

# Fossil Fuel Reserves, Production, and Trade 2005

Source: International Energy Agency (IEA), BP plc

EarthTrends  
Data Tables:  
Energy  
and Resources



	Proved Fossil Fuel Reserves (million metric toe) {a}			Average Annual Production (million metric toe) {a}			Trade in Fossil Fuels (million metric toe) {a}					
	Oil 2003	Coal 2003	Natural Gas 2003	Oil 2001-03	Coal 2001-03	Natural Gas 2001-03	Oil {b}		Coal		Natural Gas	
							Imports 2001	Exports 2001	Imports 2001	Exports 2001	Imports 2001	Exports 2001
<b>WORLD</b>	<b>156,700</b>	<b>501,172</b>	<b>158,198</b>	<b>3,614.8</b>	<b>2,368.5</b>	<b>2,292.2</b>	<b>2,804.9</b>	<b>2,793.2</b>	<b>435.8</b>	<b>445.3</b>	<b>549.8</b>	<b>547.7</b>
<b>ASIA (EXCL. MIDDLE EAST)</b>	<b>8,041</b>	<b>140,362</b>	<b>16,317</b>	<b>417.1</b>	<b>996.9</b>	<b>333.2</b>	<b>872.6</b>	<b>276.3</b>	<b>202.4</b>	<b>124.9</b>	<b>106.8</b>	<b>95.8</b>
Armenia	..	..	..	..	..	..	0.6	0.0	0.0	0.0	1.1	0.0
Azerbaijan	959	..	1,233	15.3	..	4.4	<0.1	10.7	0.0	0.0	2.7	0.0
Bangladesh	..	..	306	..	..	10.3	4.0	<0.1	0.4	0.0	0.0	0.0
Bhutan	..	..	..	..	..	..	..	..	..	..	..	..
Cambodia	..	..	..	..	..	..	..	..	..	..	..	..
China	3,238	58,900	1,641	167.0	707.2	28.9	102.2	20.4	6.3	67.3	2.0	0.0
Georgia	..	..	..	..	..	..	0.5	0.1	<0.1	<0.1	0.8	0.0
India	741	55,597	769	36.5	167.0	25.8	87.7	10.0	14.1	0.9	0.0	0.0
Indonesia	613	2,053	2,301	62.8	63.7	62.8	27.8	39.8	0.0	40.8	0.0	28.1
Japan	..	515	..	..	1.1	..	261.5	4.8	99.5	1.2	62.0	0.0
Kazakhstan	1,233	21,667	1,710	46.8	40.5	10.3	3.9	34.5	0.1	12.1	3.6	4.6
Korea, Dem People's Rep	..	300	..	..	..	..	1.2	0.0	0.2	0.2	0.0	0.0
Korea, Rep	..	52	..	..	1.6	..	146.5	40.1	39.2	0.0	18.9	0.0
Kyrgyzstan	..	..	..	..	..	..	0.3	<0.1	0.2	<0.1	0.6	0.0
Lao People's Dem Rep	..	..	..	..	..	..	..	..	..	..	..	..
Malaysia	524	..	2,165	36.8	..	44.7	16.5	28.2	2.0	<0.1	0.0	16.0
Mongolia	..	..	..	..	..	..	..	..	..	..	..	..
Myanmar	..	..	328	..	..	5.9	1.2	0.0	0.0	0.0	0.0	4.3
Nepal	..	..	..	..	..	..	0.8	0.0	0.3	0.0	0.0	0.0
Pakistan	..	755	675	..	1.5	18.5	16.4	0.7	0.6	0.0	0.0	0.0
Philippines	..	..	..	..	..	..	18.6	1.3	4.6	0.0	0.0	0.0
Singapore	..	..	..	..	..	..	84.6	41.1	0.0	0.0	4.0	0.0
Sri Lanka	..	..	..	..	..	..	3.7	<0.1	<0.1	0.0	0.0	0.0
Tajikistan	..	..	..	..	..	..	1.2	<0.1	<0.1	0.0	0.5	0.0
Thailand	90	423	393	7.9	5.5	16.9	35.3	7.5	2.8	0.0	5.1	0.0
Turkmenistan	75	..	2,610	9.2	..	45.9	0.7	5.4	0.0	0.0	0.0	30.3
Uzbekistan	81	..	1,665	7.2	..	48.3	<0.1	0.4	<0.1	<0.1	0.0	4.7
Viet Nam	338	100	207	17.4	8.8	..	8.3	17.0	0.0	2.4	0.0	0.0
<b>EUROPE</b>	<b>11,845</b>	<b>135,783</b>	<b>48,433</b>	<b>682.0</b>	<b>363.8</b>	<b>775.8</b>	<b>944.4</b>	<b>727.4</b>	<b>168.3</b>	<b>64.9</b>	<b>318.2</b>	<b>246.3</b>
Albania	..	..	..	..	..	..	0.8	0.0	<0.1	0.0	0.0	0.0
Austria	..	..	..	..	..	..	13.4	1.7	3.3	<0.1	5.4	0.3
Belarus	..	..	..	..	..	..	12.3	6.7	0.2	<0.1	14.3	0.0
Belgium	..	..	..	..	..	..	52.0	22.2	9.7	1.4	13.1	0.0
Bosnia and Herzegovina	..	..	..	..	..	..	0.9	0.0	0.0	0.0	0.2	0.0
Bulgaria	..	908	..	..	4.5	..	6.4	2.1	2.7	0.0	2.7	0.0
Croatia	..	..	..	..	..	..	4.4	1.7	0.4	<0.1	0.9	0.2
Czech Rep	..	2,597	..	..	24.6	..	9.5	1.3	1.1	5.6	7.7	0.0
Denmark	170	..	85	17.6	..	7.4	9.1	16.3	4.2	<0.1	0.0	3.1
Estonia	..	..	..	..	..	..	1.0	0.1	0.3	<0.1	0.7	0.0
Finland	..	..	..	..	..	..	15.4	5.0	4.2	<0.1	3.7	0.0
France	..	19	..	..	1.3	..	115.2	21.1	11.6	0.5	34.9	0.8
Germany	..	29,667	186	..	54.4	15.5	152.8	19.8	26.3	0.5	63.4	5.2
Greece	..	958	..	..	9.2	..	23.3	4.0	0.9	<0.1	1.7	0.0
Hungary	..	366	..	..	2.8	..	7.0	2.3	1.1	<0.1	7.8	<0.1
Iceland	..	..	..	..	..	..	0.9	0.0	<0.1	0.0	0.0	0.0
Ireland	..	..	..	..	..	..	10.3	1.3	1.9	<0.1	2.9	0.0
Italy	106	..	198	5.1	..	13.1	106.9	23.0	13.7	<0.1	44.8	<0.1
Latvia	..	..	..	..	..	..	1.5	<0.1	<0.1	<0.1	1.1	0.0
Lithuania	..	..	..	..	..	..	7.0	5.1	<0.1	<0.1	2.2	0.0
Macedonia, FYR	..	..	..	..	..	..	1.1	0.2	<0.1	0.0	<0.1	0.0
Moldova, Rep	..	..	..	..	..	..	0.5	0.0	<0.1	0.0	2.3	0.0
Netherlands	..	..	1,500	..	..	54.3	110.1	68.3	19.0	10.6	15.3	35.5
Norway	1,350	..	2,215	157.5	..	57.8	4.5	162.5	0.9	1.0	0.0	43.5
Poland	..	14,153	104	..	71.3	3.6	22.0	2.7	1.3	17.6	7.2	<0.1
Portugal	..	..	..	..	..	..	18.2	1.4	3.0	0.0	2.3	0.0
Romania	123	486	280	6.1	7.0	11.8	7.9	3.2	2.2	<0.1	2.3	0.0
Russian Federation	9,500	68,699	42,300	383.0	120.4	503.0	5.4	219.4	15.3	24.6	3.3	146.1
Serbia and Montenegro	..	..	..	..	..	..	3.2	<0.1	0.6	<0.1	1.3	0.0
Slovakia	..	..	..	..	..	..	6.1	3.3	3.6	0.2	5.7	0.0
Slovenia	..	..	..	..	..	..	2.6	0.2	0.3	0.0	0.9	0.0
Spain	..	287	..	..	7.3	..	79.7	6.4	11.6	0.4	15.8	0.0
Sweden	..	..	..	..	..	..	25.5	10.2	2.4	<0.1	0.8	0.0
Switzerland	..	..	..	..	..	..	14.3	0.6	0.1	0.0	2.5	0.0
Ukraine	..	16,809	999	..	42.8	15.7	15.6	5.7	3.2	1.6	47.7	0.9
United Kingdom	595	833	567	112.7	18.3	93.7	73.1	109.5	22.8	0.6	2.4	10.7
<b>MIDDLE EAST &amp; N. AFRICA</b>	<b>105,662</b>	<b>1,322</b>	<b>71,385</b>	<b>1,244.0</b>	<b>12.1</b>	<b>316.6</b>	<b>89.1</b>	<b>1,059.6</b>	<b>18.3</b>	<b>0.4</b>	<b>17.9</b>	<b>82.0</b>
Afghanistan	..	..	..	..	..	..	..	..	..	..	..	..
Algeria	1,425	..	4,071	71.9	..	72.4	0.2	62.2	0.5	0.0	0.0	54.1
Egypt	508	..	1,580	37.1	..	20.7	3.4	11.5	1.1	0.4	0.0	0.0
Iran, Islamic Rep	17,952	..	24,021	181.1	..	66.0	2.4	132.3	0.4	<0.1	3.8	0.3
Iraq	15,520	..	2,798	94.0	..	..	0.1	95.0	0.0	0.0	0.0	0.0
Israel	..	..	..	..	..	..	16.5	2.7	7.2	0.0	0.0	0.0
Jordan	..	..	..	..	..	..	4.9	0.0	0.0	0.0	0.0	0.0
Kuwait	13,292	..	1,401	101.3	..	7.5	0.4	92.3	0.0	0.0	0.0	0.0
Lebanon	..	..	..	..	..	..	5.0	0.0	0.1	0.0	0.0	0.0
Libyan Arab Jamahiriya	4,688	..	1,183	67.2	..	5.3	<0.1	57.7	0.0	0.0	0.0	0.6
Morocco	..	..	..	..	..	..	8.5	1.2	3.3	0.0	0.0	0.0
Oman	756	..	851	44.2	..	13.7	0.4	49.2	0.0	0.0	0.0	7.0
Saudi Arabia	36,089	..	6,010	442.1	..	51.4	0.0	364.2	0.0	0.0	0.0	0.0
Syrian Arab Rep	311	..	270	29.0	..	4.6	0.9	21.4	<0.1	0.0	0.0	0.0
Tunisia	65	..	..	3.3	..	..	4.1	3.4	<0.1	0.0	0.9	0.0
Turkey	..	1,322	..	..	12.1	..	29.4	2.6	5.6	0.0	13.2	0.0
United Arab Emirates	12,954	..	5,454	110.6	..	38.2	0.0	98.6	0.0	0.0	0.0	6.7
Yemen	92	..	431	21.8	..	..	<0.1	19.0	0.0	0.0	0.0	0.0

# Fossil Fuel Reserves, Production, and Trade 2005

Source: International Energy Agency (IEA), BP plc

EarthTrends  
Data Tables:  
Energy  
and Resources



	Proved Fossil Fuel Reserves (million metric toe) (a)			Average Annual Production (million metric toe) (a)			Trade in Fossil Fuels (million metric toe) (a)					
	Oil 2003	Coal 2003	Natural Gas 2003	Oil 2001-03	Coal 2001-03	Natural Gas 2001-03	Oil (b)		Coal		Natural Gas	
							Imports 2001	Exports 2001	Imports 2001	Exports 2001	Imports 2001	Exports 2001
<b>SUB-SAHARAN AFRICA</b>	<b>6,500</b>	<b>33,348</b>	<b>4,497</b>	<b>201.6</b>	<b>130.7</b>	<b>14.5</b>	<b>42.1</b>	<b>195.8</b>	<b>1.2</b>	<b>46.4</b>	<b>0.0</b>	<b>6.6</b>
Angola	1,201	..	..	41.6	..	..	0.8	35.7	0.0	0.0	0.0	0.0
Benin	..	..	..	..	..	..	0.6	<0.1	0.0	0.0	0.0	0.0
Botswana	..	..	..	..	..	..	..	..	..	..	..	..
Burkina Faso	..	..	..	..	..	..	..	..	..	..	..	..
Burundi	..	..	..	..	..	..	..	..	..	..	..	..
Cameroon	31	..	..	3.7	..	..	<0.1	6.1	0.0	0.0	0.0	0.0
Central African Rep	..	..	..	..	..	..	..	..	..	..	..	..
Chad	..	..	..	2.1	..	..	..	..	..	..	..	..
Congo	214	..	..	13.3	..	..	<0.1	12.8	0.0	0.0	0.0	0.0
Congo, Dem Rep	..	..	..	..	..	..	0.5	1.2	0.1	0.0	0.0	0.0
Côte d'Ivoire	..	..	..	..	..	..	3.4	2.9	0.0	0.0	0.0	0.0
Equatorial Guinea	..	..	..	11.0	..	..	..	..	..	..	..	..
Eritrea	..	..	..	..	..	..	0.2	0.0	0.0	0.0	0.0	0.0
Ethiopia	..	..	..	..	..	..	1.2	0.0	0.0	0.0	0.0	0.0
Gabon	324	..	..	13.9	..	..	0.2	13.3	0.0	0.0	0.0	0.0
Gambia	..	..	..	..	..	..	..	..	..	..	..	..
Ghana	..	..	..	..	..	..	2.5	0.3	0.0	0.0	0.0	0.0
Guinea	..	..	..	..	..	..	..	..	..	..	..	..
Guinea-Bissau	..	..	..	..	..	..	..	..	..	..	..	..
Kenya	..	..	..	..	..	..	3.0	0.2	<0.1	0.0	0.0	0.0
Lesotho	..	..	..	..	..	..	..	..	..	..	..	..
Liberia	..	..	..	..	..	..	..	..	..	..	..	..
Madagascar	..	..	..	..	..	..	..	..	..	..	..	..
Malawi	..	..	..	..	..	..	..	..	..	..	..	..
Mali	..	..	..	..	..	..	..	..	..	..	..	..
Mauritania	..	..	..	..	..	..	..	..	..	..	..	..
Mozambique	..	..	..	..	..	..	0.5	0.0	0.0	<0.1	0.0	0.0
Namibia	..	..	..	..	..	..	0.8	0.0	<0.1	0.0	0.0	0.0
Niger	..	..	..	..	..	..	..	..	..	..	..	..
Nigeria	4,635	..	4,497	104.5	..	14.5	4.8	108.5	0.0	0.0	0.0	6.6
Rwanda	..	..	..	..	..	..	..	..	..	..	..	..
Senegal	..	..	..	..	..	..	1.6	0.1	0.0	0.0	0.0	0.0
Sierra Leone	..	..	..	..	..	..	..	..	..	..	..	..
Somalia	..	..	..	..	..	..	..	..	..	..	..	..
South Africa	..	33,013	..	..	128.2	..	18.8	6.2	1.0	46.3	0.0	0.0
Sudan	94	..	..	11.5	..	..	0.5	8.5	0.0	0.0	0.0	0.0
Tanzania, United Rep	..	..	..	..	..	..	0.9	0.0	0.0	0.0	0.0	0.0
Togo	..	..	..	..	..	..	0.3	0.0	0.0	0.0	0.0	0.0
Uganda	..	..	..	..	..	..	..	..	..	..	..	..
Zambia	..	..	..	..	..	..	0.6	<0.1	0.0	<0.1	0.0	0.0
Zimbabwe	..	335	..	..	2.5	..	1.0	0.0	<0.1	0.1	0.0	0.0
<b>NORTH AMERICA</b>	<b>6,493</b>	<b>125,311</b>	<b>6,209</b>	<b>480.2</b>	<b>599.4</b>	<b>664.4</b>	<b>677.5</b>	<b>143.4</b>	<b>28.8</b>	<b>50.9</b>	<b>95.5</b>	<b>97.1</b>
Canada	2,308	3,350	1,498	134.4	35.5	166.5	57.0	96.0	15.7	20.9	3.2	88.5
United States	4,184	121,962	4,711	345.7	563.9	497.8	620.5	47.4	13.1	29.9	92.3	8.6
<b>C. AMERICA &amp; CARIBBEAN</b>	<b>2,550</b>	<b>690</b>	<b>1,037</b>	<b>188.5</b>	<b>5.2</b>	<b>49.3</b>	<b>68.6</b>	<b>124.8</b>	<b>2.6</b>	<b>&lt;0.1</b>	<b>3.1</b>	<b>3.0</b>
Belize	..	..	..	..	..	..	..	..	..	..	..	..
Costa Rica	..	..	..	..	..	..	1.9	0.1	0.0	0.0	0.0	0.0
Cuba	..	..	..	..	..	..	7.5	0.0	<0.1	0.0	0.0	0.0
Dominican Rep	..	..	..	..	..	..	6.2	0.0	0.1	0.0	0.0	0.0
El Salvador	..	..	..	..	..	..	2.2	0.3	<0.1	0.0	0.0	0.0
Guatemala	..	..	..	..	..	..	3.1	1.1	0.1	0.0	0.0	0.0
Haiti	..	..	..	..	..	..	0.5	0.0	0.0	0.0	0.0	0.0
Honduras	..	..	..	..	..	..	1.8	<0.1	<0.1	0.0	0.0	0.0
Jamaica	..	..	..	..	..	..	3.6	<0.1	<0.1	0.0	0.0	0.0
Mexico	2,285	690	374	181.2	5.2	32.1	17.2	99.1	2.2	<0.1	3.1	0.2
Nicaragua	..	..	..	..	..	..	1.3	<0.1	0.0	0.0	0.0	0.0
Panama	..	..	..	..	..	..	3.6	1.0	<0.1	0.0	0.0	0.0
Trinidad and Tobago	265	..	663	7.3	..	17.2	5.1	11.5	0.0	0.0	0.0	2.8
<b>SOUTH AMERICA</b>	<b>14,120</b>	<b>8,601</b>	<b>5,608</b>	<b>329.6</b>	<b>36.1</b>	<b>78.4</b>	<b>60.1</b>	<b>224.8</b>	<b>13.9</b>	<b>31.2</b>	<b>8.3</b>	<b>8.0</b>
Argentina	440	..	598	39.8	..	34.3	1.8	22.0	0.6	0.2	0.0	5.1
Bolivia	..	..	732	..	..	4.4	0.3	0.0	0.0	0.0	0.0	3.0
Brazil	1,456	3,976	221	72.5	2.0	8.1	35.9	12.7	10.8	0.0	3.8	0.0
Chile	..	..	..	..	..	..	12.0	2.7	2.1	0.0	4.4	0.0
Colombia	206	4,305	101	29.6	28.8	5.5	0.5	19.3	0.0	25.5	0.0	0.0
Ecuador	649	..	..	21.2	..	..	1.4	14.9	0.0	0.0	0.0	0.0
Guyana	..	..	..	..	..	..	..	..	..	..	..	..
Paraguay	..	..	..	..	..	..	1.1	0.0	0.0	0.0	0.0	0.0
Peru	129	..	222	4.7	..	..	5.0	2.8	0.5	0.0	0.0	0.0
Suriname	..	..	..	..	..	..	..	..	..	..	..	..
Uruguay	..	..	..	..	..	..	2.1	0.2	<0.1	0.0	<0.1	0.0
Venezuela	11,239	319	3,735	161.8	5.4	26.2	0.0	150.2	0.0	5.5	0.0	0.0
<b>OCEANIA</b>	<b>611</b>	<b>41,748</b>	<b>2,679</b>	<b>30.0</b>	<b>186.8</b>	<b>34.4</b>	<b>33.3</b>	<b>28.8</b>	<b>0.0</b>	<b>126.5</b>	<b>0.0</b>	<b>8.8</b>
Australia	560	41,547	2,294	30.0	184.0	29.4	27.3	27.4	0.0	125.2	0.0	8.8
Fiji	..	..	..	..	..	..	..	..	..	..	..	..
New Zealand	..	202	..	..	2.8	5.0	6.0	1.4	0.0	1.3	0.0	0.0
Papua New Guinea	51	..	385	..	..	..	..	..	..	..	..	..
Solomon Islands	..	..	..	..	..	..	..	..	..	..	..	..
<b>DEVELOPED</b>	<b>21,246</b>	<b>358,038</b>	<b>64,153</b>	<b>1,270.6</b>	<b>1,319.8</b>	<b>1,583.5</b>	<b>1,961.5</b>	<b>964.4</b>	<b>305.2</b>	<b>301.9</b>	<b>485.7</b>	<b>391.8</b>
<b>DEVELOPING</b>	<b>134,560</b>	<b>129,128</b>	<b>91,965</b>	<b>2,300.2</b>	<b>1,011.2</b>	<b>680.9</b>	<b>840.9</b>	<b>1,823.2</b>	<b>130.6</b>	<b>143.4</b>	<b>79.2</b>	<b>155.9</b>

Data providers do not always distinguish between missing data and zero values. WRI has distinguished between the two where possible, but some values represented as zero should probably be indicated as missing and vice versa. a. Toe is metric tons of oil equivalent. b. Oil imports and exports include petroleum products. c. The figure for Canadian oil reserves includes an official estimate of Canadian oil sands 'under active development'.

### VARIABLE DEFINITIONS AND METHODOLOGY

**Proved Fossil Fuel Reserves** are generally taken to be those quantities of fossil fuels that geological and engineering information indicates with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions. In order to facilitate comparisons among different sources of energy, all values in the table have been converted to metric tons of oil equivalent (toe). One toe is equal to  $10^7$  kilocalories, 41.868 gigajoules (GJ), or 11,628 gigawatt-hours (GWh). A toe measures the energy contained in a metric ton (1000 kg) of crude oil. The energy produced by fossil fuels is calculated using conversion factors per unit mass of fuel (e.g., 10,000 kcal/kg of oil).

- **Oil** includes gas condensate and natural gas liquids (NGLs) as well as crude oil. Estimates were converted to metric tons of oil equivalent by BP using country-specific conversion factors.
- **Coal** reserves include anthracite, bituminous, sub-bituminous, and lignite coal. Anthracite coal refers to hard coal, found deep in the earth, which burns very hot, with little flame. It usually has a heating value of 15,000 British thermal units per pound (Btu/lb). Bituminous coal is the most abundant type of coal, and has a high heating value, but also has a high sulfur content. It usually has a heating value of 11,000 - 15,000 Btu/lb. Sub-bituminous coal is cheaper to mine because it is not as deep as bituminous coal, but contains a significant amount of sulfur. It usually has a heating value of 8000-10,000 Btu/lb. Lignites are the "youngest" coals, which have high water content and low heating values. Lignite often has many impurities and is therefore not a preferable type to use. It usually has a heating value of 5000-7500 Btu/lb. One ton of oil equivalent is equal to 1.5 tons of anthracite and bituminous coal; and equal to 3 tons of sub-bituminous and lignite coal.
- **Natural Gas** was converted using the standard conversion factor of 0.9 million metric tons of oil equivalent per billion cubic meters of natural gas.

**Average Annual Fossil Fuel Production** is displayed here as the average annual production of fossil fuels during the period from 2001 to 2003.

- **Oil** includes the production of crude oil, shale oil, oil sands, and natural gas liquids (the liquid content of natural gas where this is recovered separately). The values presented here do not include liquid fuels from other sources such as coal derivatives.
- **Coal** includes anthracite, bituminous, sub-bituminous, and lignite coal.
- **Natural Gas** does not include natural gas liquids.

**Trade in Fossil Fuels** is the amount of fossil fuels that enters (referred to as imports) or exits (referred to as exports) the national territorial boundaries of a country, whether or not customs clearance has taken place.

- **Oil** includes quantities of crude oil and petroleum products traded under processing agreements (i.e. refining on account). Quantities of oil in transit are excluded. Re-exports of oil imported for processing within bonded areas are shown as exports of product from the processing country to the final destination. Petroleum products include refinery gas, ethane, liquefied petroleum gas, 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.
- **Coal** 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, and blast furnace gas). Peat is also included. In most cases, coal in transit is not included.
- **Natural gas** refers to natural gas and gas works gas, while natural gas liquids (NGLs) are excluded. Natural gas is reported as coming from the country of origin.

### FREQUENCY OF UPDATE BY DATA PROVIDERS

#### **Proved Fossil Fuel Reserves and Average Annual Fossil Fuel Production**

BP has published their Statistical Review of World Energy annually since 1951.

### **Trade in Fossil Fuels**

Data sourced from the International Energy Agency (IEA) cover the years 1960-2001 for countries that are members of the Organization for Economic Cooperation and Development (OECD). Data for OECD non-members are typically from 1971 to 2001, but coverage varies. The IEA updates energy data each year in June for OECD countries and in September for non-OECD countries, often revising data from earlier years.

### **DATA RELIABILITY AND CAUTIONARY NOTES**

#### **Proved Fossil Fuel Reserves**

All numbers are, at best, informed estimates. Within the broad concept of oil 'reserves' there are several key distinctions: ultimately recoverable resource, proved, probable, and possible reserves, and oil in place. The data shown here are proved reserves.

Every effort is made to come up with a consistent series for reserves based on a common definition. However, in reality, different countries use different methodologies and the data have varying levels of reliability.

Conversion factors vary by country so calculations made for 1980 through 2002 may be slightly less reliable than those for 2003. The original dataset, reported in thousand million barrels on BP's web site, may be slightly more consistent with actual totals. The 2003 individual country conversion factors, calculated by BP, range from 0.126 to 0.144, which represents 92% to 106% of the standard conversion factor.

#### **Average Annual Fossil Fuel Production**

BP has collected production data from recognized, primary sources and thus this dataset can be considered to contain fairly reliable estimates of actual production numbers.

#### **Trade in Fossil Fuels**

The energy balances data are primarily based on well-established and institutionalized accounting methodologies, and are therefore considered reliable. These statistics are expressed in terms of "net" calorific value, so the values reported here may be slightly lower than those in other statistical compendia which report energy in terms of "gross" calorific value.

The data as received from the provider do not distinguish between missing data and zero values. WRI has distinguished between the two where possible, but some values represented as zero should probably be indicated as missing and vice versa.

### **SOURCES**

#### **Proved Fossil Fuel Reserves and Average Annual Fossil Fuel Production**

BP p.l.c., 2004. *Statistical Review of World Energy*. Available online at: <http://www.bp.com/statisticalreview2004>. London: BP p.l.c. BP compiles these statistics using a combination of primary official sources, third party data from the OPEC Secretariat, Cedigaz, World Energy Council, World Oil, Oil & Gas Journal, and an independent estimate of Russian reserves based on information in the public domain.

#### **Trade in Fossil Fuels**

International Energy Agency (IEA), 2003. *Energy Balances of OECD Countries (2003 Edition)* and *Energy Balances of non-OECD Countries (2003 Edition)*. Electronic database available online at: <http://data.iea.org/ieastore/default.asp>. Paris: Organization for Economic Cooperation and Development (OECD).