Non–Energy Use	11.53	–	189.87	–	–	–	–	–	201.40

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

SIMPLIFIED ENERGY

The OECD

1973

(Mtoe)

SUPPLY AND CONSUMPTION	Coal	Crude Oil	Petroleum Products	Gas	Nuclear	Hydro	Combustible Renewables & Waste	Other*	Total
Indigenous Prod.	818,29	701.67	–	705.65	49.22	78.46	85.96	6.13	2445.38
Imports	121.72	1286.57	337.43	62.56	–	–	0.03	7.55	1815.85
Exports	–111.07	–63.46	–173.84	–50.39	–	–	–0.01	–7.00	–405.78
Intl. Marine Bunkers	–	–	–72.76	–	–	–	–	–	–72.76
Stock Changes	14.41	–11.04	–11.51	–11.98	–	–	0.06	–	–20.07
TPES	**843.35**	**1913.74**	**79.32**	**705.83**	**49.22**	**78.46**	**86.03**	**6.67**	**3762.61**
Transfers	–	–37.99	42.12	–	–	–	–	–	4.13
Statistical Diff.	4.65	13.14	2.28	–5.62	–	–	–0.00	–	14.44
Electricity Plants	–387.37	–20.67	–223.37	–108.33	–49.12	–78.46	–1.42	363.19	–505.54
CHP Plants	–53.52	–	–7.93	–11.65	–0.10	–	–0.75	30.94	–43.01
Heat Plants	–9.22	–	–0.91	–0.69	–	–	–0.80	7.11	–4.50
Gas Works	–7.49	–0.60	–8.81	13.02	–	–	–	–	–3.88
Pet. Refineries	–	–1871.64	1864.06	–	–	–	–	–	–7.58
Coal Transf.	–76.41	1.48	–3.38	–0.19	–	–	–0.02	–	–78.52
Liquefaction Plants	–0.87	–	–	–	–	–	–	–	–0.87
Other Transf.	–	3.74	–5.27	–0.03	–	–	–	–	–1.55
Own Use	–23.64	–1.00	–127.38	–72.86	–	–	–0.07	–33.37	–258.31
Distribution Losses	–2.32	–	–0.24	–3.95	–	–	–	–30.33	–36.83
TFC	**287.16**	**0.21**	**1610.48**	**515.54**	**–**	**–**	**82.99**	**344.21**	**2840.57**
Industry Sector	179.92	0.21	426.97	259.26	–	–	42.01	168.80	1077.17
Transport Sector	7.23	–	691.14	17.00	–	–	0.00	5.29	720.65
Other Sectors	96.91	–	396.27	239.28	–	–	40.97	170.13	943.56
Non–Energy Use	3.10	–	96.11	–	–	–	–	–	99.20

*Includes geothermal, solar, electricity and heat, wind, etc.

BALANCE TABLE

The OECD

2002

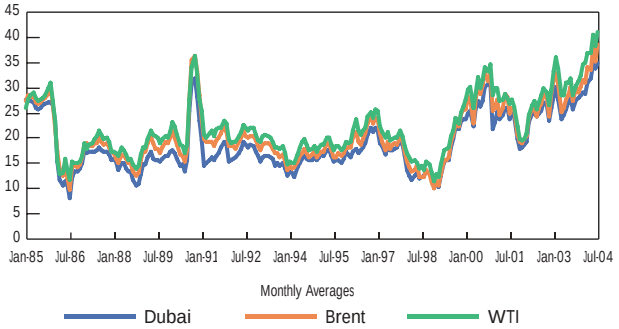
(Mtoe)

SUPPLY AND CONSUMPTION	Coal	Crude Oil	Petroleum Products	Gas	Nuclear	Hydro	Combustible Renewables & Waste	Other*	Total
Indigenous Prod.	992.84	1025.46	–	919.44	593.14	105.82	177.62	32.75	3847.06
Imports	320.73	1554.38	448.93	460.27	–	–	1.03	30.96	2816.29
Exports	–210.13	–449.22	–342.20	–221.53	–	–	–0.25	–29.35	–1252.67
Intl. Marine Bunkers	–	–	–83.08	–	–	–	–	–	–83.08
Stock Changes	–7.08	–0.36	12.39	13.15	–	–	0.01	–	18.11
TPES	**1096.36**	**2130.26**	**36.04**	**1171.34**	**593.14**	**105.82**	**178.41**	**34.36**	**5345.72**
Transfers	–	–27.49	34.53	–	–	–	–0.00	–	7.04
Statistical Diff.	–3.65	–8.24	4.88	–5.89	–	–	0.00	0.00	–12.90
Electricity Plants	–801.86	–6.39	–94.22	–240.21	–584.74	–105.82	–26.18	731.41	–1128.02
CHP Plants	–83.57	–0.56	–14.39	–100.46	–8.40	–	–28.53	123.43	–112.46
Heat Plants	–5.18	–	–1.81	–5.67	–	–	–5.10	13.42	–4.35
Gas Works	–2.54	–	–2.75	2.71	–	–	–	–	–2.58
Pet. Refineries	–	–2112.44	2132.49	–	–	–	–	–	20.05
Coal Transf.	–65.15	0.05	–2.17	–0.20	–	–	–0.00	–	–67.48
Liquefaction Plants	–	–	–	–	–	–	–	–	–
Other Transf.	0.01	26.67	–24.53	–0.57	–	–	–0.07	–	1.50
Own Use	–13.40	–0.41	–123.58	–90.12	–	–	–2.18	–62.57	–292.26
Distribution Losses	–0.61	–	–0.02	–1.94	–	–	–0.00	–59.75	–62.32
TFC	**120.41**	**1.45**	**1944.48**	**728.97**	**–**	**–**	**116.35**	**780.30**	**3691.95**
Industry Sector	103.27	1.45	342.66	307.29	–	–	61.96	288.87	1105.50
Transport Sector	0.09	–	1207.82	22.13	–	–	2.62	9.32	1241.97
Other Sectors	16.28	–	270.11	399.55	–	–	51.77	482.11	1219.82
Non–Energy Use	0.77	–	123.88	–	–	–	–	–	124.66

*Includes geothermal, solar, electricity and heat, wind, etc.

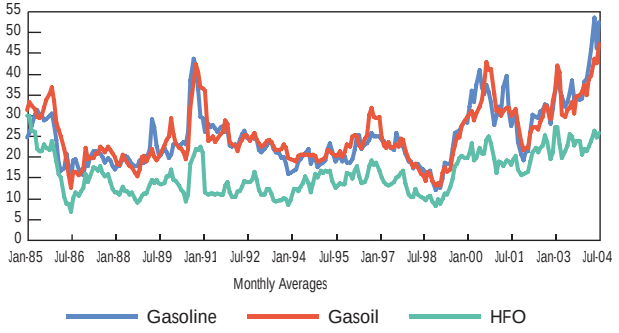
Crude Oil

Key Crude Oil Spot Prices in US Dollars/barrel



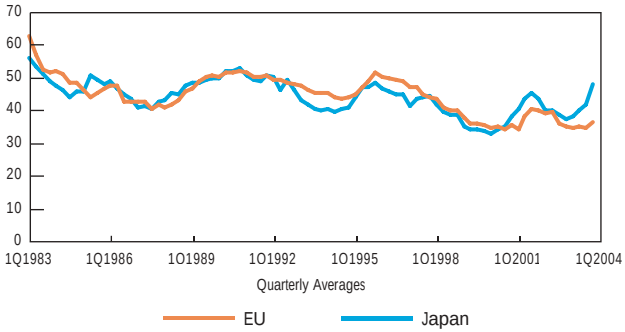
Petroleum Products

Rotterdam Oil Product Spot Prices in US Dollars/barrel



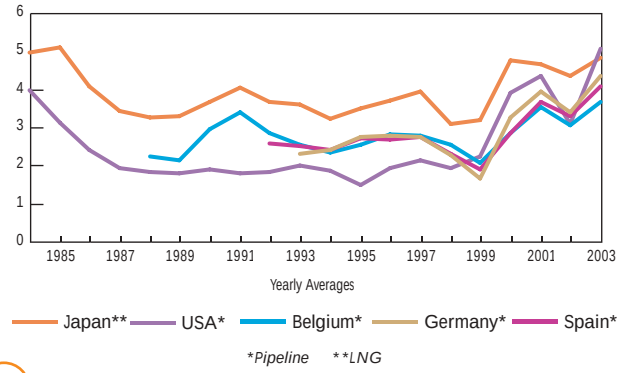
Coal

Steam Coal Import Costs in US Dollars/tonne



Natural Gas

Natural Gas Import Prices in US Dollars/MBtu



*Pipeline **LNG

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	..	..	..	0.696
Austria	219.36	526.50	0.773	1.106
Belgium	208.53	399.89	0.856	1.357
Canada	219.80	454.48	0.539	0.581
Chinese Taipei	236.27 L	x	0.428 L	0.583 L
Czech Republic	180.37	425.22 L	0.733	0.964
Denmark	313.81	950.50	0.923	1.395
Finland	272.73	474.97	0.806	1.354
France	214.90	488.86	0.848	1.263
Germany	203.88	432.46	0.944	1.356
Greece	267.75	396.30	0.700	0.972
Hungary	213.66	x	0.810	1.128
India	285.79 L	284.02 L	0.535 L	0.767 L
Ireland	308.76	551.29	0.849	1.121
Italy	268.81	1054.39	0.914	1.330
Japan	320.69	432.78	0.615	0.979
Korea	336.30	598.84	0.713	1.138
Luxembourg	194.96	383.00	0.686	1.065
Mexico	145.13	..	0.602	0.553
Netherlands	245.23	751.04	0.862	1.493
New Zealand	407.96	..	0.382	0.741
Norway	..	732.83	0.939	1.366
Poland	144.11	436.23	0.627	0.920
Portugal	312.73	x	0.826	1.206
South Africa	184.01 L	..	0.426 L	0.492 L
Slovak Republic	209.81	362.82 L	0.819	1.029
Spain	257.61	468.71	0.744	1.014
Sweden	c	992.55	0.867	1.297
Switzerland	229.59 L	344.06	0.922	1.044
Turkey	336.80	953.96	1.031	1.327
United Kingdom	258.44	338.49	1.215	1.408
United States	210.82	398.44	0.420	0.443

(a) Prices are for 1st Quarter 2004, or latest available (L). (b) High sulphur fuel oil for Canada, India, Ireland, Mexico, New Zealand, Poland, Turkey and the United States; low sulphur fuel oil for all other countries. (c) For commercial purposes. (d) Unleaded premium gasoline (95 RON); unleaded regular for Australia, Canada, Japan, Korea, Mexico, New Zealand

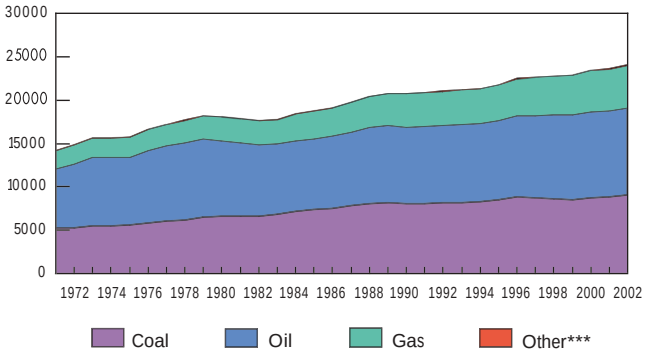
IN SELECTED COUNTRIES in US Dollars/Unit

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)	
..	..	..	0.0357 L	0.0619 L	Australia
..	510.63	..	0.0964	0.1771	Austria
c	..	..	..	..	Belgium
204.01 L	403.19 L	..	..	..	Canada
307.75 L	389.8 L	..	0.0532 L	0.0738 L	Chinese Taipei
212.66 L	338.22 L	21.25 L	0.0618 L	0.0888 L	Czech Republic
c	978.02	..	0.0950	0.2856	Denmark
169.14	268.26	110.33	0.0735	0.1264	Finland
238.32	544.07	128.06	0.0501	0.1417	France
..	..	..	0.0485 L	0.1356 L	Germany
213.75	399.60	..	0.0638	0.1096	Greece
280.39	366.55	..	0.0901	0.1305	Hungary
..	..	31.02 L	..	0.0354 L	India
257.5 L	469.88	..	0.1099	0.1633	Ireland
c	c	46.71 L	0.1477 L	0.2000 L	Italy
357.04 L	1086.36 L	42.92	0.1148 L	0.1742 L	Japan
..	..	55.31 L	0.0503 L	0.0738 L	Korea
..	272.69 L	..	..	0.1117 L	Luxembourg
191.61	..	x	0.0585	0.0981	Mexico
226.78	683.20	..	c	0.2219	Netherlands
307.69	596.90	c	0.0520	0.1159	New Zealand
x	x	..	0.0440 L	0.0695	Norway
173.18	324.22	47.73	0.0602	0.0971	Poland
271.10	900.90	45.53	0.0934	0.1764	Portugal
233.37 L	x	12.25 L	0.0122 L	0.0317 L	South Africa
241.65	349.66	..	0.0836	0.1237	Slovak Republic
213.19	642.06	..	0.0484 L	0.1139 L	Spain
..	..	..	..	..	Sweden
342.23	599.44	66.33 L	0.0849	0.1415	Switzerland
227.77	256.90	51.31	0.0917	0.0960	Turkey
202.65 L	409.43	69.60 L	0.0608 L	0.1336	United Kingdom
253.36	366.90	40.84	0.0490	0.0830	United States

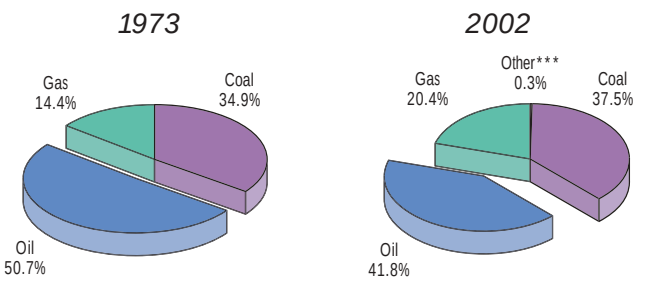
and the United States; leaded regular for India. (e) Gross calorific value. (f) Brown coal for the Czech Republic and Turkey. (g) Price excluding tax for Australia and the United States. (L) Latest data available.
.. not available x not applicable c confidential

CO_2 Emissions by Fuel

Evolution from 1971 to 2002 of World CO_2 Emissions** by Fuel (Mt of CO_2)*



1973 and 2002 Fuel Shares of CO_2 Emissions**

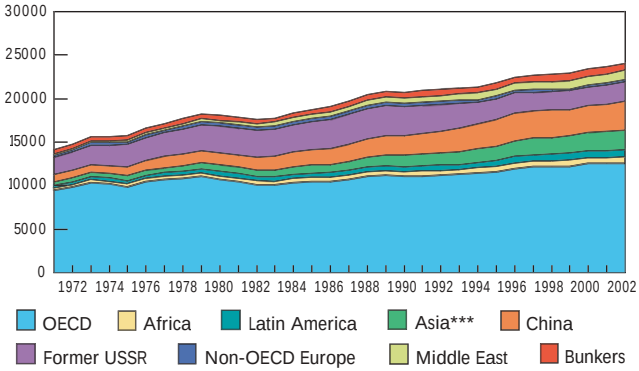


15 668 Mt of CO_2 ***24 102 Mt of CO_2***

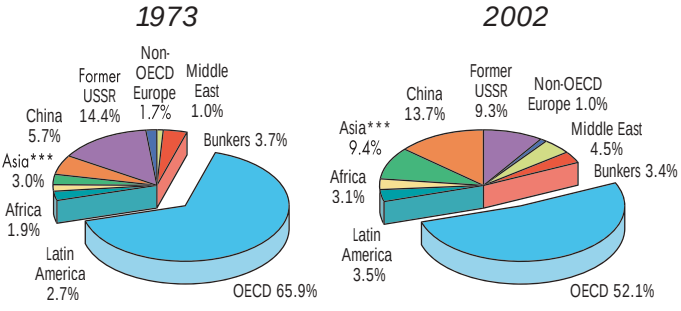
** World includes international marine bunkers and aviation bunkers. ** Calculated using IEA's Energy Balance Tables and the Revised 1996 IPCC Guidelines. CO_2 emissions are from fuel combustion only. *** Other includes industrial waste and non-renewable municipal waste.*

CO_2 Emissions by Region

Evolution from 1971 to 2002 of World CO_2 Emissions** by Region (Mt of CO_2)*



1973 and 2002 Regional Shares of CO_2 Emissions**

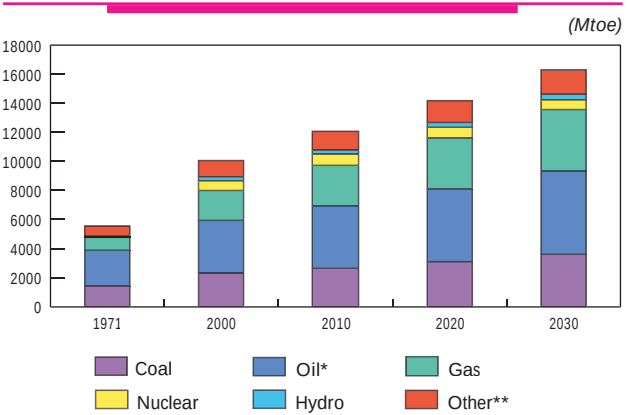


15 668 Mt of CO_2 | **24 102 Mt of CO_2**

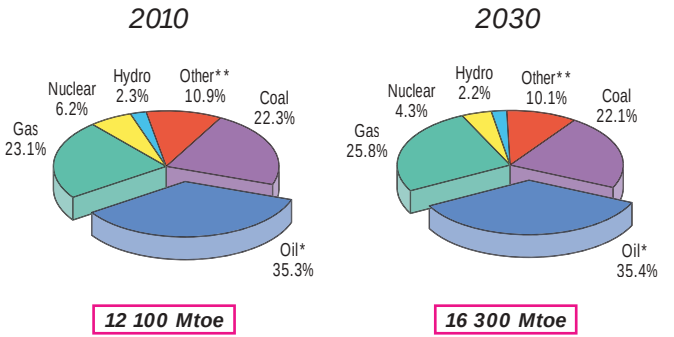
** World includes international marine bunkers and aviation bunkers, which are shown together as Bunkers. ** Calculated using IEA's Energy Balance Tables and the Revised 1996 IPCC Guidelines. CO_2 emissions are from fuel combustion only. *** Asia excludes China.*

OUTLOOK FOR WORLD TPES

TPES* Outlook by Fuel



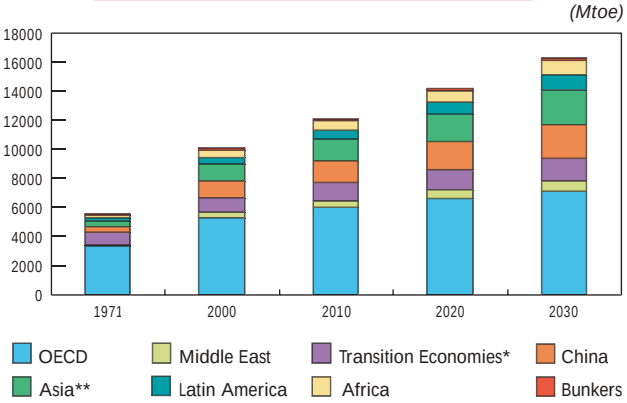
Fuel Shares of TPES* in 2010 and 2030



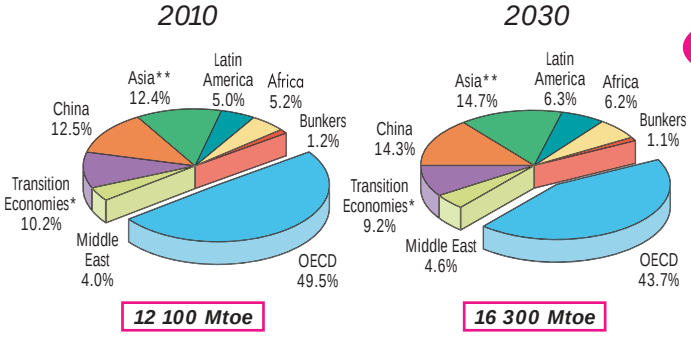
** Includes bunkers.*

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

TPES Outlook by Region



Regional Shares of TPES in 2010 and 2030



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

Selected Energy Indicators for 2002

Region/ Country	Popul-ation (million)	GDP (billion 95 US$)	GDP (PPP) (billion 95 US$)	Energy Prod. (Mtoe)	Net Imports (Mtoe)	TPES (Mtoe)	Elec. Cons.* (TWh)	CO_2 Emissions** (Mt of CO_2)
World	6195.66	35317.65	43413.48	10305.74	–	10230.67	14701.24	24101.83
OECD	1145.06	28435.02	25374.85	3847.06	1563.62	5345.72	9212.82	12554.03
Middle East	172.76	630.06	1025.83	1250.81	–807.94	431.30	459.42	1092.84
Former USSR	286.76	630.57	1552.10	1349.21	–412.38	930.53	1117.33	2232.17
Non–OECD Europe	57.82	147.25	358.26	62.55	39.82	99.68	157.64	252.84
China	1287.19	1381.62	5359.02	1220.86	38.65	1244.95	1554.37	3307.42
Asia	1988.11	1857.30	5507.94	1040.41	164.67	1183.91	1119.01	2257.41
Latin America	425.54	1593.05	2566.74	628.18	–161.20	454.75	652.74	844.61
Africa	832.43	642.78	1668.75	906.65	–360.26	539.85	427.93	743.12
Albania	3.15	4.03	13.46	0.77	1.17	1.94	4.49	3.88
Algeria	31.32	52.14	161.27	150.29	–118.89	30.85	23.28	73.29
Angola	13.12	8.18	29.17	51.55	–42.81	8.81	1.52	6.31
Argentina	36.48	249.60	347.34	81.69	–24.63	56.30	75.96	115.02
Armenia	3.07	2.33	8.76	0.74	1.20	1.94	3.75	2.79
Australia	19.75	480.85	492.30	255.19	–138.59	112.71	207.43	342.85
Austria	8.05	274.58	211.77	9.93	20.64	30.44	60.02	66.14
Azerbaijan	8.17	5.22	21.81	19.75	–8.17	11.73	17.18	25.54
Bahrain	0.70	7.60	10.07	15.27	–8.96	6.87	6.74	15.60
Bangladesh	135.68	53.76	205.96	16.75	4.31	21.00	14.64	31.53
Belarus	9.93	20.80	48.21	3.59	21.28	24.77	29.60	56.02
Belgium	10.33	320.84	254.33	13.25	49.61	56.89	85.89	112.55
Benin	6.55	2.90	6.28	1.55	0.71	2.23	0.50	1.87
Bolivia	8.81	8.28	19.24	8.15	–3.92	4.31	3.65	8.64
Bosnia and Herzegovina	4.11	6.89	22.38	3.32	1.18	4.32	7.86	15.22
Brazil	174.49	809.93	1165.62	161.74	31.08	190.66	321.55	309.31

* Gross production + imports – exports – transmission/distribution losses.

** CO_2 emissions from fuel combustion only. Emissions are calculated using IEA's energy balances and the Revised 1996 IPCC Guidelines.

TPES/ Pop (toe/capita)	TPES/ GDP (toe/000 95 US$)	TPES/ GDP (PPP) (toe/000 95 US$ 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/ 95 US$)	CO_2/ GDP (PPP) (kg CO_2/ 95 US$ PPP)	Region/ Country
1.65	0.29	0.24	2373	2.32***	3.89	0.68	0.56	World
4.67	0.19	0.21	8046	2.35	10.96	0.44	0.49	OECD
2.50	0.68	0.42	2659	2.53	6.33	1.73	1.07	Middle East
3.24	1.48	0.60	3896	2.40	7.78	3.54	1.44	Former USSR
1.72	0.68	0.28	2727	2.54	4.37	1.72	0.71	Non–OECD Europe
0.97	0.90	0.23	1208	2.66	2.57	2.39	0.62	China
0.60	0.64	0.21	563	1.91	1.14	1.22	0.41	Asia
1.07	0.29	0.18	1534	1.86	1.98	0.53	0.33	Latin America
0.65	0.84	0.32	514	1.38	0.89	1.16	0.45	Africa
0.62	0.48	0.14	1427	2.00	1.23	0.96	0.29	Albania
0.98	0.59	0.19	743	2.38	2.34	1.41	0.45	Algeria
0.67	1.08	0.30	116	0.72	0.48	0.77	0.22	Angola
1.54	0.23	0.16	2082	2.04	3.15	0.46	0.33	Argentina
0.63	0.83	0.22	1223	1.44	0.91	1.20	0.32	Armenia
5.71	0.23	0.23	10502	3.04	17.36	0.71	0.70	Australia
3.78	0.11	0.14	7453	2.17	8.21	0.24	0.31	Austria
1.44	2.25	0.54	2102	2.18	3.13	4.90	1.17	Azerbaijan
9.84	0.90	0.68	9649	2.27	22.35	2.05	1.55	Bahrain
0.15	0.39	0.10	108	1.50	0.23	0.59	0.15	Bangladesh
2.50	1.19	0.51	2983	2.26	5.64	2.69	1.16	Belarus
5.51	0.18	0.22	8314	1.98	10.90	0.35	0.44	Belgium
0.34	0.77	0.36	76	0.84	0.29	0.65	0.30	Benin
0.49	0.52	0.22	415	2.00	0.98	1.04	0.45	Bolivia
1.05	0.63	0.19	1912	3.52	3.70	2.21	0.68	Bosnia and Herzegovina
1.09	0.24	0.16	1843	1.62	1.77	0.38	0.27	Brazil

*** TPES for World includes international marine bunkers.

Region/ Country	Population (million)	GDP (billion 95 US$)	GDP (PPP) (billion 95 US$)	Energy Prod. (Mtoe)	Net Imports (Mtoe)	TPES (Mtoe)	Elec. Cons.* (TWh)	CO_2 Emissions** (Mt of CO_2)
Brunei	0.35	6.22	3.90	20.12	–17.99	2.16	2.57	5.38
Bulgaria	7.97	13.70	51.06	10.54	9.02	19.02	30.20	41.84
Cameroon	15.77	11.04	28.46	12.00	–5.48	6.57	2.54	2.89
Canada	31.41	751.04	843.13	385.41	–139.49	250.03	532.11	531.86
Chile	15.59	84.69	135.25	8.78	16.67	24.71	42.79	46.61
People's Rep. of China	1280.40	1208.85	5197.41	1220.81	17.42	1228.57	1516.28	3270.55
Chinese Taipei	22.45	347.97	408.61	11.62	84.20	93.58	198.52	231.42
Colombia	43.73	99.78	241.34	72.27	–41.26	27.40	35.89	55.26
Congo	3.66	2.56	3.96	13.20	–12.28	0.92	0.49	0.64
Dem. Rep. of Congo	51.58	4.65	33.17	16.13	–0.73	15.40	4.46	2.14
Costa Rica	3.94	15.52	30.36	1.76	1.90	3.56	6.35	5.10
Cote d'Ivoire	16.51	12.81	23.20	6.53	0.12	6.56	3.28	5.34
Croatia	4.47	24.29	39.45	3.71	4.92	8.22	13.73	19.65
Cuba	11.26	28.82	73.95	6.48	7.96	14.20	13.29	35.94
Cyprus	0.77	11.32	12.39	0.04	2.62	2.47	3.62	6.36
Czech Republic	10.21	58.11	138.62	30.67	11.07	41.72	60.10	114.96
Denmark	5.38	213.14	139.01	28.75	–8.81	19.75	34.97	51.17
Dominican Republic	8.61	19.42	50.92	1.51	6.65	8.17	7.76	18.45
Ecuador	12.82	23.02	39.63	22.21	–12.26	9.05	9.06	19.42
Egypt	66.37	82.98	222.59	59.77	–4.64	52.39	74.34	126.81
El Salvador	6.42	11.47	27.41	2.37	1.95	4.30	3.95	5.37
Eritrea	4.30	0.69	3.25	0.55	0.23	0.77	0.22	0.65
Estonia	1.36	5.86	13.93	3.16	1.50	4.51	6.58	14.31
Ethiopia	67.22	8.33	46.51	18.45	1.24	19.93	1.84	4.15
Finland	5.20	168.96	126.67	16.09	19.12	35.62	83.88	63.50
France	61.23	1831.52	1452.81	134.65	135.87	265.88	451.05	377.07
Gabon	1.32	5.69	7.50	12.69	–11.12	1.59	1.16	1.29
Georgia	5.18	3.95	10.86	1.33	1.19	2.56	6.51	2.69
Germany	82.48	2715.40	1938.16	134.77	210.67	346.35	556.09	837.53
Ghana	20.27	8.69	37.99	5.97	2.36	8.34	6.08	6.57

* *Gross production + imports – exports – transmission/distribution losses.*

TPES/ Pop (toe/capita)	TPES/ GDP (toe/000 95 US$)	TPES/ GDP (PPP) (toe/000 95 US$ 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/ 95 US$)	CO_2/ GDP (PPP) (kg CO_2/ 95 US$ PPP)	Region/ Country
6.14	0.35	0.55	7316	2.49	15.32	0.86	1.38	Brunei
2.39	1.39	0.37	3792	2.20	5.25	3.05	0.82	Bulgaria
0.42	0.60	0.23	161	0.44	0.18	0.26	0.10	Cameroon
7.96	0.33	0.30	16939	2.13	16.93	0.71	0.63	Canada
1.58	0.29	0.18	2745	1.89	2.99	0.55	0.34	Chile
0.96	1.02	0.24	1184	2.66	2.55	2.71	0.63	People's Rep. of China
4.17	0.27	0.23	8841	2.47	10.31	0.67	0.57	Chinese Taipei
0.63	0.27	0.11	821	2.02	1.26	0.55	0.23	Colombia
0.25	0.36	0.23	133	0.70	0.18	0.25	0.16	Congo
0.30	3.31	0.46	86	0.14	0.04	0.46	0.06	Dem. Rep. of Congo
0.90	0.23	0.12	1611	1.43	1.29	0.33	0.17	Costa Rica
0.40	0.51	0.28	198	0.81	0.32	0.42	0.23	Cote d'Ivoire
1.84	0.34	0.21	3075	2.39	4.40	0.81	0.50	Croatia
1.26	0.49	0.19	1180	2.53	3.19	1.25	0.49	Cuba
3.22	0.22	0.20	4729	2.58	8.31	0.56	0.51	Cyprus
4.09	0.72	0.30	5890	2.76	11.27	1.98	0.83	Czech Republic
3.67	0.09	0.14	6506	2.59	9.52	0.24	0.37	Denmark
0.95	0.42	0.16	901	2.26	2.14	0.95	0.36	Dominican Republic
0.71	0.39	0.23	707	2.15	1.52	0.84	0.49	Ecuador
0.79	0.63	0.24	1120	2.42	1.91	1.53	0.57	Egypt
0.67	0.37	0.16	616	1.25	0.84	0.47	0.20	El Salvador
0.18	1.12	0.24	50	0.85	0.15	0.95	0.20	Eritrea
3.32	0.77	0.32	4845	3.17	10.54	2.44	1.03	Estonia
0.30	2.39	0.43	27	0.21	0.06	0.50	0.09	Ethiopia
6.85	0.21	0.28	16128	1.78	12.21	0.38	0.50	Finland
4.34	0.15	0.18	7366	1.42	6.16	0.21	0.26	France
1.21	0.28	0.21	881	0.81	0.98	0.23	0.17	Gabon
0.49	0.65	0.24	1258	1.05	0.52	0.68	0.25	Georgia
4.20	0.13	0.18	6742	2.42	10.15	0.31	0.43	Germany
0.41	0.96	0.22	300	0.79	0.32	0.76	0.17	Ghana

** CO_2 emissions from fuel combustion only. Emissions are calculated using IEA's energy balances and the Revised 1996 IPCC Guidelines.

Region/ Country	Population (million)	GDP (billion 95 US$)	GDP (PPP) (billion 95 US$)	Energy Prod. (Mtoe)	Net Imports (Mtoe)	TPES (Mtoe)	Elec. Cons.* (TWh)	CO_2 Emissions** (Mt of CO_2)
Gibraltar	0.03	0.55	0.50	0.00	1.20	0.17	0.11	0.51
Greece	10.95	150.33	176.55	10.23	23.00	29.02	53.49	90.46
Guatemala	11.99	18.61	43.15	5.41	2.10	7.38	4.43	9.94
Haiti	8.29	2.80	11.85	1.52	0.57	2.08	0.31	1.59
Honduras	6.80	4.84	16.29	1.62	2.05	3.43	3.67	5.40
Hong Kong (China)	6.79	172.77	161.62	0.05	21.22	16.38	38.09	36.87
Hungary	10.16	58.44	121.92	10.83	14.69	25.45	36.01	55.45
Iceland	0.29	8.94	7.70	2.46	0.98	3.40	8.00	2.22
India	1048.64	517.26	2479.01	440.97	95.95	538.31	441.52	1016.45
Indonesia	211.72	224.39	590.76	240.91	–84.63	156.09	90.72	303.17
Islamic Rep. of Iran	65.54	118.04	388.78	240.52	–105.99	133.96	118.05	345.16
Iraq	24.17	74.12	29.12	105.41	–76.42	29.00	29.33	80.87
Ireland	3.91	120.58	116.85	1.50	13.81	15.30	23.73	42.45
Israel	6.57	109.49	114.40	0.72	20.67	20.95	42.59	62.55
Italy	58.03	1234.31	1338.44	26.59	152.15	172.72	316.09	433.24
Jamaica	2.62	5.51	8.90	0.46	3.37	3.91	6.32	9.84
Japan	127.44	5715.29	3042.31	98.13	425.15	516.93	1047.56	1206.91
Jordan	5.17	8.58	19.91	0.26	5.20	5.36	7.46	15.03
Kazakhstan	14.88	28.71	74.54	95.78	–49.28	46.46	50.26	140.76
Kenya	31.35	10.10	29.05	12.88	2.53	15.32	3.80	8.49
Korea	47.64	680.29	718.00	36.21	171.65	203.50	309.40	451.55
DPR of Korea	22.49	8.06	28.36	18.36	1.28	19.54	16.65	67.59
Kuwait	2.33	27.00	30.85	105.99	–83.30	22.19	35.16	57.46
Kyrgyzstan	5.00	2.29	7.06	1.20	1.30	2.54	6.82	4.90
Latvia	2.34	7.08	18.89	1.87	2.45	4.27	5.33	7.09
Lebanon	4.44	12.74	17.25	0.19	5.18	5.37	8.66	15.32
Libya	5.45	33.39	26.26	69.52	–50.73	18.70	12.26	42.59
Lithuania	3.47	10.22	31.26	4.92	3.59	8.59	9.81	12.05
Luxembourg	0.45	26.10	19.02	0.06	4.00	4.04	6.92	9.28
FYR of Macedonia	2.04	4.95	11.65	1.51	1.20	2.54	5.65	8.02

* Gross production + imports – exports – transmission/distribution losses.

TPES/ Pop (toe/capita)	TPES/ GDP (toe/000 95 US$)	TPES/ GDP (PPP) (toe/000 95 US$ 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/ 95 US$)	CO_2/ GDP (PPP) (kg CO_2/ 95 US$ PPP)	Region/ Country
6.02	0.30	0.34	3964	3.00	18.08	0.92	1.01	Gibraltar
2.65	0.19	0.16	4885	3.12	8.26	0.60	0.51	Greece
0.62	0.40	0.17	370	1.35	0.83	0.53	0.23	Guatemala
0.25	0.74	0.18	37	0.77	0.19	0.57	0.13	Haiti
0.50	0.71	0.21	539	1.58	0.79	1.12	0.33	Honduras
2.41	0.09	0.10	5612	2.25	5.43	0.21	0.23	Hong Kong (China)
2.51	0.44	0.21	3545	2.18	5.46	0.95	0.45	Hungary
11.82	0.38	0.44	27764	0.65	7.71	0.25	0.29	Iceland
0.51	1.04	0.22	421	1.89	0.97	1.97	0.41	India
0.74	0.70	0.26	428	1.94	1.43	1.35	0.51	Indonesia
2.04	1.13	0.34	1801	2.58	5.27	2.92	0.89	Islamic Rep. of Iran
1.20	0.39	1.00	1213	2.79	3.35	1.09	2.78	Iraq
3.91	0.13	0.13	6071	2.77	10.86	0.35	0.36	Ireland
3.19	0.19	0.18	6486	2.98	9.53	0.57	0.55	Israel
2.98	0.14	0.13	5447	2.51	7.47	0.35	0.32	Italy
1.50	0.71	0.44	2413	2.51	3.76	1.79	1.11	Jamaica
4.06	0.09	0.17	8220	2.33	9.47	0.21	0.40	Japan
1.04	0.62	0.27	1443	2.80	2.91	1.75	0.76	Jordan
3.12	1.62	0.62	3379	3.03	9.46	4.90	1.89	Kazakhstan
0.49	1.52	0.53	121	0.55	0.27	0.84	0.29	Kenya
4.27	0.30	0.28	6495	2.22	9.48	0.66	0.63	Korea
0.87	2.42	0.69	740	3.46	3.01	8.39	2.38	DPR of Korea
9.53	0.82	0.72	15102	2.59	24.68	2.13	1.86	Kuwait
0.51	1.11	0.36	1362	1.93	0.98	2.14	0.69	Kyrgyzstan
1.82	0.60	0.23	2280	1.66	3.03	1.00	0.38	Latvia
1.21	0.42	0.31	1951	2.85	3.45	1.20	0.89	Lebanon
3.43	0.56	0.71	2250	2.28	7.82	1.28	1.62	Libya
2.48	0.84	0.27	2828	1.40	3.47	1.18	0.39	Lithuania
9.06	0.15	0.21	15507	2.30	20.80	0.36	0.49	Luxembourg
1.25	0.51	0.22	2770	3.15	3.94	1.62	0.69	FYR of Macedonia

** CO_2 emissions from fuel combustion only. Emissions are calculated using IEA's energy balances and the Revised 1996 IPCC Guidelines.

Region/ Country	Population (million)	GDP (billion 95 US$)	GDP (PPP) (billion 95 US$)	Energy Prod. (Mtoe)	Net Imports (Mtoe)	TPES (Mtoe)	Elec. Cons.* (TWh)	CO_2 Emissions** (Mt of CO_2)
Malaysia	24.31	116.82	191.23	80.24	–27.66	51.75	70.07	115.65
Malta	0.40	4.06	6.14	0.00	0.91	0.89	1.78	2.53
Mexico	100.44	375.33	819.76	229.89	–70.78	157.31	184.03	365.15
Republic of Moldova	4.26	1.76	6.12	0.07	2.91	2.99	4.22	6.55
Morocco	29.64	43.12	101.66	0.59	10.08	10.75	17.47	33.26
Mozambique	18.44	4.12	17.51	8.04	0.01	8.05	6.40	1.41
Myanmar	48.79	18.50	227.76	15.83	–3.52	12.58	5.38	7.40
Namibia	1.99	4.37	10.03	0.30	0.89	1.19	2.45	2.31
Nepal	24.13	5.81	29.17	7.62	0.90	8.51	1.67	2.64
Netherlands	16.15	505.60	407.85	59.92	31.59	77.92	108.14	177.88
Netherlands Antilles	0.21	2.75	2.64	0.00	3.14	1.48	0.94	3.36
New Zealand	3.98	74.63	77.41	14.88	3.71	18.01	36.14	34.00
Nicaragua	5.34	2.65	13.89	1.66	1.23	2.91	1.89	3.81
Nigeria	132.79	32.95	101.43	192.66	–96.46	95.68	9.52	49.81
Norway	4.54	181.71	127.72	232.22	–205.07	26.52	111.32	33.06
Oman	2.54	15.60	30.03	62.52	–52.87	10.83	8.54	26.12
Pakistan	144.90	75.12	248.48	49.68	15.99	65.81	55.66	100.48
Panama	2.94	10.05	16.47	0.74	2.13	3.02	4.10	5.29
Paraguay	5.51	9.37	22.06	6.29	–2.38	3.91	4.87	3.56
Peru	26.75	63.65	119.04	9.23	2.95	12.02	19.71	25.63
Philippines	79.94	96.65	305.34	21.94	20.06	42.01	40.55	69.65
Poland	38.22	174.08	372.22	80.17	10.32	89.19	122.94	282.90
Portugal	10.37	132.64	163.25	3.64	22.65	26.39	44.50	62.98
Qatar	0.61	14.74	19.44	56.03	–41.96	12.16	9.47	27.56
Romania	22.30	36.01	128.62	28.41	8.79	36.98	45.20	90.78
Russia	144.07	469.30	1038.78	1034.52	–410.43	617.84	770.77	1503.09
Saudi Arabia	21.89	165.51	239.74	462.81	–334.58	126.39	133.57	301.03
Senegal	10.01	6.19	14.04	1.81	1.46	3.19	1.42	3.71
Serbia and Montenegro	10.63	16.87	40.94	10.88	5.29	16.17	32.18	48.88
Singapore	4.16	113.49	84.94	0.06	44.74	25.31	32.39	41.68

* *Gross production + imports – exports – transmission/distribution losses.*

TPES/ Pop (toe/capita)	TPES/ GDP (toe/000 95 US$)	TPES/ GDP (PPP) (toe/000 95 US$ 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/ 95 US$)	CO_2/ GDP (PPP) (kg CO_2/ 95 US$ PPP)	Region/ Country
2.13	0.44	0.27	2883	2.23	4.76	0.99	0.60	Malaysia
2.25	0.22	0.15	4489	2.84	6.38	0.62	0.41	Malta
1.57	0.42	0.19	1832	2.32	3.64	0.97	0.45	Mexico
0.70	1.70	0.49	992	2.19	1.54	3.72	1.07	Republic of Moldova
0.36	0.25	0.11	589	3.09	1.12	0.77	0.33	Morocco
0.44	1.96	0.46	347	0.17	0.08	0.34	0.08	Mozambique
0.26	0.68	0.06	110	0.59	0.15	0.40	0.03	Myanmar
0.60	0.27	0.12	1236	1.95	1.17	0.53	0.23	Namibia
0.35	1.47	0.29	69	0.31	0.11	0.45	0.09	Nepal
4.83	0.15	0.19	6696	2.28	11.02	0.35	0.44	Netherlands
6.92	0.54	0.56	4374	2.27	15.72	1.22	1.27	Netherlands Antilles
4.53	0.24	0.23	9088	1.89	8.55	0.46	0.44	New Zealand
0.54	1.10	0.21	353	1.31	0.71	1.44	0.27	Nicaragua
0.72	2.90	0.94	72	0.52	0.38	1.51	0.49	Nigeria
5.84	0.15	0.21	24526	1.25	7.28	0.18	0.26	Norway
4.27	0.69	0.36	3363	2.41	10.29	1.67	0.87	Oman
0.45	0.88	0.26	384	1.53	0.69	1.34	0.40	Pakistan
1.03	0.30	0.18	1394	1.75	1.80	0.53	0.32	Panama
0.71	0.42	0.18	884	0.91	0.65	0.38	0.16	Paraguay
0.45	0.19	0.10	737	2.13	0.96	0.40	0.22	Peru
0.53	0.43	0.14	507	1.66	0.87	0.72	0.23	Philippines
2.33	0.51	0.24	3217	3.17	7.40	1.63	0.76	Poland
2.54	0.20	0.16	4290	2.39	6.07	0.47	0.39	Portugal
19.93	0.82	0.63	15525	2.27	45.18	1.87	1.42	Qatar
1.66	1.03	0.29	2027	2.46	4.07	2.52	0.71	Romania
4.29	1.32	0.59	5350	2.43	10.43	3.20	1.45	Russia
5.77	0.76	0.53	6103	2.38	13.75	1.82	1.26	Saudi Arabia
0.32	0.52	0.23	142	1.16	0.37	0.60	0.26	Senegal
1.52	0.96	0.39	3027	3.02	4.60	2.90	1.19	Serbia and Montenegro
6.08	0.22	0.30	7778	1.65	10.01	0.37	0.49	Singapore

** CO_2 emissions from fuel combustion only. Emissions are calculated using IEA's energy balances and the Revised 1996 IPCC Guidelines.

Region/ Country	Population (million)	GDP (billion 95 US$)	GDP (PPP) (billion 95 US$)	Energy Prod. (Mtoe)	Net Imports (Mtoe)	TPES (Mtoe)	Elec. Cons.* (TWh)	CO_2 Emissions** (Mt of CO_2)
Slovak Republic	5.38	25.19	56.46	6.65	11.99	18.55	27.16	37.89
Slovenia	1.96	24.58	31.68	3.38	3.51	6.95	12.82	15.16
South Africa	45.35	182.28	400.02	146.51	–31.27	113.46	205.97	301.48
Spain	40.55	740.40	782.98	31.74	108.72	131.56	232.16	303.41
Sri Lanka	18.97	17.05	59.42	4.56	3.86	8.18	5.69	11.18
Sudan	32.79	10.81	57.61	25.01	–9.23	15.85	2.45	7.79
Sweden	8.93	299.51	226.77	32.40	18.85	51.03	139.81	50.12
Switzerland	7.29	340.00	199.93	11.94	15.24	27.14	58.25	42.83
Syria	16.99	14.13	51.14	36.71	–18.65	18.05	18.28	46.71
Tajikistan	6.27	1.48	5.44	1.33	1.92	3.25	14.18	5.21
United Rep. of Tanzania	35.18	7.29	18.32	13.29	1.08	14.34	2.29	3.18
Thailand	61.61	184.86	381.00	45.30	37.73	83.34	103.64	179.49
Togo	4.76	1.53	6.29	1.08	0.46	1.54	0.54	1.15
Trinidad and Tobago	1.30	7.20	11.34	21.32	–11.16	9.29	5.82	16.54
Tunisia	9.78	25.18	58.45	6.94	1.57	8.28	10.53	18.76
Turkey	69.67	204.87	408.73	24.43	51.26	75.42	108.62	193.05
Turkmenistan	4.79	4.19	20.14	53.65	–37.04	16.61	8.61	40.41
Ukraine	48.72	49.87	209.72	71.52	59.22	130.74	137.13	292.48
United Arab Emirates	3.22	56.38	59.91	142.15	–98.23	36.07	38.36	88.63
United Kingdom	59.21	1375.93	1397.78	257.81	–30.13	226.51	364.62	529.27
United States	287.46	9196.40	9196.40	1666.64	629.75	2290.41	3802.38	5652.30
Uruguay	3.36	18.47	23.24	1.24	1.37	2.51	6.27	4.18
Uzbekistan	25.27	17.51	36.57	55.79	–4.03	51.74	46.58	118.28
Venezuela	25.09	74.73	118.49	210.15	–155.54	54.01	65.31	123.37
Vietnam	80.42	33.20	165.35	53.44	–10.79	42.64	30.78	56.66
Yemen	18.60	6.13	15.19	22.23	–18.03	4.11	3.23	10.81
Former Yugoslavia	23.21	77.57	146.09	22.79	16.11	38.21	72.24	106.94
Zambia	10.24	4.33	7.81	6.23	0.37	6.55	6.19	1.87
Zimbabwe	13.00	6.77	26.50	8.47	1.18	9.76	10.75	11.43

* Gross production + imports – exports – transmission/distribution losses.

** CO_2 emissions from fuel combustion only. Emissions are calculated using IEA's energy balances and the Revised 1996 IPCC Guidelines.

TPES/ Pop (toe/capita)	TPES/ GDP (toe/000 95 US$)	TPES/ GDP (PPP) (toe/000 95 US$ 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/ 95 US$)	CO_2/ GDP (PPP) (kg CO_2/ 95 US$ PPP)	Region/ Country
3.45	0.74	0.33	5049	2.04	7.04	1.50	0.67	Slovak Republic
3.54	0.28	0.22	6526	2.18	7.72	0.62	0.48	Slovenia
2.50	0.62	0.28	4542	2.66	6.65	1.65	0.75	South Africa
3.24	0.18	0.17	5726	2.31	7.48	0.41	0.39	Spain
0.43	0.48	0.14	300	1.37	0.59	0.66	0.19	Sri Lanka
0.48	1.47	0.28	75	0.49	0.24	0.72	0.14	Sudan
5.72	0.17	0.23	15665	0.98	5.62	0.17	0.22	Sweden
3.72	0.08	0.14	7989	1.58	5.87	0.13	0.21	Switzerland
1.06	1.28	0.35	1076	2.59	2.75	3.31	0.91	Syria
0.52	2.19	0.60	2263	1.60	0.83	3.51	0.96	Tajikistan
0.41	1.97	0.78	65	0.22	0.09	0.44	0.17	United Rep. of Tanzania
1.35	0.45	0.22	1682	2.15	2.91	0.97	0.47	Thailand
0.32	1.01	0.24	114	0.75	0.24	0.75	0.18	Togo
7.12	1.29	0.82	4463	1.78	12.69	2.30	1.46	Trinidad and Tobago
0.85	0.33	0.14	1076	2.27	1.92	0.74	0.32	Tunisia
1.08	0.37	0.18	1559	2.56	2.77	0.94	0.47	Turkey
3.46	3.97	0.82	1797	2.43	8.43	9.65	2.01	Turkmenistan
2.68	2.62	0.62	2815	2.24	6.00	5.86	1.39	Ukraine
11.21	0.64	0.60	11920	2.46	27.54	1.57	1.48	United Arab Emirates
3.83	0.16	0.16	6158	2.34	8.94	0.38	0.38	United Kingdom
7.97	0.25	0.25	13228	2.47	19.66	0.61	0.61	United States
0.75	0.14	0.11	1866	1.67	1.24	0.23	0.18	Uruguay
2.05	2.95	1.41	1843	2.29	4.68	6.75	3.23	Uzbekistan
2.15	0.72	0.46	2603	2.28	4.92	1.65	1.04	Venezuela
0.53	1.28	0.26	383	1.33	0.70	1.71	0.34	Vietnam
0.22	0.67	0.27	174	2.63	0.58	1.76	0.71	Yemen
1.65	0.49	0.26	3112	2.80	4.61	1.38	0.73	Former Yugoslavia
0.64	1.51	0.84	604	0.29	0.18	0.43	0.24	Zambia
0.75	1.44	0.37	827	1.17	0.88	1.69	0.43	Zimbabwe

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

General Conversion Factors for Energy

To:	TJ	Gcal	Mtoe	MBtu	GWh
From:	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:	kg	t	lt	st	lb
From:	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:	gal U.S.	gal U.K.	bbl	ft^3	l	m^3
From:	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

Specific Net Calorific Values

Crude Oil*

	toe/tonne
Saudi Arabia	1.016
United States	1.033
Russia	1.005
Iran	1.019
Venezuela	1.069
Mexico	0.979
Norway	1.014
China	1.000
United Kingdom	1.037
UAE	1.018

** for selected countries.*

Petroleum Products*

	toe/tonne
Refinery gas	1.150
LPG	1.130
Ethane	1.130
Naphtha	1.075
Motor Gasoline	1.070
Jet Fuel	1.065
Kerosene	1.045
Gas/Diesel Oil	1.035
Heavy Fuel Oil	0.960
Other Products	0.960

** selected products - average values.*

Coal*

	toe/tonne
China	0.541
United States	0.659
India	0.441
South Africa	0.564
Australia	0.611
Russia	0.545
Poland	0.546
Kazakhstan	0.444
Ukraine	0.516
Germany	0.572

** steam coal production for selected countries.*

Gross Calorific Values

Natural Gas*

	kJ/m^3
Russia	38231
United States	38304
Canada	38090
Netherlands	33320
United Kingdom	39792
Indonesia	40600
Algeria	42000
Uzbekistan	37889
Saudi Arabia	38000
Norway	39847

**for selected countries (production).*
Note: to calculate the net heat content, the gross heat content 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, 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.

Glossary

Coal — *Coal* includes all coal, both primary (including hard coal and lignite) and derived fuels (including patent fuel, coke oven coke, gas coke, BKB, coke oven gas and blast 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* comprise 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 biomass and animal products (wood, vegetal waste, ethanol, animal materials/ wastes and sulphite lyes), municipal waste (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) and industrial waste.

Other — *Other* includes geothermal, solar, wind, tide, wave 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, tide and wave 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.

Indigenous production

Indigenous production is the production of primary energy, i.e. hard coal, lignite, peat, crude oil, NGLs, natural gas, combustible renewables & 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 cover those quantities delivered to sea-going ships of all flags, including warships. Consumption by ships engaged in transport in inland and coastal waters is not included.

Stock changes

Stock changes reflect 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 indigenous production + imports - exports - international marine bunkers ± stock changes. For the World Total, international marine bunkers are not subtracted from TPES.

Transfers

Transfers include both interproduct transfers and products transferred.

Statistical differences

Statistical differences is a category which 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 column.

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 public 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. UNIPEDE refers to these 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 public 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 public and autoproducer plants are included here.

Gas works

Where there is production of gas at Gas works the treatment is similar to that for electricity generation, with the quantity produced appearing as a positive figure in column "natural gas", inputs as negative entries in columns "coal", "petroleum products" and "natural gas inputs" and conversion losses appearing under the "Total" column.

Petroleum refineries

The row 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 is using standardized 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 into oil in Germany, and natural gas to gasoline in New Zealand.*
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, 11, 12, 23 and 40]. These 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. In final consumption, petrochemical feedstocks are shown under industry, while non-energy use of such oil products as white spirit, lubricants, bitumen, paraffin waxes and other products are shown under non-energy use, and are included in total final consumption only. Backflows from the petrochemical industry are not included in final consumption.*
Industry sector	*Consumption in the Industry sector includes the following sub-sectors (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 industry [ISIC Division 24];* *of which: petrochemical feedstocks. The petrochemical industry includes cracking and reforming processes for the purpose of producing ethylene, propylene, butylene, synthesis gas, aromatics, butadene and other hydrocarbon-based raw materials in processes such as steam cracking, aromatics plants and steam reforming.* ▪ *Non-ferrous metals basic industries [ISIC Group 272 and Class 2732];*

Industry sector (ctd.)

- *Non-metallic mineral products such as glass, ceramic, cement, etc. [ISIC Division 26];*
- *Transport equipment [ISIC Divisions 34 and 35];*
- *Machinery. Fabricated metal products, machinery and equipment other than transport equipment [ISIC Divisions 28, 29, 30, 31 and 32];*
- *Mining (excluding fuels) and quarrying [ISIC Divisions 13 and 14];*
- *Food and tobacco [ISIC Divisions 15 and 16];*
- *Paper, pulp and print [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, 18 and 19];*
- *Non-specified (any manufacturing industry not included above) [ISIC Divisions 25, 33, 36 and 37].*

Transport sector

The Transport sector includes all fuels for transport except international marine bunkers [ISIC Divisions 60, 61 and 62]. It includes transport in the industry sector and covers road, railway, air, internal navigation (including small craft and coastal shipping not included under marine bunkers), fuels used for transport of materials by pipeline and non-specified transport. Fuel used for ocean, coastal and inland fishing should be included in agriculture (other sectors).

Other sectors

Other sectors cover agriculture (including ocean, coastal and inland fishing) [ISIC Divisions 01, 02 and 05], residential, commercial and public services [ISIC Divisions 41, 50, 51, 52, 55, 63, 64, 65, 66, 67, 70, 71, 72, 73, 74, 75, 80, 85, 90, 91, 92, 93, 95 and 99], and non-specified consumption.

Non-energy use

Non-energy use covers use of other petroleum products such as white spirit, paraffin waxes, lubricants, bitumen and other products. They are shown separately under the heading non-energy use and are included in total final consumption. It is assumed that the use of these products is exclusively non-energy use. An exception to this treatment is petroleum coke which is shown as non-energy use only when there is evidence of such use; otherwise it is shown under energy use in industry or in other sectors. Non-energy use of coal includes carbon blacks, graphite electrodes, etc. and is also shown separately by sector.

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.*
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Latin America	*Latin America includes 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	*Africa includes Algeria, Angola, Benin, Cameroon, Congo, Democratic Republic of Congo, Côte d'Ivoire, Egypt, Eritrea, Ethiopia, Gabon, Ghana, Kenya, Libya, Morocco, Mozambique, Namibia, Nigeria, Senegal, South Africa, Sudan, United Republic of Tanzania, Togo, Tunisia, Zambia, Zimbabwe and Other Africa.*

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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. Complete energy balances are presented for the two most recent years available. 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.

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This annual publication of comprehensive information on the use of renewables and waste in the OECD region was first published in 2002. The report addresses a need for development of reliable statistics on this energy form. Support for increasing renewable energy's role in the energy sector has never been greater, and this publication seeks to increase understanding of the current market and trends over recent years. The report contains analysis of renewables and waste energy supply, electricity production and installed electricity generating capacity in OECD countries. The analysis is supported by detailed statistical tables for eight regional aggregates and for each of the thirty OECD countries.

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