

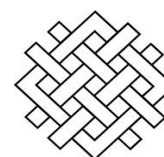
Energy Consumption by Sector 2005

EarthTrends

Data Tables:

Energy

Consumption by Sector



Source: International Energy Association (IEA)

Energy Consumption (as a percent of total final consumption)
by Sector

	Total Final Consumption (1000 metric toe) (a)		Transportation												Non Energy Uses & "Other" (b)	
			Industry		Road				All Other		Agriculture		Commercial & Public Services				Residential
	1990	2001	1990	2001	1990	2001	1990	2001	1990	2001	1990	2001	1990	2001	1990	2001
WORLD	5,566,234	7,585,443	36.8	31.9	19.8	19.7	5.7	5.5	3.9	2.5	8.5	7.8	19.3	27.5	5.9	5.1
ASIA (EXCL. MIDDLE EAST)	1,224,627	2,175,379	45.5	34.7	12.9	13.0	4.3	3.7	4.0	2.9	5.4	5.9	22.4	35.3	5.5	4.4
Armenia	..	1,410	..	30.4	..	14.1	..	5.1	..	3.8	..	1.4	..	10.3	..	34.9
Azerbaijan	..	6,471	..	25.2	..	11.7	..	4.4	..	2.4	..	6.0	..	40.2	..	10.2
Bangladesh	11,001	16,865	19.6	27.8	3.6	5.3	2.2	3.3	2.4	3.5	1.0	1.0	70.0	56.0	1.2	3.2
Bhutan	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cambodia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
China	481,819	785,435	56.5	40.0	4.4	6.1	3.4	3.5	5.4	4.2	2.5	3.7	19.9	38.2	7.9	4.3
Georgia	..	1,981	..	16.3	..	18.8	..	2.2	..	3.6	..	9.6	..	47.9	..	1.6
India	117,871	379,665	44.0	26.2	18.4	10.3	5.7	1.4	3.7	2.0	3.7	0.9	20.8	56.5	3.7	2.7
Indonesia	75,404	117,526	17.2	19.8	12.8	17.5	2.3	2.2	1.3	1.7	0.7	1.8	64.4	56.1	1.3	1.0
Japan	293,357	342,126	42.2	35.9	20.8	23.2	4.5	4.9	3.8	1.9	11.5	16.9	13.5	13.6	3.7	3.5
Kazakhstan	..	21,484	..	45.0	..	9.5	..	4.3	..	5.8	..	0.3	..	2.6	..	32.6
Korea, Dem People's Rep	27,279	17,622	71.2	67.9	5.7	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.2	22.4	29.0
Korea, Rep	63,985	130,253	38.0	44.8	16.8	18.1	6.5	5.8	2.6	3.0	13.6	12.3	19.5	12.4	3.0	3.7
Kyrgyzstan	..	1,602	..	16.0	..	10.0	..	2.0	..	14.0	..	0.0	..	9.7	..	48.1
Lao People's Dem Rep	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Malaysia	14,515	32,487	40.6	40.6	33.4	35.0	4.5	5.5	0.0	0.3	6.4	7.1	13.6	9.6	1.6	1.9
Mongolia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Myanmar	9,404	11,098	5.0	7.8	4.5	7.7	0.3	0.5	0.0	0.1	0.2	0.7	89.8	82.9	0.2	0.3
Nepal	5,778	8,352	1.8	5.1	1.9	2.9	0.3	0.5	0.6	0.8	0.7	1.3	94.6	89.0	0.1	0.3
Pakistan	18,355	52,076	43.9	26.7	22.9	14.9	4.1	2.4	4.0	1.4	4.4	2.5	19.5	51.6	1.1	0.6
Philippines	19,391	24,926	20.2	29.9	9.3	27.2	4.4	5.9	6.1	1.7	2.8	9.3	47.4	22.0	9.7	3.9
Singapore	6,872	10,605	33.3	37.4	19.5	20.0	27.9	23.0	0.0	0.0	5.9	9.3	4.1	5.2	9.3	5.1
Sri Lanka	5,303	7,329	14.7	19.4	13.8	20.8	1.8	4.9	0.0	0.1	2.7	4.4	63.3	46.3	3.9	4.2
Tajikistan	..	2,670	..	17.7	..	34.5	..	0.4	..	14.7	..	0.9	..	9.6	..	22.1
Thailand	30,659	53,418	28.5	38.1	27.9	27.8	7.7	5.9	5.9	5.4	3.4	4.6	25.8	16.1	0.8	2.1
Turkmenistan	..	9,803	..	1.8	..	6.9	..	0.1	..	1.6	..	0.0	..	1.1	..	88.5
Uzbekistan	..	37,750	..	25.5	..	5.5	..	5.0	..	5.9	..	8.4	..	40.2	..	9.5
Viet Nam	4,615	35,318	46.4	14.1	27.7	11.3	3.7	0.8	2.9	1.4	3.6	3.4	15.1	68.9	0.6	0.0
EUROPE	1,198,340	1,858,697	34.9	32.2	20.7	18.9	4.2	6.1	2.7	2.7	8.8	8.7	23.8	27.5	4.8	3.9
Albania	2,245	1,434	29.8	17.2	10.5	33.0	0.0	8.5	0.1	14.2	0.0	4.9	26.2	18.0	33.4	4.3
Austria	20,569	25,795	27.4	25.7	21.4	23.7	3.7	4.8	3.5	2.7	8.7	9.4	28.7	28.3	6.5	5.3
Belarus	..	18,121	..	40.5	..	8.5	..	3.2	..	5.5	..	2.9	..	29.6	..	9.8
Belgium	33,046	43,072	37.3	40.5	19.9	18.9	3.9	3.6	1.5	1.6	8.8	8.5	25.1	23.1	3.5	3.6
Bosnia and Herzegovina	..	2,660	..	23.7	..	20.5	..	2.3	..	0.0	..	3.2	..	21.7	..	28.6
Bulgaria	17,810	9,794	58.7	46.0	11.2	17.7	3.2	3.8	4.5	2.8	0.6	7.8	13.3	19.8	8.5	2.0
Croatia	..	6,095	..	30.9	..	22.9	..	3.0	..	4.5	..	8.9	..	27.4	..	2.3
Czech Rep	35,302	25,572	50.4	38.5	6.7	18.0	1.4	2.1	4.0	1.1	9.4	12.6	23.6	22.6	4.6	5.1
Denmark	13,880	15,155	19.5	19.7	22.5	23.4	7.0	7.3	7.2	6.5	12.4	12.4	29.0	28.9	2.2	1.8
Estonia	..	2,746	..	26.5	..	21.4	..	2.8	..	2.2	..	10.4	..	34.1	..	2.5
Finland	22,722	25,226	43.0	45.2	16.3	15.2	2.9	3.1	4.1	3.4	3.9	6.6	23.6	20.2	6.2	6.3
France	147,373	173,790	28.4	26.3	25.1	25.5	4.0	5.1	2.3	1.8	12.3	14.0	24.4	23.9	3.6	3.4
Germany	247,275	246,022	33.6	29.8	20.8	22.9	3.5	3.9	1.2	1.1	11.5	9.8	25.6	28.6	3.7	3.8
Greece	15,466	20,089	26.9	23.0	25.8	27.7	12.7	9.8	6.7	5.6	4.2	7.3	19.9	23.6	3.8	3.0
Hungary	20,930	17,775	35.9	25.1	12.6	17.3	2.5	2.2	5.5	3.6	9.0	17.2	30.8	31.1	3.7	3.4
Iceland	1,724	2,319	24.6	32.7	10.7	8.8	6.1	5.9	15.9	12.2	4.1	5.1	33.5	28.7	5.1	6.7
Ireland	7,840	11,744	27.9	23.0	20.1	30.2	5.8	7.0	2.8	2.3	12.9	13.2	28.0	22.5	2.5	1.7
Italy	117,637	134,120	34.7	31.7	26.8	28.5	3.2	3.5	2.7	2.5	3.2	4.0	26.1	26.6	3.4	3.2
Latvia	..	3,738	..	17.8	..	20.9	..	3.5	..	2.6	..	13.5	..	39.2	..	2.4
Lithuania	..	4,602	..	28.6	..	23.1	..	2.4	..	2.2	..	10.3	..	29.9	..	3.6
Macedonia, FYR	..	1,442	..	31.7	..	21.9	..	2.0	..	4.0	..	8.2	..	30.6	..	1.7
Moldova, Rep	..	1,447	..	22.3	..	10.0	..	3.7	..	5.9	..	10.7	..	38.6	..	8.8
Netherlands	51,174	60,270	37.7	32.7	16.7	17.8	3.9	6.4	6.9	7.0	11.5	13.3	18.9	17.3	4.4	5.4
Norway	18,030	21,171	39.4	40.5	14.7	14.8	8.7	7.3	1.5	3.8	11.3	10.7	20.0	19.9	4.4	3.1
Poland	62,194	58,980	42.3	31.7	9.8	14.3	2.5	1.7	5.4	8.7	9.0	9.2	29.0	31.9	2.1	2.4
Portugal	13,615	19,635	43.2	34.5	23.0	29.5	5.5	4.6	3.5	3.9	4.5	8.3	17.2	14.7	3.2	4.6
Romania	43,373	24,278	55.8	41.9	8.4	15.0	1.8	2.3	5.2	1.2	0.9	4.8	24.0	29.5	3.8	5.4
Russian Federation	..	427,458	..	34.7	..	8.7	..	10.6	..	3.0	..	4.6	..	34.1	..	4.2
Serbia and Montenegro	..	10,088	..	37.4	..	20.2	..	0.8	..	1.2	..	0.2	..	31.9	..	8.3
Slovakia	16,114	11,674	50.7	36.2	6.1	12.0	0.6	5.0	5.3	3.8	16.8	14.2	15.4	26.2	5.1	2.5
Slovenia	..	4,869	..	31.3	..	27.5	..	1.3	..	0.2	..	11.8	..	24.3	..	3.5
Spain	62,498	93,290	36.1	34.4	28.9	30.0	7.6	7.5	2.7	2.6	5.5	7.6	14.8	13.5	4.4	4.3
Sweden	32,146	34,849	38.6	38.0	19.3	19.6	3.8	4.2	1.7	1.3	12.6	12.7	21.4	21.9	2.6	2.3
Switzerland	19,662	21,561	17.8	20.8	24.7	23.3	7.3	8.5	1.0	1.2	17.1	15.9	26.9	27.2	5.3	3.0
Ukraine	..	86,981	..	42.5	..	5.1	..	3.2	..	3.8	..	12.3	..	31.0	..	2.1
United Kingdom	145,374	161,418	26.8	24.6	25.5	24.4	6.5	8.0	0.9	0.7	8.9	10.8	25.7	27.7	5.8	3.8
MIDDLE EAST & N. AFRICA	257,162	408,254	31.8	32.4	22.9	21.7	4.1	3.2	2.6	2.1	3.0	4.3	18.9	20.4	16.8	15.9
Afghanistan	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Algeria	13,241	16,404	25.5	23.4	32.9	12.9	5.4	6.6	0.0	0.0	0.0	0.0	24.6	31.5	11.5	25.6
Egypt	21,081	33,616														

Energy Consumption by Sector 2005

Energy Consumption (as a percent of total final consumption)
by Sector

	Total Final Consumption (1000 metric toe) (a)		Transportation												Non Energy Uses & "Other" (b)	
			Industry		Road				All Other		Agriculture		Commercial & Public Services				Residential
	1990	2001	1990	2001	Transport		Transport		1990	2001	1990	2001	1990	2001	1990	2001
	1990	2001	1990	2001	1990	2001	1990	2001	1990	2001	1990	2001	1990	2001	1990	2001
SUB-SAHARAN AFRICA	81,031	259,478	41.0	19.4	24.1	10.5	4.5	2.0	2.5	1.6	4.0	2.2	21.4	56.2	2.4	8.0
Angola	1,683	6,594	41.5	12.8	20.0	6.0	20.6	7.9	0.5	0.0	7.6	3.8	7.2	66.5	2.5	2.9
Benin	107	1,753	15.9	3.8	50.5	18.5	15.9	1.4	0.0	0.0	0.0	11.8	17.8	62.1	0.0	2.3
Botswana	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Burkina Faso	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Burundi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cameroon	1,161	6,077	14.6	16.8	50.0	10.4	4.5	1.0	0.0	0.0	2.0	0.5	22.3	70.2	6.6	1.2
Central African Rep	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chad	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Congo	265	692	11.7	5.9	57.0	19.4	12.8	7.8	0.0	0.0	0.0	0.0	14.3	64.7	4.5	2.0
Congo, Dem Rep	1,172	14,280	24.2	21.2	16.6	1.1	9.3	0.9	0.1	0.0	0.0	0.0	14.8	74.9	35.0	1.8
Côte d'Ivoire	984	4,189	21.4	6.6	35.1	6.5	14.3	3.7	5.7	1.4	9.5	11.8	7.6	58.2	6.4	11.7
Equatorial Guinea	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Eritrea	..	620	..	3.1	..	13.1	..	1.9	..	0.2	..	10.6	..	70.0	..	1.3
Ethiopia (c)	903	18,451	23.8	1.7	33.8	3.2	19.8	0.3	4.0	0.0	1.8	0.2	6.8	2.0	10.0	92.5
Gabon	366	1,538	21.3	20.9	29.2	11.1	22.4	7.5	0.0	0.0	3.6	0.9	16.7	55.8	6.8	3.9
Gambia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ghana	4,367	6,337	15.7	14.4	11.8	14.5	1.7	2.4	0.9	2.7	0.3	1.2	67.8	63.8	1.8	1.0
Guinea	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Guinea-Bissau	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kenya	2,210	11,038	25.8	10.8	38.5	7.0	14.7	4.3	2.7	6.6	1.0	0.8	11.8	69.8	5.5	0.7
Lesotho	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Liberia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madagascar	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Malawi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mali	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mauritania	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mozambique	405	6,495	12.8	14.1	43.0	3.7	17.0	0.9	8.9	0.1	2.0	0.4	11.6	80.5	4.7	0.3
Namibia	..	1,128	..	5.5	..	35.8	..	4.3	..	14.1	..	0.3	..	15.6	..	24.6
Niger	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nigeria	8,184	85,491	19.3	10.8	47.7	9.2	4.8	0.6	0.0	0.0	1.9	0.3	21.1	78.3	5.3	0.7
Rwanda	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Senegal	644	2,437	17.5	19.2	34.0	11.9	27.2	9.6	8.7	2.7	1.2	0.7	9.2	55.0	2.0	0.8
Sierra Leone	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Somalia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Africa	50,757	56,427	50.7	46.1	18.8	20.3	2.2	3.8	2.5	2.7	4.7	4.8	20.4	21.2	0.6	1.1
Sudan	1,806	9,081	13.7	24.0	71.6	12.8	1.8	1.6	1.1	1.0	0.6	14.0	6.2	45.4	5.0	1.3
Tanzania, United Rep	652	12,448	21.2	10.2	35.6	4.1	11.5	0.5	0.9	4.6	4.3	0.0	23.5	77.0	3.1	3.6
Togo	713	1,048	7.7	9.4	11.1	9.5	1.7	1.7	0.0	0.0	1.3	0.9	77.1	72.2	1.1	6.2
Uganda	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Zambia	1,329	5,083	55.8	22.8	17.2	4.6	7.0	1.4	2.0	0.4	7.9	1.4	6.3	68.8	3.8	0.7
Zimbabwe	3,323	8,271	48.1	11.8	13.4	7.5	8.8	1.5	11.8	8.1	8.1	2.5	6.0	67.0	3.8	1.6
NORTH AMERICA	1,468,100	1,725,599	27.2	27.2	29.0	31.1	8.2	7.2	1.2	1.1	12.3	12.5	16.3	16.5	5.8	4.3
Canada	161,321	184,976	35.8	35.2	20.5	21.4	6.9	7.1	2.0	2.1	13.5	14.8	17.9	16.2	3.4	3.3
United States	1,306,779	1,540,623	26.1	26.2	30.0	32.3	8.4	7.3	1.1	1.0	12.2	12.2	16.1	16.6	6.1	4.5
C. AMERICA & CARIBBEAN	125,054	138,513	39.7	34.7	27.5	31.3	3.3	3.6	3.1	2.7	2.6	3.6	20.4	22.1	3.3	1.9
Belize	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Costa Rica	1,857	2,585	27.0	20.9	11.1	39.7	19.6	5.5	0.6	5.6	5.9	8.0	35.3	18.5	0.4	1.8
Cuba	13,261	10,565	62.4	70.1	12.0	6.6	2.7	1.9	3.5	2.3	1.8	2.9	9.2	8.3	8.4	8.0
Dominican Rep	2,737	5,447	20.8	19.4	32.7	35.8	2.6	3.9	1.0	1.5	0.0	0.0	42.9	39.4	0.0	0.0
El Salvador	1,963	3,041	21.9	23.5	21.4	27.7	1.8	2.4	0.0	0.2	2.6	1.9	51.1	43.4	1.1	0.9
Guatemala	4,107	6,268	12.6	14.9	14.3	23.1	1.0	1.0	0.6	0.9	2.7	3.3	67.8	56.2	0.9	0.7
Haiti	1,259	1,750	11.2	15.3	5.1	6.2	8.1	10.1	0.0	0.0	3.5	2.3	71.6	65.4	0.6	0.7
Honduras	2,357	2,870	24.9	24.4	13.6	24.3	1.3	0.8	0.1	0.1	4.9	6.1	55.2	44.3	0.0	0.0
Jamaica	2,102	2,285	9.3	21.0	12.0	22.0	12.3	13.4	48.7	20.6	4.1	5.5	12.3	16.1	1.2	1.4
Mexico	88,467	93,195	39.4	32.6	32.6	36.9	2.9	3.6	2.6	2.9	2.5	3.8	16.6	18.6	3.2	1.6
Nicaragua	1,624	2,159	21.6	14.1	14.4	21.3	2.4	2.3	2.2	0.9	3.1	4.2	55.5	56.0	0.9	1.3
Panama	1,202	1,851	20.5	17.9	18.7	22.3	13.9	15.7	0.0	0.0	9.5	12.9	36.3	30.0	1.2	1.3
Trinidad and Tobago	3,456	5,611	80.2	86.1	12.8	8.6	2.3	1.1	0.0	0.0	0.8	0.8	3.7	3.2	0.2	0.2
SOUTH AMERICA	222,271	304,536	37.8	38.9	27.6	28.1	3.4	3.8	4.4	4.3	4.5	5.1	19.5	16.5	2.8	3.4
Argentina	30,207	43,762	32.7	34.2	29.3	25.1	2.4	5.4	5.0	5.5	8.2	7.2	20.9	20.6	1.4	2.1
Bolivia	2,240	2,881	19.9	30.3	26.7	27.9	5.7	5.6	0.6	0.2	1.3	2.6	38.0	22.4	7.8	11.0
Brazil	112,812	156,362	41.8	42.7	25.8	27.8	3.7	3.6	5.3	5.0	4.1	5.0	16.1	12.9	3.2	2.9
Chile	10,392	18,329	35.3	37.7	24.6	26.0	5.8	5.4	1.1	0.9	2.4	3.5	29.0	26.5	1.9	0.0
Colombia	19,762	22,942	26.9	29.7	27.3	24.5	3.5	3.7	8.1	7.9	3.6	4.9	28.0	21.2	2.7	8.1
Ecuador	5,423	6,727	23.5	19.9	36.6	42.8	8.2	7.8	1.0	0.1	3.7	4.1	23.9	19.8	3.0	5.4
Guyana	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Paraguay	2,945	3,528	32.5	34.5	18.1	24.9	0.7	0.7	0.0	0.0	1.2	1.7	47.1	38.0	0.4	0.2
Peru	8,775	10,588	21.8	27.0	25.2	26.2	3.4	3.9	4.1	4.8	3.3	2.3	41.4	34.4	0.9	1.3
Suriname	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uruguay	1,931	2,414	27.2	18.5	24.9	32.6	1.2	0.4	7.0	7.9	5.7	8.2	30.9	29.5	3.1	2.9
Venezuela	27,784	37,003	46.3	43.7	34.9	33.7	1.4	1.2	0.0	0.5	4.8	5.5	9.3	9.9	3.3	5.6
OCEANIA	68,053	86,721	36.0	36.2	30.8	28.1	7.8	10.3	2.3	2.3	6.3	6.9	12.8	12.3	4.0	4.0
Australia	58,070	72,995	35													

DEFINITIONS AND METHODOLOGY

Total Final Consumption (TFC) is the sum of consumption by the different end-use sectors. TFC does not include the energy used by the transformation industries and the energy losses in converting primary energy into a useable form for the final consuming sectors. Non-energy use of such oil products as white spirit, lubricants, bitumen, and paraffin waxes is included in TFC. Petrochemical feedstocks and backflows from the petrochemical industry are not included. The total amount of primary energy refers to the energy consumed from all sources including fossil, nuclear, hydroelectric, modern renewables, traditional renewables, and all renewable fuels and waste.

Basic energy statistics are collected by the International Energy Agency (IEA) from a variety of sources. In OECD member countries, national administrations fill out five annual questionnaires. In non-OECD countries, statistics are collected from questionnaires, international organizations such as United Nations, co-operation with national statistical bodies, and direct communication with energy consultants and companies. If data are not available from any of these sources, they are estimated by the IEA.

The IEA measures the heat content of all energy commodities in metric tons of oil equivalent (toe). One toe is equal to 10 Exp. 7 kilocalories, 41.868 gigajoules, or 11,628 gigawatt-hours (GWh). A toe measures the energy contained in a metric ton (1000 kg) of crude oil.

Energy Consumption by Sector is the percentage of TFC consumed by a designated sector, as defined by the International Secretariat for Industry Classifications (ISIC). For a complete listing of the economic activities included in these ISIC divisions, please consult the web page of the U.N. Department of Economic and Social Affairs, Statistics Division: <http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=17&Lg=1>.

Industry includes a combination of all industrial sub-sectors, such as mining and quarrying, iron and steel, and construction. Energy used for transport by industry is not included here, but is reported under transportation.

Road Transport includes all fuels used in road vehicles, including military, as well as agricultural and industrial highway use. The sector excludes motor gasoline used in stationary engines and diesel oil used in tractors.

All Other Transport refers to all fuel used for non-road transport except fuel used for international marine bunkers and ocean, coastal, and inland fishing. It includes transport in the industry sector and covers 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.

Agriculture includes all activities defined as agriculture, hunting, and forestry. The sector therefore includes energy consumed by ocean, coastal and inland fishing in addition to the energy consumed by traction, power, and heating.

Commercial & Public Services include, for example, wholesale and retail trade; the operation of hotels and restaurants; post and telecommunications; real estate, renting and business activities; the collection, purification and distribution of water; maintenance and repair of motor vehicles and motorcycles; financial intermediation, except insurance and pension funding; computer and related activities; sewage and refuse disposal; public administration and defense; education; and other community, health, social and personal service activities.

Residential includes all energy used for activities by households except for transportation.

Non-energy Uses and "Other" includes the use of petroleum products such as white spirit, paraffin waxes, lubricants, bitumen and other products. It is assumed that these products are used exclusively for non-energy

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purposes. This category also includes the non-energy use of coal (excluding peat) and fuel inputs for the production of ammonia and methanol. All fuel use not elsewhere specified is included here.

FREQUENCY OF UPDATE BY DATA PROVIDERS

Data sourced from IEA cover the years 1960-2001 for countries that are members of the Organization for Economic Cooperation and Development (OECD). Data sourced from IEA 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

The energy balances data are primarily based on well-established and institutionalized accounting methodologies, and are therefore considered reliable.

The data as received from the provider do not distinguish between no 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.

SOURCE

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).