

Table 10. Energy use and emissions

Economy	Commercial energy use					GDP per unit of energy use				Carbon dioxide emissions			
	Thousand metric tons of oil equivalent		Per capita		Avg. annual % growth 1990-97	PPPS per kg of oil equivalent		Net energy imports ^a % of commercial energy use		Total		Per capita	
	1990	1997	1990	1997		1990	1997	1990	1997	1990	1996	1990	1996
Albania	2,567	1,048	782	317	-10.4	3.4	8.5	8	13	8.4	1.9	2.6	0.6
Algeria	23,959	26,497	958	912	-1.8	4.7	5.3	-332	-374	80.4	94.3	3.2	3.3
Angola	5,617	6,848	609	587	-0.7	3.1	2.6	-414	-505	4.6	5.1	0.5	0.5
Argentina	43,313	61,710	1,332	1,730	3.7	5.6	6.9	-9	-30	109.7	129.9	3.4	3.7
Armenia	7,941	1,804	2,240	476	-23.2	1.5	4.3	98	70	3.7	3.7	1.0	1.0
Australia	87,155	101,626	5,107	5,484	1.3	3.2	4.0	-80	-96	266.0	306.6	15.6	16.7
Austria	25,699	27,761	3,326	3,439	0.2	5.5	6.7	67	71	57.4	59.3	7.4	7.4
Azerbaijan	22,841	11,987	3,191	1,529	-10.7	1.5	1.3	11	-17	47.1	30.0	6.4	3.9
Bangladesh	20,936	24,327	190	197	1.0	5.0	6.8	10	10	15.4	23.0	0.1	0.2
Belarus	43,050	25,142	4,196	2,449	-9.3	1.6	2.4	91	87	94.3	61.7	9.1	6.0
Belgium	48,426	57,125	4,858	5,611	1.7	3.8	4.1	74	77	97.4	106.0	9.8	10.4
Benin	1,678	2,182	354	377	1.0	1.9	2.3	-6	13	0.6	0.7	0.1	0.1
Bolivia	2,896	4,254	441	548	2.5	4.0	4.1	-69	-40	5.5	10.1	0.8	1.3
Botswana	..	..	..	..	..	..	..	..	..	2.2	2.1	1.7	1.4
Brazil	136,131	172,030	920	1,051	2.0	5.8	6.5	27	30	202.6	273.4	1.4	1.7
Bulgaria	27,126	20,616	3,111	2,480	-1.2	1.7	1.9	64	52	75.3	55.3	8.6	6.6
Burkina Faso	..	..	..	..	..	..	..	..	..	1.0	1.0	0.1	0.1
Burundi	..	..	..	..	..	..	..	..	..	0.2	0.2	0.0	0.0
Cambodia	..	..	..	..	..	..	..	..	..	0.5	0.5	0.0	0.0
Cameroon	5,058	5,756	441	413	-0.8	3.5	3.6	-149	-95	1.5	3.5	0.1	0.3
Canada	209,712	237,983	7,546	7,930	1.0	2.6	3.0	-31	-52	409.6	409.4	14.7	13.8
Central African Republic	..	..	..	..	..	..	..	..	..	0.2	0.2	0.1	0.1
Chad	..	..	..	..	..	..	..	..	..	0.1	0.1	0.0	0.0
Chile	13,876	23,012	1,059	1,574	5.7	4.5	5.7	46	65	36.3	48.8	2.8	3.4
China	866,666	1,113,050	763	907	2.9	1.8	3.3	-3	1	2,401.7	3,363.5	2.1	2.8
Hong Kong, China	10,455	14,121	1,833	2,172	2.2	8.7	10.6	100	100	26.2	23.1	4.6	3.7
Colombia	26,762	30,481	765	761	0.7	7.4	8.2	-80	-122	55.9	65.3	1.6	1.7
Congo, Dem. Rep.	11,858	14,539	317	311	-0.2	4.5	2.7	-1	1	4.1	2.3	0.1	0.1
Congo, Rep.	1,117	1,242	503	459	-1.5	2.0	2.2	-706	-990	2.0	5.0	0.9	1.9
Costa Rica	2,025	2,663	676	769	2.0	6.8	7.7	49	57	2.9	4.7	1.0	1.4
Côte d'Ivoire	4,596	5,597	395	394	-0.2	3.5	4.0	26	12	9.9	13.1	0.9	0.9
Croatia	..	7,650	..	1,687	9.6	..	4.0	..	48	..	17.5	..	3.9
Czech Republic	45,020	40,576	4,344	3,938	-0.1	2.8	3.3	13	22	141.7	126.7	13.7	12.3
Denmark	18,282	21,107	3,557	3,994	1.8	5.0	6.0	45	4	50.7	56.6	9.9	10.7
Dominican Republic	3,973	5,453	559	673	2.5	5.6	6.6	74	74	9.4	12.9	1.3	1.6
Ecuador	6,558	8,513	639	713	1.9	4.1	4.6	-150	-168	16.6	24.5	1.6	2.1
Egypt, Arab Rep.	31,895	39,581	608	656	0.8	3.9	4.7	-72	-47	75.4	97.9	1.4	1.7
El Salvador	2,695	4,095	527	691	3.9	5.5	5.9	30	35	2.6	4.0	0.5	0.7
Eritrea	..	..	..	..	..	..	..	..	..	..	..	..	..
Estonia	10,163	5,556	6,469	3,811	-7.4	1.2	2.0	47	32	21.4	16.4	13.8	11.2
Ethiopia	15,208	17,131	297	287	-0.3	1.6	2.1	7	5	3.0	3.4	0.1	0.1
Finland	28,813	33,075	5,779	6,435	1.5	3.0	3.2	59	54	51.1	59.2	10.2	11.5
France	227,600	247,534	4,012	4,224	0.6	4.3	5.0	51	48	353.2	361.8	6.2	6.2
Georgia	10,590	2,295	1,940	423	-24.2	4.3	7.9	87	70	15.2	3.0	2.8	0.5
Germany	355,732	347,272	4,478	4,231	-0.6	4.3	5.2	48	60	889.2	861.2	11.1	10.5
Ghana	5,233	6,896	352	383	1.7	4.0	4.5	16	15	3.5	4.0	0.2	0.2
Greece	22,056	25,556	2,171	2,435	1.6	5.1	5.7	60	62	72.2	80.6	7.1	7.7
Guatemala	4,377	5,633	500	536	0.9	5.5	6.5	24	21	5.1	6.8	0.6	0.7
Guinea	..	..	..	..	..	..	..	..	..	1.0	1.1	0.2	0.2
Haiti	1,585	1,779	245	237	0.2	6.5	5.9	21	27	1.0	1.1	0.2	0.1
Honduras	2,442	3,182	501	532	0.8	4.1	4.7	31	37	2.6	4.0	0.5	0.7
Hungary	28,463	25,311	2,746	2,492	-1.0	3.3	4.0	50	50	64.1	59.5	6.2	5.8
India	359,846	461,032	424	479	1.9	3.3	4.2	7	12	675.3	997.4	0.8	1.1
Indonesia	98,846	138,779	555	693	3.1	3.4	4.5	-69	-60	165.2	245.1	0.9	1.2
Iran, Islamic Rep.	72,342	108,289	1,330	1,777	3.7	2.9	3.0	-151	-108	212.4	266.7	3.9	4.4
Ireland	10,463	12,491	2,984	3,412	2.0	3.8	6.0	68	77	29.8	34.9	8.5	9.6
Israel	11,923	17,591	2,559	3,014	2.9	5.1	5.8	96	97	34.6	52.3	7.4	9.2
Italy	153,316	163,315	2,703	2,839	0.5	6.3	7.3	84	82	398.9	403.2	7.0	7.0
Jamaica	3,037	3,963	1,264	1,552	3.6	2.5	2.2	85	85	8.0	10.1	3.3	4.0
Japan	438,797	514,898	3,552	4,084	2.2	5.4	6.0	83	79	1,070.7	1,167.7	8.7	9.3
Jordan	3,445	4,795	1,087	1,081	0.3	2.1	3.3	97	96	..	..	..	..
Kazakhstan	106,028	38,418	6,486	2,439	-11.6	1.0	1.8	15	-69	292.7	173.8	17.7	10.9
Kenya	12,479	14,138	530	494	-1.2	1.8	2.0	18	18	5.8	6.8	0.2	0.2
Korea, Rep.	91,402	176,351	2,132	3,834	8.9	4.0	3.9	76	86	241.2	408.1	5.6	9.0
Kuwait	13,132	16,165	6,180	8,936	12.9	..	..	-409	-618	..	..	..	..
Kyrgyz Republic	1,875	2,793	427	603	-4.5	8.3	3.8	-27	50	11.8	6.1	2.6	1.3
Lao PDR	..	..	..	..	..	..	..	..	..	0.2	0.3	0.1	0.1
Latvia	3,274	4,460	1,226	1,806	-1.1	6.6	3.1	88	63	13.1	9.3	5.0	3.7
Lebanon	2,297	5,244	632	1,265	10.3	3.2	3.3	94	96	9.1	14.2	2.5	3.5
Lesotho	..	..	..	..	..	..	..	..	..	..	..	..	..
Lithuania	17,224	8,806	4,628	2,376	-10.2	..	2.6	72	55	21.4	13.8	5.7	3.7
Macedonia, FYR	..	..	..	..	..	..	..	..	..	..	12.7	..	6.4
Madagascar	..	..	..	..	..	..	..	..	..	0.9	1.2	0.1	0.1
Malawi	..	..	..	..	..	..	..	..	..	0.6	0.7	0.1	0.1
Malaysia	23,974	48,473	1,317	2,237	6.4	4.0	4.0	-104	-53	55.3	119.1	3.0	5.6

ENVIRONMENT

Economy	Commercial energy use					GDP per unit of energy use				Carbon dioxide emissions			
	Thousand metric tons of oil equivalent		Per capita			PPPS per kg of oil equivalent		Net energy imports ^a		Total		Per capita	
	1990	1997	1990	1997	Avg. annual % growth 1990-97	1990	1997	1990	1997	1990	1996	1990	1996
			Kg of oil equivalent					% of commercial energy use		Million metric tons		Metric tons	
Mali	..	..	..	..	..	..	..	..	..	0.4	0.5	0.0	0.0
Mauritania	..	..	..	..	..	..	..	..	..	2.6	2.9	1.3	1.2
Mexico	124,187	141,520	1,492	1,501	-0.3	4.2	5.1	-57	-58	295.0	348.1	3.5	3.8
Moldova	9,959	4,436	2,283	1,029	-11.2	2.0	2.1	100	98	21.8	12.1	5.0	2.8
Mongolia	..	..	..	..	..	..	..	..	..	10.0	8.9	4.5	3.6
Morocco	6,745	9,275	281	340	2.9	9.9	9.5	89	88	23.5	27.9	1.0	1.0
Mozambique	7,318	7,664	517	461	-1.7	1.0	1.6	6	9	1.0	1.0	0.1	0.1
Myanmar	10,787	13,009	266	296	1.6	..	..	-1	6	4.1	7.3	0.1	0.2
Namibia	..	..	..	..	..	..	..	..	..	..	..	..	..
Nepal	5,834	7,160	311	321	0.6	2.8	3.7	3	8	0.6	1.6	0.0	0.1
Netherlands	66,593	74,910	4,454	4,800	1.1	3.8	4.6	10	13	138.9	155.2	9.3	10.0
New Zealand	14,157	16,679	4,120	4,435	0.9	3.4	4.0	14	15	23.6	29.8	6.9	8.0
Nicaragua	2,174	2,573	568	551	-0.8	2.8	3.9	31	41	2.6	2.9	0.7	0.6
Niger	..	..	..	..	..	..	..	..	..	1.0	1.1	0.1	0.1
Nigeria	70,905	88,652	737	753	0.2	1.0	1.1	-112	-115	88.7	83.3	0.9	0.7
Norway	21,456	24,226	5,059	5,501	1.0	3.6	4.8	-460	-778	47.7	67.0	11.2	15.3
Pakistan	43,238	56,818	400	442	1.7	3.3	3.9	21	26	67.9	94.3	0.6	0.8
Panama	1,535	2,328	640	856	4.0	5.8	6.1	61	65	3.1	6.7	1.3	2.5
Papua New Guinea	..	..	..	..	..	..	..	..	..	2.4	2.4	0.6	0.5
Paraguay	3,097	4,191	734	824	2.1	5.3	5.5	-48	-66	2.3	3.7	0.5	0.7
Peru	11,549	15,127	535	621	2.4	5.3	7.3	-6	19	22.2	26.2	1.0	1.1
Philippines	28,294	38,251	452	520	2.3	6.8	7.2	44	57	44.3	63.2	0.7	0.9
Poland	100,114	105,155	2,626	2,721	0.8	2.1	2.7	1	4	347.6	356.8	9.1	9.2
Portugal	16,419	20,400	1,659	2,051	2.9	6.6	7.1	87	89	42.3	47.9	4.3	4.8
Romania	61,117	44,135	2,634	1,957	-2.6	2.3	3.2	35	30	155.1	119.3	6.7	5.3
Russian Federation	906,433	591,982	6,112	4,019	-6.2	1.6	1.7	-40	-57	1,954.4	1,579.5	13.1	10.7
Rwanda	..	..	..	..	..	..	..	..	..	0.5	0.5	0.1	0.1
Saudi Arabia	63,275	98,449	4,004	4,906	1.7	2.5	2.1	-483	-395	177.1	267.8	11.2	13.8
Senegal	2,213	2,770	302	315	0.5	3.8	4.1	38	40	2.9	3.1	0.4	0.4
Sierra Leone	..	..	..	..	..	..	..	..	..	0.3	0.4	0.1	0.1
Singapore	13,357	26,878	4,938	8,661	8.4	2.8	2.9	..	100	41.9	65.8	15.5	21.6
Slovak Republic	21,363	17,216	4,044	3,198	-2.7	2.1	3.0	75	73	43.0	39.6	8.1	7.4
Slovenia	5,250	..	2,627	..	3.6	..	4.4	..	55	..	13.0	..	6.5
South Africa	91,229	107,220	2,592	2,636	0.3	3.1	3.3	-26	-33	291.1	292.7	8.3	7.3
Spain	90,552	107,328	2,332	2,729	2.0	5.3	5.9	62	71	211.7	232.5	5.5	5.9
Sri Lanka	5,476	7,159	322	386	2.4	6.2	7.6	23	39	3.9	7.1	0.2	0.4
Sweden	47,747	51,934	5,579	5,869	1.0	3.1	3.5	38	36	48.5	54.1	5.7	6.1
Switzerland	24,998	26,218	3,724	3,699	-0.3	6.2	6.9	61	58	42.7	44.2	6.4	6.3
Syrian Arab Republic	11,928	14,642	984	983	-0.3	2.4	3.0	-89	-124	35.8	44.3	3.0	3.1
Tajikistan	3,268	3,384	616	562	-8.0	4.0	1.6	43	63	21.3	5.8	3.8	1.0
Tanzania	12,529	14,258	492	455	-1.1	0.9	1.0	6	5	2.3	2.4	0.1	0.1
Thailand	43,706	79,963	786	1,319	8.5	4.9	4.7	39	42	95.7	205.4	1.7	3.4
Togo	..	..	..	..	..	..	..	..	..	0.7	0.8	0.2	0.2
Tunisia	5,683	6,805	697	738	1.1	5.5	7.2	-7	2	13.3	16.2	1.6	1.8
Turkey	52,498	71,273	935	1,142	2.9	5.0	5.7	51	61	143.8	178.3	2.6	2.9
Turkmenistan	18,923	12,181	5,159	2,615	-6.7	1.1	1.0	-293	-54	34.2	34.2	8.5	7.4
Uganda	..	..	..	..	..	..	..	..	..	0.8	1.0	0.1	0.1
Ukraine	252,631	150,059	4,868	2,960	-7.5	1.3	1.1	46	46	631.1	397.3	12.1	7.8
United Kingdom	213,090	227,977	3,702	3,863	0.7	4.4	5.3	2	-18	563.3	557.0	9.8	9.5
United States	1,925,680	2,162,190	7,720	8,076	0.8	2.9	3.6	14	22	4,824.0	5,301.0	19.3	20.0
Uruguay	2,233	2,883	719	883	2.2	8.2	9.7	48	62	3.9	5.6	1.3	1.7
Uzbekistan	43,697	42,553	2,130	1,798	-3.1	1.7	1.1	12	-15	106.5	95.0	5.0	4.1
Venezuela, RB	40,851	57,530	2,095	2,526	1.3	2.4	2.4	-221	-255	113.6	144.5	5.8	6.5
Vietnam	24,451	39,306	369	521	4.9	2.7	3.2	-1	-11	22.5	37.6	0.3	0.5
Yemen, Rep.	2,665	3,355	224	208	-1.8	3.0	3.5	-267	-469	..	..	..	..
Zambia	5,220	5,987	671	634	-1.0	1.1	1.2	8	7	2.4	2.4	0.3	0.3
Zimbabwe	8,934	9,926	917	866	-1.2	2.6	3.1	9	18	16.6	18.4	1.7	1.6
World	8,608,414 t	9,431,190 t	1,705 w	1,692 w	0.0 w	.. w	.. w	.. w	.. w	16,183.1 t	22,690.1 t	3.3 w	4.0 w
Low income	1,122,683	1,194,696	607	563	-1.2	..	..	-17	-9	1,376.8	2,433.8	0.7	1.1
Middle income	3,297,830	3,523,253	1,397	1,368	-0.2	..	..	-28	-33	5,772.8	9,524.1	2.7	3.7
Lower middle income	2,426,917	2,384,856	1,302	1,178	-1.2	..	..	-18	-20	3,721.6	6,734.6	2.2	3.3
Upper middle income	870,913	1,138,397	1,753	2,068	2.2	..	..	-63	-65	2,051.2	2,789.6	4.3	5.1
Low and middle income	4,420,513	4,717,949	1,049	1,005	-0.6	..	..	-26	-28	7,150.8	11,959.5	1.8	2.5
East Asia & Pacific	1,188,126	1,647,182	743	942	3.8	..	..	..	..	3,289.6	4,717.5	2.0	2.7
Europe & Central Asia	1,799,838	1,240,586	3,966	2,690	-5.6	1.8	2.2	-5	-13	924.8	3,448.9	9.1	7.3
Latin America & Caribbean	457,439	575,389	1,057	1,181	1.4	..	..	-31	-35	966.4	1,207.5	2.2	2.5
Middle East & North Africa	266,687	374,375	1,134	1,354	2.1	3.3	3.3	-266	-225	737.6	987.2	3.3	3.9
South Asia	435,330	556,496	394	443	1.9	..	..	9	15	765.9	1,125.1	0.7	0.9
Sub-Saharan Africa	273,093	323,921	705	695	-0.2	..	..	..	..	465.3	471.7	0.9	0.8
High income	4,187,901	4,713,241	4,996	5,369	1.1	..	..	23	24	9,033.5	10,732.1	11.9	12.3

Note: For data comparability and coverage, see the Technical Notes. Figures in italics are for years other than those specified.

a. A negative value indicates that a country is a net exporter.