

ELECTRICITY GENERATION

The amount of electricity generated by a country and the breakdown of the production by fuel is a reflection of its natural resources, imported energy, national policies on security of energy supply, population, electrification rate and the development and growth of the economy in general.

Definition

The table refers to electricity generation from fossil fuels, nuclear, hydro (excluding pumped storage), geothermal, solar, biomass, etc. It includes electricity produced in electricity-only plants and in combined heat and power plants. Both main activity producer and autoproducer plants have been included, where data are available. Main activity producers generate electricity for sale to third parties as their primary activity. Autoproducer undertakings generate electricity wholly or partly for their own use as an activity which supports their primary activity. Both types of plants may be privately or publicly owned. The forecasts provided in the table refer to the Reference Scenario of the *World Energy Outlook*.

Comparability

Some countries, both OECD and non-OECD, have trouble reporting electricity generation from autoproducer plants. It is also difficult to obtain information on electricity generated by combustible renewables and waste in some non-OECD countries. For example, electricity generated from waste biomass in sugar refining remains largely unreported.

Long-term trends

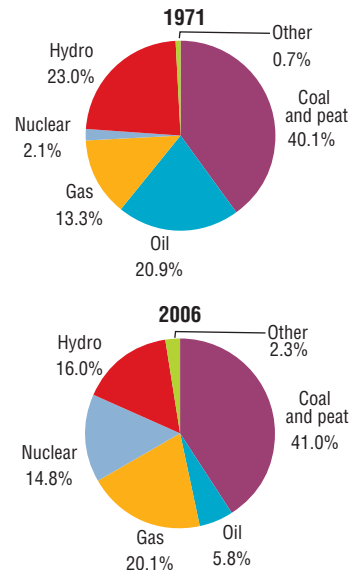
World electricity generation rose at an average annual rate of 3.7% from 1971 to 2006, greater than the 2.2% growth in total primary energy supply. This increase was largely due to more electrical appliances, development of electrical heating in several developed countries and rural electrification programmes in developing countries.

The share of electricity production from fossil fuels has gradually fallen, from just under 75% in 1971 to 67% in 2006. This decrease was due to a progressive move away from oil, which fell from 20.9% to 5.8%.

Oil for power generation has been displaced in particular by dramatic growth in nuclear electricity generation, which rose from 2.1% in 1971 to 14.8% in 2006. The share of coal remained stable, at 40-41% while that of natural gas increased from 13.3% to 20.1%. The share of hydro-electricity decreased from 23.0% to 16.0%. Due to large programmes to develop wind and solar energy in several OECD countries, the share of new and renewable energies, such as solar, wind, geothermal, biomass and waste increased. However, these energy forms remain limited: in 2006, they accounted for only 2.3% of total electricity production.

World electricity generation by source of energy

As a percentage of world electricity generation



StatLink <http://dx.doi.org/10.1787/536357457783>

Sources

- IEA (2008), *Energy Balances of OECD Countries*, IEA, Paris.
- IEA (2008), *Energy Balances of Non-OECD Countries*, IEA, Paris.
- IEA (2008), *World Energy Outlook 2008*, IEA, Paris.

Further information

Analytical publications

- IEA, NEA (2005), *Projected Costs of Generating Electricity*, OECD, Paris.
- IEA (2005), *Saving Electricity in a Hurry: Dealing with Temporary Shortfalls on Electricity Suppliers*, IEA, Paris.
- IEA (2006), *China's Power Sector Reforms*, IEA, Paris.
- IEA (2006), *Energy Efficiency Policy Profiles Light's labour's lost: Policies for Energy-Efficient Lighting*, IEA, Paris.
- IEA (2007), *Fossil Fuel-Fired Power Generation: Case studies of recently constructed coal- and gas-fired power plants*, IEA, Paris.
- IEA (2007), *Tackling Investment Challenges in Power Generation in IEA Countries*, IEA, Paris.

Statistical publications

- IEA (2008), *Electricity Information 2008*, IEA, Paris.

Online databases

- *World Energy Statistics and Balances*.


Websites

- International Energy Agency, www.iea.org.

Electricity generation

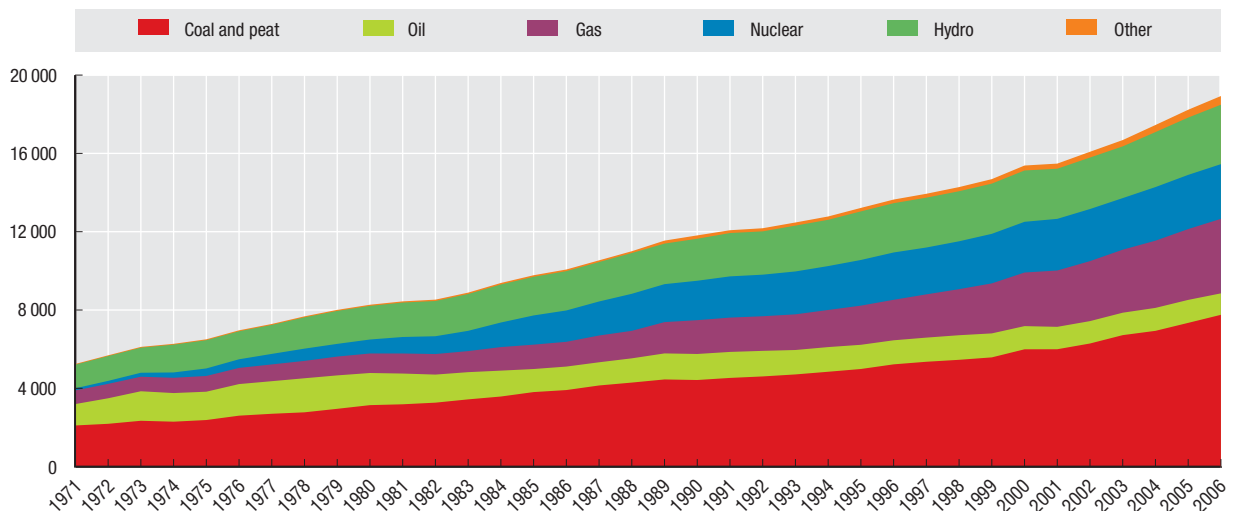
Terawatt hours (TWh)

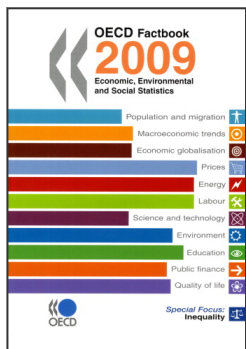
	1971	1990	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2030
Australia	53.0	154.3	182.8	195.6	203.0	207.4	216.5	226.2	227.9	234.3	245.1	251.3	258.9	..
Austria	28.2	49.3	55.7	55.9	59.7	59.9	60.7	60.3	57.7	61.6	63.0	60.7	61.2	..
Belgium	33.2	70.3	77.9	82.1	83.4	82.8	78.6	80.9	83.6	84.4	85.7	84.3	87.9	..
Canada	221.8	481.9	573.5	561.5	578.8	605.5	589.6	601.0	589.4	599.7	625.9	612.5	630.9	..
Czech Republic	36.4	62.3	64.2	64.6	64.2	72.9	74.2	76.0	82.8	83.8	81.9	83.7	87.8	..
Denmark	18.6	26.0	44.3	41.1	38.9	36.0	37.7	39.3	46.2	40.4	36.4	45.7	39.2	..
Finland	21.7	54.4	69.2	70.2	69.5	70.0	74.5	74.9	84.2	85.8	70.6	82.3	81.2	..
France	155.8	417.2	501.1	507.3	521.3	536.1	545.7	553.9	561.8	569.1	571.5	569.2	564.4	..
Germany	327.2	547.7	548.0	552.4	552.5	572.3	581.9	582.0	601.5	608.5	613.4	629.4	629.3	..
Greece	11.6	34.8	43.3	46.2	49.4	53.4	53.1	53.9	57.9	58.8	59.4	60.2	62.9	..
Hungary	15.0	28.4	35.4	37.2	37.8	35.2	36.4	36.2	34.1	33.7	35.8	35.9	39.9	..
Iceland	1.6	4.5	5.6	6.3	7.2	7.7	8.0	8.4	8.5	8.6	8.7	9.9	12.0	..
Ireland	6.3	14.2	19.7	20.9	21.8	23.7	24.6	24.8	24.9	25.2	25.6	27.7	27.4	..
Italy	123.9	213.1	246.5	253.7	259.3	269.9	271.9	277.5	286.3	295.8	296.8	307.7	308.8	..
Japan	382.9	835.5	1 004.3	1 010.0	1 027.9	1 048.6	1 029.8	1 048.4	1 037.5	1 067.2	1 088.4	1 090.5	1 144.2	1 271.4
Korea	10.5	105.4	222.1	216.1	235.6	288.5	309.1	329.8	343.2	366.6	387.9	402.3	437.4	..
Luxembourg	1.3	0.6	0.4	0.4	0.4	0.4	0.5	2.8	2.8	3.4	3.4	3.5	3.2	..
Mexico	31.0	124.1	180.9	181.2	189.9	203.6	209.1	214.6	217.8	224.1	242.0	249.6	257.2	..
Netherlands	44.9	71.9	86.6	91.2	86.9	89.7	93.8	96.1	96.8	100.8	100.2	98.4	103.4	..
New Zealand	15.5	32.3	35.9	36.3	38.2	39.2	39.4	41.1	41.2	42.9	43.1	43.5	43.9	..
Norway	63.5	121.6	110.7	116.1	122.3	139.6	119.2	130.3	106.8	110.2	137.2	121.3	136.6	..
Poland	69.5	134.4	140.9	140.8	140.0	143.2	143.7	142.5	150.0	152.6	155.4	160.8	158.7	..
Portugal	7.9	28.4	34.1	38.9	42.9	43.4	46.2	45.7	46.5	44.8	46.2	48.6	47.1	..
Slovak Republic	10.9	25.5	25.1	25.7	28.1	30.8	31.9	32.2	31.0	30.5	31.4	31.3	27.5	..
Spain	61.6	151.2	189.2	193.4	205.9	222.2	233.2	241.6	257.9	277.2	288.9	299.1	303.3	..
Sweden	66.5	146.0	149.2	158.8	154.8	145.2	161.6	146.7	135.4	151.7	158.4	143.3	148.7	..
Switzerland	31.2	55.0	62.0	62.3	68.7	66.1	71.1	65.5	65.4	63.9	57.8	62.1	66.5	..
Turkey	9.8	57.5	103.3	111.0	116.4	124.9	122.7	129.4	140.6	150.7	162.0	176.3	191.2	..
United Kingdom	255.8	317.8	349.2	361.1	365.3	374.4	382.4	384.6	395.5	391.2	395.5	394.5	393.6	..
United States	1 703.4	3 202.8	3 672.2	3 804.5	3 873.5	4 025.7	3 838.6	4 026.1	4 054.4	4 147.7	4 268.4	4 274.3	4 372.2	5 332.3
EU27 total	..	2 567.3	2 825.4	2 886.6	2 914.2	2 996.8	3 077.1	3 099.1	3 187.4	3 252.6	3 273.9	3 323.1	..	4 157.6
OECD total	3 820.7	7 568.4	8 833.2	9 042.8	9 243.4	9 618.4	9 485.8	9 772.7	9 869.5	10 115.0	10 385.7	10 459.8	10 726.3	13 418.0
Brazil	51.6	222.8	308.1	321.9	334.8	349.2	327.9	345.7	364.9	387.5	402.9	419.3
China	138.4	621.2	1 134.7	1 166.6	1 239.8	1 356.2	1 472.4	1 641.4	1 908.5	2 201.0	2 499.6	2 864.2	..	8 241.4
India	66.4	289.4	465.8	496.9	537.4	562.2	581.0	598.4	635.2	667.6	699.2	744.1	..	2 645.1
Indonesia	2.4	33.3	76.5	77.3	84.3	92.6	101.6	108.2	112.9	120.2	127.4	133.1
Russian Federation	..	1 082.2	833.2	826.2	845.3	876.5	889.3	889.3	914.3	929.9	951.2	993.9	..	1 445.5
South Africa	54.6	165.4	207.7	203.0	200.4	207.8	208.2	215.7	232.3	242.5	242.9	251.9
World	5 245.7	11 810.9	13 937.5	14 279.0	14 685.4	15 380.3	15 478.2	16 083.3	16 681.3	17 449.9	18 229.3	18 930.4	..	33 264.6

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World electricity generation by source of energy

Terawatt hours (TWh)

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