

ENERGY SUPPLY PER CAPITA

Total primary energy supply per capita is a common, albeit an 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 properly taken into account when comparing countries. Energy analysts usually prefer to compare energy use per unit of output or per unit of GDP. However, the ratio has been 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. TPES consists of primary energy production adjusted for net trade 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

Long-term trends

The level of energy supply on a per capita basis varied significantly across OECD countries. The countries with the highest ratios were those countries with the smallest populations. In 2006, the energy supply per capita for Iceland was 14.4 toe/capita and for Luxembourg was 10.4 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; motorists and other consumers from neighbouring countries – Belgium, France and Germany – buy their supplies in Luxembourg.

The United States and Canada are also large consumers of energy per capita, with ratios of 7.8 and 8.3 toe/capita in 2006. On the other end of the scale, the countries with the lowest TPES/capita were Turkey (1.2 toe/capita) and Mexico (1.7 toe/capita).

Between 1971 and 2006, there are striking differences in the trends of the OECD countries. Compared to 1971, TPES/capita in 2006 was eight times higher in Korea and more than doubled in Greece, Iceland, Portugal, Spain and Turkey. On the other hand, the ratio decreased in four OECD countries over this period: Luxembourg (-14%), the Czech Republic (-5%), Denmark (-4%) and Poland (-2%).

In general, the TPES/capita of non-OECD countries is lower than that of the OECD countries. In 2005, the ratio for China (1.3 toe/capita) was twice as much as in 1971. South Africa (2.7 toe/capita), Brazil (1.1 toe/capita) and India (0.5 toe/capita) grew slightly more slowly.

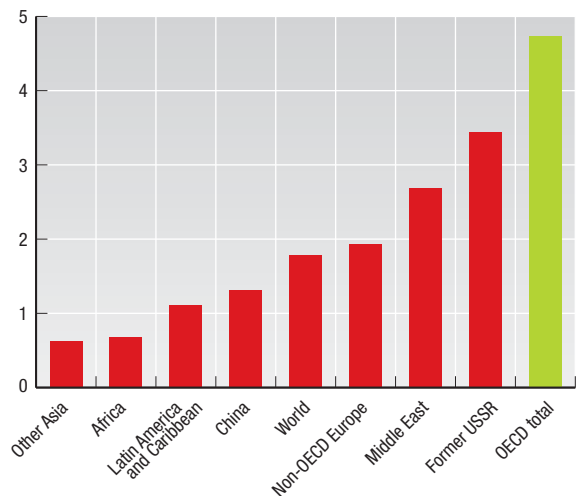
counted. TPES is expressed in tonnes of oil equivalent (see the IEA sources below for details on how TPES is calculated). The forecasts provided in the table refer to the Reference Scenario of the *World Energy Outlook*.

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.

Total primary energy supply per capita

Tonnes of oil equivalent (toe) per capita, 2005



StatLink <http://dx.doi.org/10.1787/267848160840>

Sources

- IEA (2007), *Energy Balances of Non-OECD Countries*, IEA, Paris.
- IEA (2007), *Energy Balances of OECD Countries*, IEA, Paris.
- IEA (2007), *World Energy Outlook 2007: China and India Insights*, IEA, Paris.

Further information

Analytical publications

- IEA (2007), *Energy Policies of IEA Countries*, series, IEA, Paris.

Online databases

- *World Energy Statistics and Balances*.


Websites

- International Energy Agency, www.iea.org.

Total primary energy supply per capita

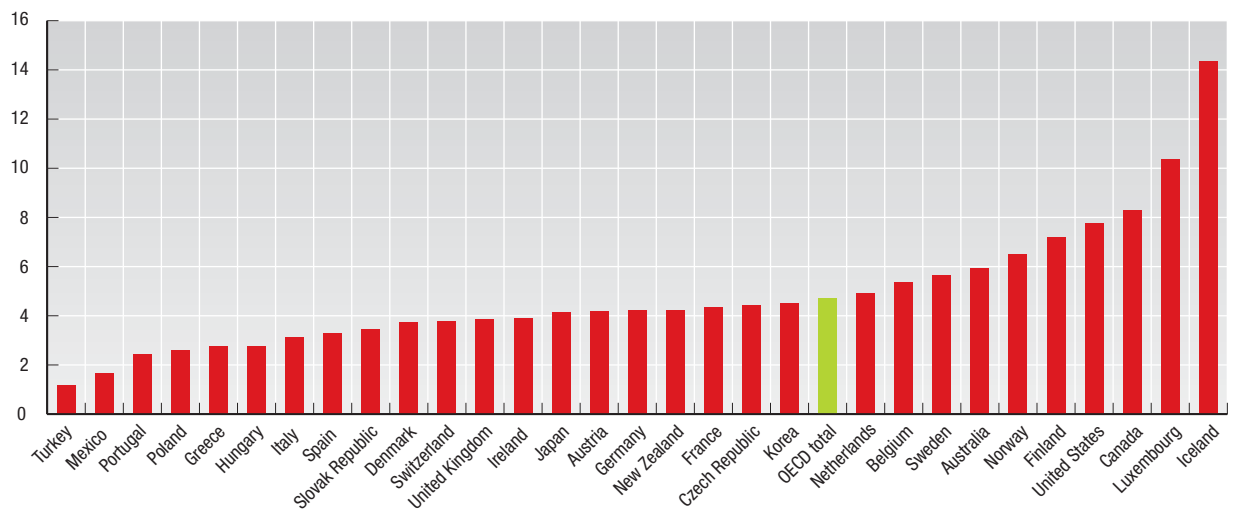
Tonnes of oil equivalent (toe) per capita


| | 1971 | 1990 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2030 |
|--------------------|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Australia | 3.96 | 5.10 | 5.48 | 5.56 | 5.65 | 5.70 | 5.73 | 5.55 | 5.67 | 5.66 | 5.62 | 5.96 | 5.93 | .. |
| Austria | 2.53 | 3.27 | 3.63 | 3.61 | 3.67 | 3.63 | 3.62 | 3.84 | 3.88 | 4.06 | 4.07 | 4.17 | 4.16 | .. |
| Belgium | 4.13 | 4.93 | 5.55 | 5.60 | 5.71 | 5.73 | 5.77 | 5.72 | 5.50 | 5.73 | 5.58 | 5.41 | 5.36 | .. |
| Canada | 6.46 | 7.56 | 7.99 | 8.04 | 7.94 | 8.12 | 8.12 | 7.93 | 7.97 | 8.28 | 8.40 | 8.43 | 8.30 | .. |
| Czech Republic | 4.64 | 4.73 | 4.10 | 4.13 | 3.99 | 3.74 | 3.93 | 4.05 | 4.11 | 4.37 | 4.48 | 4.42 | 4.42 | .. |
| Denmark | 3.88 | 3.48 | 4.29 | 3.97 | 3.91 | 3.75 | 3.63 | 3.72 | 3.65 | 3.86 | 3.74 | 3.62 | 3.73 | .. |
| Finland | 4.00 | 5.85 | 6.22 | 6.43 | 6.49 | 6.46 | 6.37 | 6.49 | 6.81 | 7.20 | 7.24 | 6.67 | 7.18 | .. |
| France | 3.10 | 3.92 | 4.27 | 4.13 | 4.25 | 4.24 | 4.26 | 4.37 | 4.33 | 4.38 | 4.41 | 4.40 | 4.36 | .. |
| Germany | 3.93 | 4.49 | 4.32 | 4.28 | 4.26 | 4.16 | 4.18 | 4.29 | 4.19 | 4.21 | 4.22 | 4.18 | 4.24 | .. |
| Greece | 1.02 | 2.15 | 2.26 | 2.32 | 2.44 | 2.45 | 2.55 | 2.62 | 2.64 | 2.71 | 2.75 | 2.79 | 2.74 | .. |
| Hungary | 1.84 | 2.76 | 2.54 | 2.51 | 2.47 | 2.47 | 2.45 | 2.50 | 2.54 | 2.60 | 2.61 | 2.75 | 2.75 | .. |
| Iceland | 4.79 | 8.52 | 9.23 | 9.34 | 9.85 | 11.15 | 11.54 | 11.80 | 11.79 | 11.72 | 11.94 | 12.25 | 14.36 | .. |
| Ireland | 2.37 | 2.96 | 3.24 | 3.43 | 3.59 | 3.67 | 3.76 | 3.95 | 3.96 | 3.76 | 3.73 | 3.69 | 3.89 | .. |
| Italy | 2.12 | 2.61 | 2.83 | 2.86 | 2.94 | 2.98 | 3.04 | 3.04 | 3.04 | 3.14 | 3.14 | 3.16 | 3.14 | .. |
| Japan | 2.57 | 3.60 | 4.08 | 4.12 | 4.05 | 4.10 | 4.16 | 4.09 | 4.08 | 4.04 | 4.17 | 4.15 | 4.13 | 5.09 |
| Korea | 0.52 | 2.18 | 3.55 | 3.82 | 3.47 | 3.81 | 4.05 | 4.07 | 4.26 | 4.34 | 4.44 | 4.43 | 4.50 | .. |
| Luxembourg | 12.03 | 9.35 | 8.28 | 8.09 | 7.78 | 8.06 | 8.39 | 8.67 | 9.06 | 9.47 | 10.33 | 10.45 | 10.35 | .. |
| Mexico | 0.87 | 1.53 | 1.48 | 1.50 | 1.54 | 1.54 | 1.52 | 1.52 | 1.53 | 1.56 | 1.59 | 1.68 | 1.66 | .. |
| Netherlands | 3.89 | 4.47 | 4.87 | 4.76 | 4.75 | 4.66 | 4.76 | 4.86 | 4.87 | 4.99 | 5.05 | 5.02 | 4.90 | .. |
| New Zealand | 2.51 | 4.09 | 4.46 | 4.54 | 4.41 | 4.62 | 4.65 | 4.65 | 4.47 | 4.27 | 4.29 | 4.12 | 4.24 | .. |
| Norway | 3.49 | 5.07 | 5.30 | 5.59 | 5.77 | 6.02 | 5.75 | 5.87 | 5.53 | 5.95 | 6.16 | 6.95 | 6.51 | .. |
| Poland | 2.63 | 2.62 | 2.69 | 2.65 | 2.48 | 2.41 | 2.34 | 2.35 | 2.33 | 2.39 | 2.40 | 2.44 | 2.58 | .. |
| Portugal | 0.75 | 1.78 | 2.04 | 2.14 | 2.30 | 2.46 | 2.47 | 2.47 | 2.55 | 2.47 | 2.53 | 2.58 | 2.43 | .. |
| Slovak Republic | 3.12 | 4.02 | 3.37 | 3.37 | 3.26 | 3.27 | 3.28 | 3.44 | 3.48 | 3.46 | 3.41 | 3.50 | 3.45 | .. |
| Spain | 1.26 | 2.33 | 2.57 | 2.72 | 2.85 | 2.97 | 3.10 | 3.14 | 3.19 | 3.24 | 3.33 | 3.35 | 3.29 | .. |
| Sweden | 4.51 | 5.56 | 5.89 | 5.74 | 5.85 | 5.74 | 5.43 | 5.76 | 5.86 | 5.70 | 5.91 | 5.78 | 5.66 | .. |
| Switzerland | 2.69 | 3.68 | 3.58 | 3.66 | 3.70 | 3.68 | 3.63 | 3.80 | 3.65 | 3.63 | 3.64 | 3.62 | 3.78 | .. |
| Turkey | 0.54 | 0.94 | 1.07 | 1.14 | 1.14 | 1.10 | 1.14 | 1.03 | 1.08 | 1.11 | 1.14 | 1.18 | 1.17 | .. |
| United Kingdom | 3.77 | 3.71 | 4.01 | 3.89 | 3.94 | 3.95 | 3.97 | 3.97 | 3.85 | 3.90 | 3.90 | 3.88 | 3.84 | .. |
| United States | 7.67 | 7.70 | 7.95 | 7.93 | 7.91 | 8.03 | 8.17 | 7.92 | 7.94 | 7.84 | 7.92 | 7.89 | 7.76 | 8.08 |
| EU27 total | .. | 3.50 | 3.59 | 3.55 | 3.57 | 3.54 | 3.57 | 3.64 | 3.62 | 3.68 | 3.70 | 3.69 | .. | 4.03 |
| OECD total | 3.85 | 4.34 | 4.60 | 4.62 | 4.61 | 4.66 | 4.71 | 4.66 | 4.66 | 4.67 | 4.73 | 4.74 | 4.70 | 5.25 |
| Brazil | 0.71 | 0.90 | 1.00 | 1.03 | 1.05 | 1.07 | 1.07 | 1.06 | 1.07 | 1.07 | 1.11 | 1.12 | .. | .. |
| China | 0.47 | 0.76 | 0.89 | 0.89 | 0.88 | 0.87 | 0.88 | 0.87 | 0.93 | 1.06 | 1.22 | 1.32 | .. | 2.62 |
| India | 0.28 | 0.38 | 0.42 | 0.43 | 0.43 | 0.45 | 0.45 | 0.45 | 0.46 | 0.46 | 0.48 | 0.49 | .. | 0.89 |
| Russian Federation | .. | 5.92 | 4.21 | 4.04 | 3.96 | 4.12 | 4.20 | 4.26 | 4.25 | 4.42 | 4.46 | 4.52 | .. | 7.07 |
| South Africa | 2.01 | 2.59 | 2.64 | 2.61 | 2.59 | 2.54 | 2.52 | 2.44 | 2.32 | 2.58 | 2.79 | 2.72 | .. | .. |
| World | 1.48 | 1.67 | 1.65 | 1.64 | 1.63 | 1.64 | 1.66 | 1.64 | 1.66 | 1.69 | 1.75 | 1.78 | .. | 2.16 |

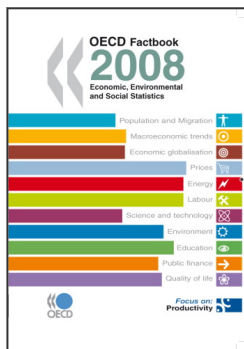
StatLink  <http://dx.doi.org/10.1787/273732373885>

Total primary energy supply per capita

Tonnes of oil equivalent (toe) per capita, 2006



StatLink  <http://dx.doi.org/10.1787/267843062371>



From:
OECD Factbook 2008
Economic, Environmental and Social Statistics

Access the complete publication at:
<https://doi.org/10.1787/factbook-2008-en>

Please cite this chapter as:

OECD (2009), "Energy supply per capita", in *OECD Factbook 2008: Economic, Environmental and Social Statistics*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/factbook-2008-34-en>

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