

Resource Consumption

Source: International Energy Agency (IEA), The World Bank, United Nations Population Division, Food and Agriculture Organization of the United Nations (FAO)

EarthTrends Data Tables:
Energy
and
Resources



	Passenger Cars Per 1000 People		Total Annual Energy Consumption per capita (toe) (a)		Annual Gasoline & Diesel Consumption per capita (liters per person)		Annual Electricity Consumption per capita (kg oil equivalent)		Annual Meat Consumption (kg per person)		Annual Fish Consumption (kg per person)		Annual Paper Consumption (kg per person)		Annual Coffee Consumption (kg per person)
	1990	1999	1989	1999	1989	1999	1989	1999	1988	1998	1989	1999	1989	1999	2000
WORLD	91	141	1.67	1.62	239	267	157	174	34	38	14	16	45.4	53.4	..
ASIA (EXCL. MIDDLE EAST)	17	..	0.70	0.87	..	..	51	78	15	25	13	18	20.2	29.5	..
Armenia	1	..	..	0.49	..	8	..	83	..	22	..	1	.. b	0.7	b
Azerbaijan	36	38	..	1.58	..	40	..	151	..	16	..	1	..	..	..
Bangladesh	0	..	0.12	0.13	4	6	4	7	3	3	8	11	0.9	1.7	..
Bhutan	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cambodia	0	..	..	..	..	..	..	..	14	15	9	20	..	..	..
China	1	..	0.74	0.86	..	..	36	65	23	47	11	25	16.1	33.2	..
Georgia	89	49	..	0.49	..	110	..	107	..	..	..	1	..	..	..
India	2	..	0.42	0.48	28	44	20	33	4	4	4	5	2.8	4.4	0.1
Indonesia	7	..	0.48	0.65	54	98	11	29	7	9	15	20	6.0	20.0	0.5
Japan	283	..	3.39	4.06	516	679	493	639	38	42	72	65	223.6	239.7	3.2
Kazakhstan	50	66	..	2.18	..	107	..	193	..	41	..	2	..	..	..
Korea, Dem People's Rep	..	..	2.96	2.67	90	15	199	20	15	7	45	8	4.4	3.8	..
Korea, Rep	48	167	1.87	3.91	216	439	166	448	21	38	48	52	91.7	143.1	..
Kyrgyzstan	44	39	..	0.51	..	61	..	130	..	38	..	1	.. b	3.9	b
Lao People's Dem Rep	6	..	..	..	..	..	..	..	10	14	7	12	..	..	..
Malaysia	101	170	1.17	1.96	281	535	89	222	33	52	44	59	40.7	94.3	..
Mongolia	6	17	..	..	..	..	..	..	94	90	1	0	..	..	..
Myanmar	..	..	0.27	0.27	11	22	3	6	9	9	16	15	..	..	..
Nepal	..	..	0.33	0.36	5	12	3	4	10	10	1	1	0.2	0.7	..
Pakistan	4	5	0.39	0.43	43	64	22	27	11	14	2	3	3.8	5.9	..
Philippines	7	..	0.46	0.55	35	106	30	39	16	27	35	30	7.5	17.4	0.7
Singapore	89	97	3.34	5.79	520	564	339	576	75	76	..	..	120.9	192.9	..
Sri Lanka	6	..	0.33	0.41	48	88	12	22	3	5	15	21	4.2	6.8	0.1
Tajikistan	0	..	..	0.55	..	214	..	190	..	..	..	0	.. b	0.2	b
Thailand	14	..	0.70	1.14	156	268	52	113	21	26	21	29	13.4	29.9	0.5
Turkmenistan	..	..	..	2.94	..	132	..	89	..	..	..	2	..	..	..
Uzbekistan	..	..	..	2.02	..	97	..	141	..	29	..	1	..	..	..
Viet Nam	..	..	0.37	0.46	18	59	8	22	15	21	13	20	1.0	4.3	0.4
EUROPE	..	..	..	3.52	..	531	..	400	58	72	..	20	..	129.6	..
Albania	2	29	0.89	0.34	110	148	83	73	16	25	3	3	8.7	5.5	..
Austria	387	495	3.14	3.52	651	767	464	532	104	106	11	15	189.2	264.2	6.6
Belarus	59	135	..	2.34	..	205	..	228	..	63	..	6	..	25.3	..
Belgium	385	448	4.87	5.73	767	846	485	626	..	..	..	..	.. b	266.6	b
Bosnia and Herzegovina	101	..	..	0.52	..	133	..	47	..	..	..	3	..	..	..
Bulgaria	146	233	3.51	2.26	331	239	371	255	75	63	7	4	59.6	24.4	..
Croatia	..	..	..	1.75	..	339	..	216	..	22	..	6	..	104.9	..
Czech Rep	228	335	4.79	3.75	249	467	397	402	..	83	..	13	121.1	78.1	..
Denmark	320	353	3.45	3.78	677	824	478	520	103	127	26	27	245.4	250.3	8.6
Estonia	154	331	..	3.23	..	417	..	290	..	59	..	22	..	37.2	..
Finland	386	403	5.90	6.46	850	843	980	1,236	63	69	35	32	300.4	395.7	11.3
France	405	469	3.94	4.32	730	808	447	546	98	100	29	31	147.4	185.6	5.7
Germany	386	..	4.56	4.11	715	826	506	490	100	87	14	15	184.1	216.6	6.7
Greece	171	..	2.15	2.54	441	588	238	330	70	82	20	25	65.6	102.4	4.7
Hungary	188	238	2.91	2.52	307	335	267	248	110	79	6	4	65.3	65.8	..
Iceland	470	546	8.01	11.45	820	846	1,351	1,991	70	70	94	91	101.9	102.5	b
Ireland	227	..	2.76	3.72	498	931	276	430	101	111	17	16	99.0	114.0	1.3
Italy	476	..	2.66	2.94	589	716	315	391	82	88	23	25	119.3	181.8	5.4
Latvia	106	218	..	1.57	..	310	..	158	..	37	..	20	..	17.7	..
Lithuania	132	294	..	2.14	..	315	..	152	..	48	..	20	..	22.5	..
Macedonia, FYR	121	..	..	1.51	..	205	..	218	..	30	..	6	.. b	22.3	b
Moldova, Rep	48	54	..	0.65	..	31	..	53	..	19	..	3	.. b	4.4	b
Netherlands	368	383	4.39	4.69	548	705	409	516	81	106	14	21	196.4	263.7	7.2
Norway	380	407	5.15	5.98	734	811	1,924	2,090	51	60	44	52	137.0	164.3	8.8
Poland	138	240	3.20	2.42	224	284	233	206	75	72	13	12	39.5	58.7	..
Portugal	162	..	1.62	2.36	333	601	191	311	53	85	59	76	74.2	105.3	4.1
Romania	56	133	2.98	1.62	155	128	241	130	59	56	7	2	29.1	14.2	..
Russian Federation	..	..	..	4.12	..	285	..	349	..	45	..	20	..	19.5	..
Serbia and Montenegro	133	..	..	1.27	..	152	..	242	..	100	..	2	115.6	27.0	b
Slovakia	163	229	4.32	3.34	219	295	398	363	..	77	..	7	..	88.6	..
Slovenia	289	418	..	3.27	..	757	..	448	..	88	..	7	..	106.5	..
Spain	309	..	2.28	2.97	504	733	269	382	89	111	36	45	105.0	201.7	4.7
Sweden	426	437	5.52	5.77	903	894	1,211	1,217	59	71	30	31	258.4	211.0	8.0
Switzerland	449	486	3.45	3.72	803	836	582	624	82	71	16	19	221.4	204.6	6.9
Ukraine	63	104	..	2.97	..	105	..	198	..	30	..	11	..	..	..
United Kingdom	341	..	3.69	3.89	739	789	405	465	72	76	19	22	167.8	200.3	2.4
MIDDLE EAST & N. AFRICA	..	..	1.13	1.30	217	245	87	129	21	22	6	8	..	..	..
Afghanistan	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Algeria	..	..	0.91	0.95	203	82	38	50	17	18	4	4	12.2	8.7	..
Egypt	21	..	0.56	0.67	80	95	54	73	17	21	8	13	8.6	19.2	..
Iran, Islamic Rep	25	..	1.08	1.50	248	368	67	110	19	24	4	4	5.9	7.0	b
Iraq	1	..	1.45	1.29	520	439	116	114	27	6	2	1	..	..	..
Israel	174	220	2.68	3.13	547	646	350	505	60	65	22	22	85.5	123.9	..
Jordan	..	..	1.03	1.02	352	264	79	103	30	21	4	5	..	..	..
Kuwait	..	..	8.07	9.36	948	1,327	731	1,255	61	82	12	13	..	..	..
Lebanon	300	..	0.87	1.59	290	512	68	190	45	40	1	6	30.3	51.3	..
Libyan Arab Jamahiriya	..	..	2.57	2.37	562	766	340	333	35	33	7	6	6.1	5.8	b
Morocco	28	41	0.27	0.34	20	18	27	36	17	19	7	9	8.1	9.3	..
Oman	83	..	1.67	3.45	331	424	163	237	37	36	..	..	..	..	..
Saudi Arabia	98	..	4.29	4.32	501	636	271	416	44	44	8	8	..	..	..
Syrian Arab Rep	10	..	0.89	1.14	119	108	56	74	19	20	0	2	..	..	..
Tunisia	23	..	0.66	0.82	101	151	50	79	17	20	10	10	16.8	19.0	..
Turkey	34	63	0.89	1.07	161	164	65	118	20	19	6	9			



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	1990	1999	1989	1999	1989	1999	1989	1999	1988	1998	1989	1999	1989	1999	2000
SUB-SAHARAN AFRICA	13	13	9	8
Angola	14	..	0.63	0.59	52	34	5	7	16	11	25	13	..	..	0.1
Benin	2	..	0.37	0.32	16	55	3	5	13	15	10	7	..	..	0.0
Botswana	10	30	..	..	..	..	..	..	24	32	6	6	..	..	..
Burkina Faso	2	..	..	..	..	..	..	..	11	11	2	2	..	..	..
Burundi	..	..	..	..	..	..	..	..	..	..	2	2	0.3 b	0.3 b	0.0
Cameroon	6	..	0.44	0.42	61	43	18	16	16	15	13	12	..	..	0.3
Central African Rep	1	..	..	..	..	..	..	..	21	24	5	4	..	..	0.2
Chad	1	..	..	..	..	..	..	..	11	10	4	7	..	..	..
Congo	12	..	0.48	0.25	83	31	14	4	16	17	37	20	..	..	0.1
Congo, Dem Rep	..	..	0.32	0.29	17	4	11	4	7	5	9	6	0.2	0.2	0.2
Côte d'Ivoire	15	..	0.37	0.39	34	24	12	17	15	11	19	16	..	..	1.2
Equatorial Guinea	3	..	..	..	..	..	..	..	..	..	..	..	.. b	.. b	0.0
Eritrea	1	..	..	0.19	..	22	..	4	..	..	..	2	.. b	0.6 b	..
Ethiopia	1	..	0.32	0.30	7	10	2	2	d	11	0 d	0	0.3	0.5	1.6
Gabon	19	..	1.52	1.34	172	114	69	60	53	49	44	52	..	..	0.0
Gambia	6	..	..	..	..	..	..	..	9	7	20	23	0.2 b	0.6 b	..
Ghana	..	..	0.35	0.38	42	59	25	17	10	8	25	32	..	..	0.0
Guinea	2	..	..	..	..	..	..	..	..	..	8	13	..	..	0.4
Guinea-Bissau	4	..	..	..	..	..	..	..	15	15	6	4	..	..	..
Kenya	10	..	0.54	0.49	43	28	9	11	16	13	6	6	6.0	6.0	0.1
Lesotho	3	..	..	..	..	..	..	..	20	16	0	0	..	..	..
Liberia	7	..	..	..	..	..	..	..	9	8	15	7	..	..	0.1
Madagascar	4	..	..	..	..	..	..	..	21	18	8	8	..	..	0.3
Malawi	2	..	..	..	..	..	..	..	5	5	8	4	..	..	0.0
Mali	2	..	..	..	..	..	..	..	18	19	8	9	..	..	..
Mauritania	7	..	..	..	..	..	..	..	30	23	13	10	.. b	3.6 b	..
Mozambique	3	..	0.55	0.39	4	16	3	4	6	5	3	3	..	..	..
Namibia	39	..	..	0.64	..	232	..	101	29	36	11	12	..	..	..
Niger	5	..	..	..	..	..	..	..	13	12	1	1	..	..	..
Nigeria	..	..	0.83	0.79	67	67	9	8	9	12	11	9	..	..	0.0
Rwanda	1	..	..	..	..	..	..	..	..	..	0	1	0.7	0.2	0.0
Senegal	8	..	0.30	0.32	33	39	8	10	15	18	26	29	..	..	..
Sierra Leone	7	..	..	..	..	..	..	..	5	5	13	12	..	..	0.1
Somalia	1	..	..	..	..	..	..	..	22	18	3	3	0.5 b	0.1 b	..
South Africa	97	94	2.61	2.56	304	314	306	320	41	34	10	7	53.3	41.1	..
Sudan	8	..	0.41	0.51	43	28	4	4	17	21	1	2	..	..	..
Tanzania, United Rep	1	..	0.49	0.44	10	11	4	5	11	10	15	8	..	..	0.0
Togo	16	..	0.28	0.31	26	36	8	9	12	11	15	13	0.3 b	0.9 b	0.0
Uganda	1	2	..	..	..	..	..	..	9	11	13	9	..	..	0.3
Zambia	8	..	0.67	0.61	32	23	48	45	13	12	9	7	1.4	3.3	0.0
Zimbabwe	..	..	0.89	0.82	49	90	77	77	12	11	3	2	8.4	9.1	0.0
NORTH AMERICA	563	..	7.79	8.08	1,836	1,991	918	1,052	113	120	23	22	295.1	335.2	4.1
Canada	468	..	7.98	7.93	1,445	1,513	1,318	1,312	99	99	24	25	226.8	274.5	..
United States	573	..	7.78	8.09	1,878	2,043	875	1,023	114	122	22	22	302.5	341.9	4.1
C. AMERICA & CARIBBEAN	..	..	1.17	1.21	279	289	79	105	32	39	10	9	33.5	42.6	1.2
Belize	36	..	..	..	..	..	..	..	52	52	13	15	..	..	..
Costa Rica	55	88	0.66	0.78	85	299	92	116	37	42	5	6	53.8	91.0	3.7
Cuba	..	..	1.60	1.12	277	71	97	84	37	24	18	13	31.5	7.3	1.1
Dominican Rep	21	..	0.58	0.90	177	276	30	56	28	37	13	13	9.6	38.3	2.3
El Salvador	17	..	0.49	0.65	90	161	29	49	14	17	2	3	9.8	24.0	1.5
Guatemala	..	52	0.49	0.55	74	132	18	29	15	20	1	2	10.3	18.7	1.6
Haiti	..	..	0.24	0.26	11	14	4	3	10	10	6	3	1.3 b	0.8 b	2.5
Honduras	..	52	0.51	0.52	83	116	29	39	14	17	1	3	..	..	2.2
Jamaica	..	..	1.04	1.62	167	243	51	200	40	55	30	28	37.1 b	18.6 b	0.3
Mexico	82	102	1.48	1.53	374	381	101	134	39	51	11	9	41.8	53.7	0.8
Nicaragua	10	3	0.55	0.54	69	102	24	23	12	15	1	4	..	..	2.3
Panama	60	..	0.60	0.83	109	184	74	113	39	48	13	10	28.6	21.0	1.4
Trinidad and Tobago	..	..	4.23	6.23	431	478	206	304	29	28	16	15	30.1 b	58.5 b	0.6
SOUTH AMERICA	..	..	0.98	1.13	210	266	105	137	48	61	9	8	26.6	32.9	..
Argentina	134	..	1.42	1.73	303	351	107	167	93	98	6	8	28.2	46.1	..
Bolivia	25	..	0.41	0.56	110	122	23	34	40	47	1	2	..	..	0.4
Brazil	..	..	0.94	1.07	172	248	122	156	46	69	7	6	29.1	35.9	4.6
Chile	52	88	1.01	1.69	232	377	100	199	34	62	24	17	28.1	51.0	..
Colombia	..	43	0.70	0.68	163	178	65	67	31	34	3	4	19.6	24.4	2.0
Ecuador	31	..	0.60	0.70	210	226	37	53	24	32	5	7	15.1	28.4	0.9
Guyana	..	..	..	..	..	..	..	..	10	25	43	58	..	..	..
Paraguay	..	..	0.78	0.77	136	234	36	68	64	67	3	5	8.8	9.2	0.2
Peru	..	27	0.54	0.52	111	134	47	56	28	32	28	19	19.0	8.6	0.3
Suriname	90	..	..	..	..	..	..	..	..	..	12	25	..	..	..
Uruguay	122	..	0.79	0.98	173	313	101	161	103	110	6	9	23.4	40.2	..
Venezuela	..	..	2.11	2.25	588	564	201	214	47	44	14	16	35.5	27.7	1.7
OCEANIA	..	..	..	..	..	..	..	..	98	93	22	23	..	..	..
Australia	450	..	5.12	5.70	1,261	1,258	634	765	114	110	19	22	161.6	183.8	..
Fiji	..	..	..	..	..	..	..	..	35	45	38	34	12.4 b	22.1 b	0.2
New Zealand	436	481	3.98	4.85	684	741	705	737	150	137	20	30	166.7	175.7	..
Papua New Guinea	..	..	..	..	..	..	..	..	26	25	31	15	..	..	0.0
Solomon Islands	..	..	..	..	..	..	..	..	..	..	59	53	..	..	..
DEVELOPED	344	..	..	4.55	..	872	..	568	66	77	..	24	..	190.9	..
DEVELOPING	..	..	0.66	0.77	..	..	41	63	18	26	10	14	12.5	21.6	..

a. toe is Tons of Oil Equivalent. b. Production is assumed to be zero and paper consumption to be equal to imports. Please see the technical notes for more details. c. Data for China include Taiwan. d. Data for Ethiopia before 1993 include Eritrea.

Technical Notes

VARIABLE DEFINITIONS AND METHODOLOGY

Passenger cars per 1000 people refers to road motor vehicles, other than two-wheelers, intended for the transport of passengers and designed to seat no more than nine people. Data are compiled by the World Bank from the International Road Federation (IRF) through questionnaires sent to national organizations, primarily national road associations. When national road associations lack data or do not respond to questionnaires, other agencies are contacted, including road directorates, ministries of transport or public works, and central statistical offices.

Total energy consumption per capita, annual motor gas consumption per capita and electricity consumption per capita are calculated by WRI using data on energy consumption from the International Energy Agency (IEA) and population data from the United Nations Population Division. IEA uses an energy balance methodology based on the calorific content of energy commodities. All commodities are reported in metric tons of oil equivalent (toe), which is equivalent to the amount of energy in one ton of crude oil. One toe is also equal to 10×10^7 kilocalories or 41.868 gigajoules. Although differences in quality of commodities may result in different energy contents, IEA has applied uniform conversion factors supplied by national administrations.

The IEA has used the following conventions in accounting for primary energy such as nuclear, solar, geothermal, hydro, wind, etc.: 1) The first form of energy production with multiple practical uses is reported. This means that heat is the form reported for geothermal heat and electrical production, nuclear heat and electrical production and solar heat production. Electricity is the form reported for hydro, wind, wave and photovoltaic solar electricity production. 2) The physical energy content of the energy source is reported as energy production. For nuclear fuels, this is the heat energy produced in a nuclear reactor, for hydropower, it is the amount of energy in the electricity produced. Please refer to the original source for further information on the variables and collection methodologies.

Total energy consumption per capita shows the total primary energy consumption, including losses through transportation, friction, heat loss and other inefficiencies, divided by the total population. Total energy consumption is equal to indigenous production plus imports minus exports plus stock changes minus international marine bunkers.

Annual motor gas and diesel consumption per capita refers to the per capita consumption of motor gasoline and diesel combined. *Motor gasoline* is a light hydrocarbon oil for use in internal combustion engines such as motor vehicles, excluding aircraft. It is distilled between 35°C and 215°C and is used as a fuel for land based spark ignition engines. Motor gasoline may include additives, oxygenates and octane enhancers, including lead compounds such as TEL (tetraethyl lead) and TML (tetramethyl lead). *Diesel oil* includes heavy gas oils distilled between 180°C and 380°C. Several grades are available depending on uses: diesel oil for diesel compression ignition (cars, trucks, marine, etc.), light heating oil for industrial and commercial uses, and other gas oil including heavy gas oils which distil between 380°C and 540°C and which are used as petrochemical feedstocks. The data in this variable only considers the fuels used in road vehicles (including military) as well as agricultural and industrial highway use. It excludes motor gasoline used in stationary engines.

Electricity consumption per capita measures the amount of electricity used by the end user, excluding losses due to transportation, friction, heat loss or other inefficiencies, divided by the total population. The data in this table was converted from tons of oil equivalent (toe) to kilograms of oil equivalent (koe).

Figures for **annual meat consumption per capita, annual fish consumption per capita and annual paper consumption per capita** are calculated by WRI using production and trade data from the Food and Agriculture Organization (FAO) and population data from the United Nations Population Division. Total consumption figures are calculated using a trade balance approach, where consumption equals production plus net imports. Where imports are less than exports, consumption will be lower than production.

FAO collects production and trade information used to calculate consumption primarily through national surveys. In cases where countries do not respond to national surveys, FAO uses regional data and other statistical sources to make the best estimates.

Annual meat consumption per capita, given in kilograms per person, refers to the average meat consumption per person per year. Meat consumption includes meat from animals slaughtered in countries, irrespective of their origin, and comprises horsemeat, poultry, and meat from all other domestic or wild animals such as camels, rabbits, reindeer, and game animals.

Annual fish consumption per capita, expressed in kilograms per person, refers to the total food supply of fish and fishery products available to human consumption divided by the total population. Total food supply is calculated on a live weight basis, which means that total consumption assumes that all parts of the fish are consumed, including bones and organs.

Annual paper consumption per capita refers to the average amount of paper and paperboard used per person, expressed in kilograms per person. Paper and paperboard include newsprint, printing and writing paper, packaging paper, household and sanitary paper, and other paper products.

Annual coffee consumption per capita shows coffee consumption data in terms of kilograms of raw coffee beans per person. It is collected by the International Coffee Organization (ICO) through reports from ICO member countries.

FREQUENCY OF UPDATE BY DATA PROVIDERS

Data on **passenger cars per 1000 people** is published by World Bank in the World Development Indicators each April. As of July 2003, data were available annually from 1990 to 2000.

Total energy consumption per capita, annual motor gas consumption per capita and electricity consumption per capita is updated annually by the International Energy Agency (IEA). IEA provides for OECD countries from 1960 to 1999 and non-OECD countries from 1971 to 1999.

Data on annual meat consumption per capita, annual fish consumption per capita and annual paper consumption per capita is updated annually by FAO and is available for most countries from 1961 to 2000. Population data used in these per capita calculations is updated by the United Nations Population Division every two years.

Coffee consumption data is provided by the International Coffee Organization (ICO) annually. Data is available from 1996 to 2000.

DATA RELIABILITY AND CAUTIONARY NOTES:

Passenger cars per 1000 people data may differ across countries because of differences in definitions. In addition, the data does not capture the quality or age of vehicles or the conditions of roads.

Data on **total energy consumption per capita, annual motor gas consumption per capita and electricity consumption per capita 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 'no data' and vice versa.

Caution should be exercised if considering using the data to extrapolate into the future. Energy usage is variable from year to year due to short-term factors such as the weather and the economy that significantly impact any one year's consumption.

Data on **meat, fish and paper production and trade (used in consumption calculations)** reported to FAO is governed by established accounting practices and is therefore generally considered to be reliable. However, reporting countries vary in the quality of data they have available to report.

Annual coffee consumption data is a result of reports from member countries of the International Coffee Organization. Their reliability depends on the methodology used in each country which may vary considerably.

SOURCES

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