

## ENERGY SUPPLY PER CAPITA

Total primary energy supply per capita is a common, albeit imperfect, measure of energy efficiency in a country. For instance, neither the impact of climate on energy use (heating, cooling) nor the size of the country and the density of the population are taken into account when comparing countries. Energy analysts usually prefer to compare energy use per unit of output or per unit of GDP. However, energy supply per capita is presented here since its use is widespread.

### Definition

The table refers to total primary energy supply (TPES) per head of population. The ratio is expressed in tonnes of oil equivalent (toe) per person (see the IEA sources below for details on how TPES is calculated). TPES consists of primary energy production adjusted for net trade, bunker use and stock changes. Production of secondary energy (e.g. oil/coal products, electricity from fossil fuels, etc.) is not included since the “energy equivalent” of the primary fuels used to create the secondary products or electric power has already been counted. The forecasts provided in the table refer to the Reference Scenario of the *World Energy Outlook*.

### Overview

The level of energy supply on a per capita basis varied significantly across OECD countries. The countries with the highest ratios are those with the smallest populations. In 2008, the energy supply per capita for Iceland was 15.2 toe/capita, while that for Luxembourg was 8.5 toe/capita. The high ratio for Iceland is explained partly by the climate but also by the availability of cheap – and non-polluting – thermal energy from hot springs. In the case of Luxembourg, the high ratio is partly due to low sales taxes on petroleum products, which encourage motorists and other consumers from neighbouring countries – Belgium, France and Germany – to buy their supplies in Luxembourg.

The United States and Canada also have high energy supply per capita, with ratios of 7.5 and 8.1 toe/capita in 2008. At the other end of the scale, the countries with the lowest TPES/capita were Turkey (1.3 toe/capita) and Mexico (1.7 toe/capita).

Between 1971 and 2008, trends in energy supply per capita differ markedly across OECD countries. Compared to 1971, TPES/capita in 2008 was nine times higher in Korea and three times higher in Greece, Iceland and Portugal. On the other hand, the ratio decreased over this period in six OECD countries: Luxembourg (-29%), the United Kingdom (-9%), Denmark (-6%), the Czech Republic (-4%), Poland (-2%) and the United States (-1%).

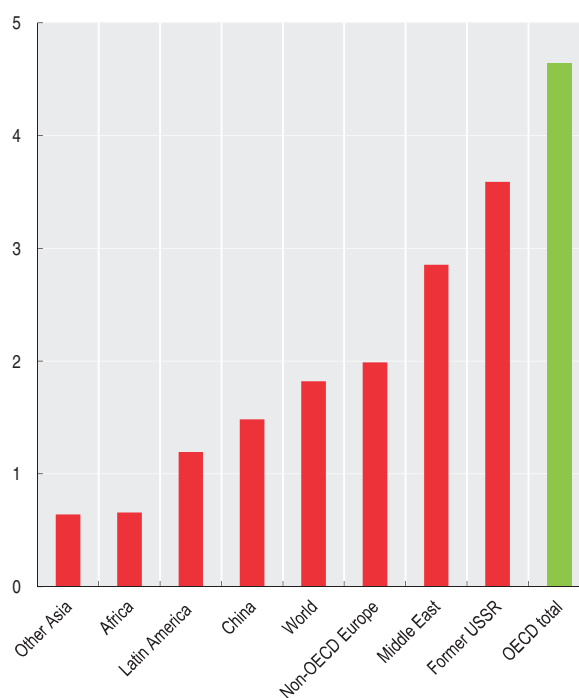
In general, the TPES/capita ratios of non-OECD countries are lower than for OECD countries. In 2007, the ratios for China (1.5 toe/capita) and Indonesia (0.8 toe/capita) were three times greater than in 1971. Chile (1.9 toe/capita) and India (0.5 toe/capita) doubled over the period while Israel (3.1 toe/capita), South Africa (2.8 toe/capita) and Brazil (1.2 toe/capita) grew slightly more slowly.

### Comparability

Care should be taken when comparing energy supply per capita between countries and over time. Different national circumstances (such as density of population, country size, temperatures, economic structure and domestic energy resources) affect the ratios. Data for Latin America include the Caribbean islands.

### Total primary energy supply per capita

Tonnes of oil equivalent (toe) per capita, 2007



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### Sources

- IEA (2009), *Energy Balances of Non-OECD Countries*, IEA, Paris.
- IEA (2009), *Energy Balances of OECD Countries*, IEA, Paris.
- IEA (2009), *World Energy Outlook 2009*, IEA, Paris.

### Further information

#### Analytical publications

- IEA (2009), *Energy Policies of IEA Countries*, series, IEA, Paris.
- IEA (2009), *IEA Scoreboard 2009: 35 Key Energy Trends over 35 Years*, IEA, Paris.

#### Online databases

- *World Energy Statistics and Balances*.

#### Web sites

- International Energy Agency, [www.iea.org](http://www.iea.org).



### Total primary energy supply per capita

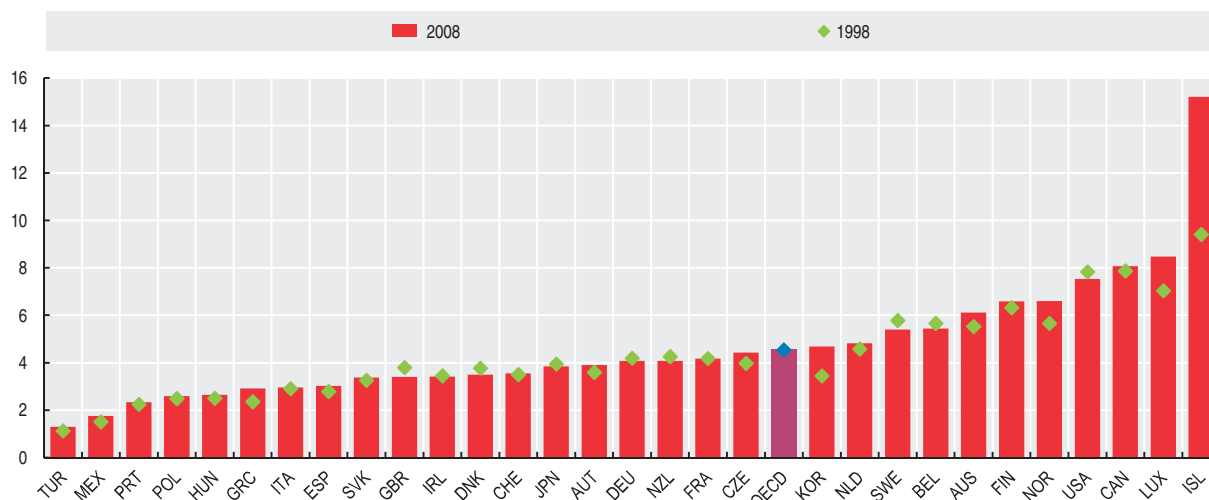
Tonnes of oil equivalent (toe) per capita

	1971	1990	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2030
Australia	3.91	5.02	5.53	5.58	5.65	5.49	5.60	5.58	5.54	5.88	5.89	5.87	6.11	..
Austria	2.51	3.23	3.60	3.59	3.56	3.76	3.83	4.03	4.04	4.10	4.12	3.99	3.90	..
Belgium	4.11	4.84	5.66	5.69	5.71	5.68	5.46	5.71	5.65	5.60	5.51	5.37	5.44	..
Canada	6.44	7.53	7.87	8.04	8.18	8.00	7.93	8.26	8.38	8.41	8.25	8.17	8.07	..
Czech Republic	4.62	4.70	3.98	3.73	3.92	4.03	4.10	4.35	4.46	4.39	4.47	4.43	4.42	..
Denmark	3.73	3.37	3.77	3.60	3.48	3.57	3.53	3.72	3.59	3.47	3.69	3.60	3.50	..
Finland	3.94	5.69	6.32	6.28	6.20	6.33	6.64	7.03	7.04	6.48	7.02	6.90	6.59	..
France	3.03	3.86	4.18	4.15	4.17	4.27	4.25	4.30	4.33	4.32	4.24	4.15	4.17	..
Germany	3.89	4.43	4.19	4.09	4.10	4.22	4.11	4.15	4.16	4.11	4.14	4.03	4.07	..
Greece	0.97	2.07	2.36	2.36	2.48	2.56	2.58	2.64	2.69	2.72	2.71	2.88	2.91	..
Hungary	1.84	2.76	2.50	2.49	2.45	2.51	2.52	2.58	2.59	2.73	2.71	2.66	2.65	..
Iceland	4.38	8.19	9.41	10.69	11.03	11.36	11.40	11.33	11.50	11.76	13.68	15.74	15.21	..
Ireland	2.26	2.84	3.45	3.50	3.58	3.74	3.74	3.55	3.53	3.46	3.45	3.46	3.41	..
Italy	1.95	2.59	2.91	2.94	3.00	3.01	3.00	3.10	3.10	3.12	3.07	3.00	2.96	..
Japan	2.55	3.55	3.95	4.01	4.08	4.01	3.99	3.95	4.08	4.06	4.06	4.02	3.85	4.14
Korea	0.52	2.17	3.45	3.78	4.02	4.04	4.24	4.30	4.40	4.37	4.43	4.59	4.68	..
Luxembourg	11.88	8.93	7.04	7.21	7.55	7.78	8.11	8.45	9.16	9.21	9.11	8.79	8.48	..
Mexico	0.86	1.49	1.51	1.52	1.50	1.50	1.53	1.55	1.59	1.69	1.67	1.74	1.75	..
Netherlands	3.86	4.39	4.58	4.49	4.59	4.70	4.69	4.82	4.86	4.83	4.69	4.91	4.82	..
New Zealand	2.41	3.96	4.26	4.45	4.36	4.36	4.34	4.11	4.12	4.00	4.01	4.01	4.08	..
Norway	3.41	4.95	5.66	5.90	5.64	5.77	5.44	5.90	6.08	6.11	6.23	5.71	6.60	..
Poland	2.63	2.71	2.49	2.43	2.33	2.35	2.32	2.39	2.39	2.42	2.55	2.55	2.59	..
Portugal	0.72	1.67	2.25	2.41	2.41	2.41	2.49	2.41	2.46	2.51	2.33	2.36	2.33	..
Slovak Republic	3.13	4.03	3.26	3.27	3.29	3.46	3.48	3.47	3.41	3.50	3.46	3.31	3.37	..
Spain	1.24	2.31	2.79	2.91	3.03	3.07	3.12	3.17	3.26	3.27	3.21	3.21	3.02	..
Sweden	4.45	5.51	5.78	5.66	5.36	5.68	5.80	5.65	5.85	5.71	5.53	5.51	5.40	..
Switzerland	2.58	3.50	3.50	3.48	3.41	3.61	3.49	3.49	3.51	3.48	3.62	3.42	3.55	..
Turkey	0.54	0.94	1.13	1.09	1.13	1.03	1.07	1.10	1.13	1.17	1.27	1.35	1.29	..
United Kingdom	3.73	3.62	3.80	3.79	3.80	3.80	3.69	3.75	3.72	3.70	3.62	3.48	3.40	..
United States	7.64	7.65	7.83	7.95	8.08	7.85	7.87	7.78	7.87	7.84	7.70	7.75	7.53	6.53
EU27 total	..	3.46	3.51	3.47	3.49	3.56	3.54	3.61	3.63	3.62	3.60	3.55	..	3.50
OECD total	3.81	4.29	4.54	4.59	4.65	4.59	4.60	4.62	4.67	4.68	4.64	4.64	4.56	4.44
Brazil	0.71	0.93	1.08	1.09	1.09	1.08	1.09	1.09	1.14	1.15	1.18	1.23	..	..
Chile	0.89	1.05	1.64	1.69	1.70	1.64	1.68	1.68	1.79	1.82	1.85	1.86	..	..
China	0.47	0.76	0.87	0.86	0.86	0.86	0.92	1.04	1.20	1.30	1.41	1.48	..	2.62
Estonia	..	6.10	3.56	3.35	3.29	3.43	3.32	3.67	3.80	3.85	3.74	4.20	..	..
India	0.28	0.37	0.43	0.45	0.45	0.45	0.45	0.46	0.48	0.49	0.51	0.53	..	0.90
Indonesia	0.30	0.57	0.66	0.73	0.73	0.76	0.76	0.76	0.79	0.79	0.81	0.84	..	..
Israel	1.87	2.49	2.92	2.77	2.93	3.01	2.94	2.99	2.92	2.96	3.00	3.06	..	..
Russian Federation	..	5.87	3.93	4.10	4.17	4.23	4.22	4.40	4.43	4.55	4.71	4.75	..	6.31
Slovenia	..	2.84	3.25	3.23	3.23	3.38	3.43	3.46	3.57	3.65	3.65	3.63	..	..
South Africa	2.00	2.58	2.58	2.52	2.51	2.42	2.31	2.56	2.78	2.70	2.73	2.82	..	..
World	1.47	1.67	1.63	1.64	1.65	1.63	1.65	1.69	1.74	1.77	1.79	1.82	..	2.04

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Tonnes of oil equivalent (toe) per capita



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