

Energy consumption

2008

Total energy consumption fell by 4 per cent in 2008

Corrected on 19 February 2010. The corrections are indicated in red. *Million terajoules* was previously *terajoules*.

Total consumption of energy in Finland amounted to 1.42 **million** terajoules (TJ) in 2008, which was 4.2 per cent less than in 2007. The consumption of electricity totalled 87.2 terawatt hours (TWh), which was 3.5 per cent less than in the previous year. Contraction of industrial output and mild weather brought the consumption of energy down from the previous year. The replacement of coal condensate power with hydro power in the production of electricity also reduced significantly the total consumption of primary energy and carbon dioxide emissions. The share of renewable energy rose by nearly three percentage points and amounted to 28 per cent of total energy consumption in 2008. Carbon dioxide emissions from the production and use of energy diminished by significantly more than total energy consumption, or by a total of 13 per cent.

Total consumption of energy amounted to 1.42 **million** terajoules (TJ) in 2008. The decrease from the year before was four per cent. Examined by individual energy source, the consumption of coal (including hard coal, coke and blast furnace gas) decreased most, or by 26 per cent. The consumption of peat also diminished notably, or by over 20 per cent. Two successive summers with difficult production conditions resulted in a shortage of peat towards the end of the year. By contrast, the consumption of natural gas for energy grew by 2 per cent, mainly in combined heat and power production. The consumption of oil, in turn, diminished again by 2.5 per cent from the previous year. The consumption of wood-based fuels remained on level with the year before.

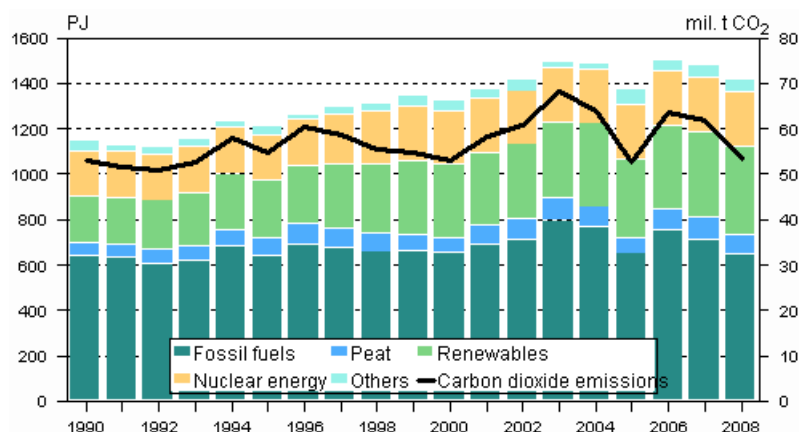
The very favourable water situation which continued throughout 2008 increased the production of hydro power in Finland to 17 TWh, which represents 23 per cent of total electricity production. The need for condensate power mainly produced with coal and peat decreased by 39 per cent from the year before. The production of wind power also reached a record level and increased by 38 per cent due to new wind power stations. By contrast, the production of nuclear power decreased by 2 per cent from the previous year. In Norway and Sweden the water reservoirs fell below their long-term average towards the end of the year, which reduced electricity imports from other Nordic countries. At the end of 2008 Finland was a net seller on the Nordic electricity market. However, electricity imports from Russia and Estonia increased, which kept the net imports of electricity growing slightly. The net imports of electricity covered 15 per cent of total electricity consumption.

The share of renewable energy rose to nearly 28 per cent

The share of renewable energy in total energy consumption rose to a new record high of 28 per cent in 2008. EU targets for the share of renewable energy are calculated relative to final energy consumption and in Finland this share has been 4-5 percentage points higher than the share calculated relative to total energy consumption. Among the renewable energy sources, wind power and hydro power grew most from the previous year, or by 21 and 38 per cent, respectively. In total energy consumption the share of wind power remained at around 0.07 per cent. Heat and power plants used 11 per cent less solid wood fuels than in the previous year. The use of forest

chippings reached a record figure in 2008. The combustion of forest chippings increased by nearly 50 per cent from the previous year. By contrast, the use of waste wood and black liquor from the forest industry turned to a decline. All in all, the use of wood fuels remained on level with the previous year. Two per cent of the energy contents of transport fuels consumed in 2008 came from bio fuels, which met the obligation to advance the use of bio fuels in transport set out in law.

Total energy consumption and carbon dioxide emissions



Downturn of the economy late in the year and mild weather brought down energy consumption

The growth of industrial output stalled in the summer and turned to a steep decline towards the end of the year. According to Statistics Finland’s preliminary data, growth in GDP slowed down to 1.0 per cent in 2008 from the previous year’s 4 per cent. Output turned to a decline in all main manufacturing industries in November. The fall in industrial output was reflected in industry’s consumption of electricity which decreased by exceptionally much, or by more than 7 per cent. The fall was especially marked in the large electricity consumer of forest industry, where output kept declining throughout the year. Other than industrial consumption of electricity remained on level with the previous year. Electricity consumption in Finland totalled of 87.2 terawatt hours.

Less than average amounts of district heating and other heating energy were consumed due to the mild weather. The total amount of district heating produced last year was 32.7 TWh, which was 2 per cent less than in the year before.

Energy consumption in transport turned to a decline for the first time in the 2000s and fell by 2 per cent from the year before. Among the transport fuels, the consumption of motor gasoline decreased by 5 per cent but that of diesel fuel still continued to grow, this time by 2 per cent from the year before.

Energy consumption 2008–2007, terajoule

	2008	2007	Change %
Oil	351 672	360 528	-2
Wood fuels	302 146	302 214	0
Nuclear energy	240 542	245 468	-2
Coal	141 901	191 439	-26
Natural gas	150 768	147 456	2
Peat	81 457	102 260	-20
Hydro Power	60 874	50 366	21
Net imports of energy	45 979	45 205	2
Wind power	938	678	38
Others	39 336	31 369	25
Total	1415 613	1 476 983	-4

Carbon dioxide emissions from the production and use of energy diminished by 13 per cent

The use of fossil fuels and peat diminished by 24 per cent in heat and power production, which reduced the energy sector's carbon dioxide emissions significantly, or by a total of 13 per cent. Emissions of the energy sector also diminished due to increased production of hydro power and decreased consumption of energy. Emissions from transport also fell for the first time in the 2000s and amounted to 4 per cent less than in the year before. The energy sector generated 76 per cent of all greenhouse gas emissions.

CO₂-emissions from fuel combustion 2007- 2008, million tonnes

	2008 ¹	2007	Change %
CO ₂ -emissions ²	53,5	61,7	-13,2

1) preliminary data

2) includes emissions from fuel combustion of fossil fuels and peat (CRF 1.A)

Link to [Statistical release on greenhouse gas emissions](#) (4 Dec. 2009)

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Figures

Figure 1. Total energy consumption 2008

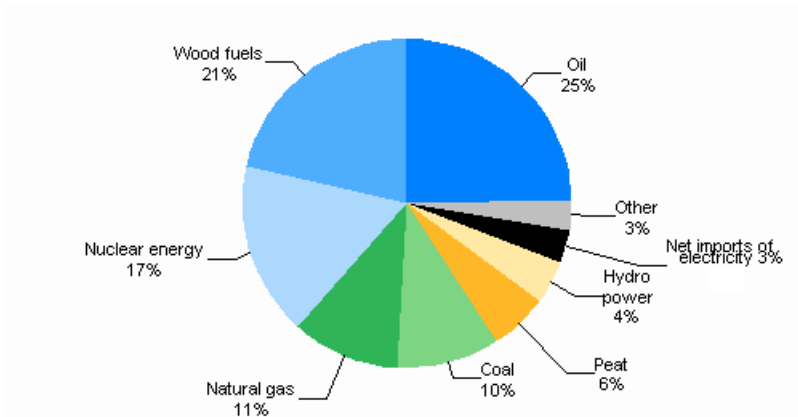


Figure 2. Total energy consumption 1970-2008

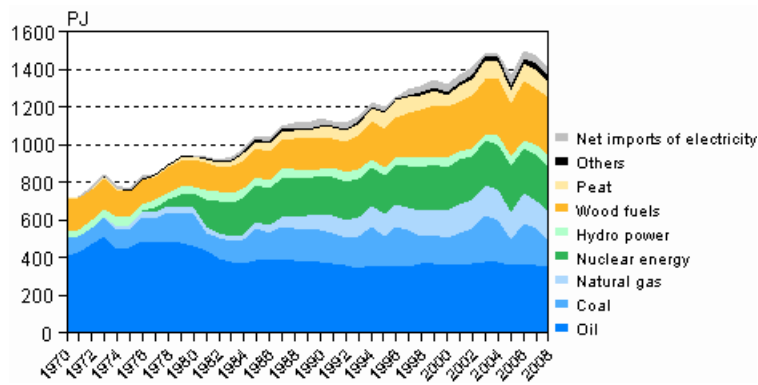


Figure 3. Energy and electricity intensity 1970-2008

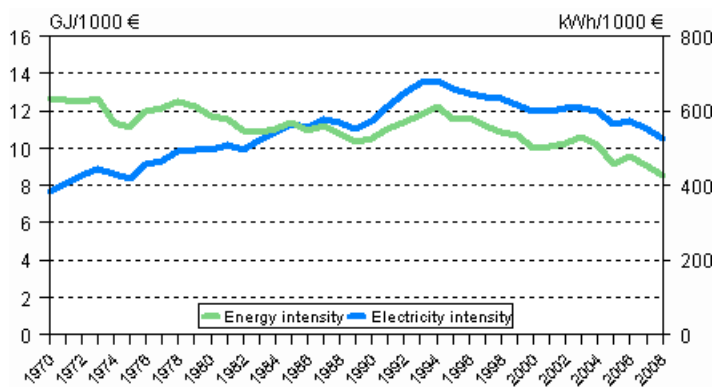


Figure 4. Renewable energy sources 1970–2008

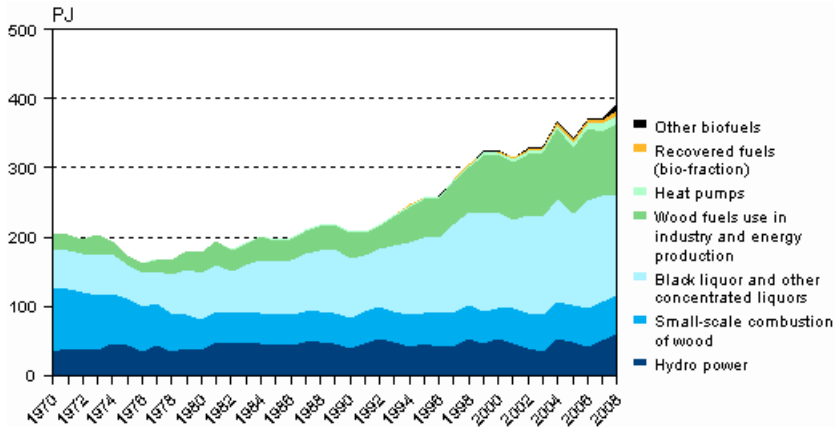


Figure 5. Electricity supply 1970–2008

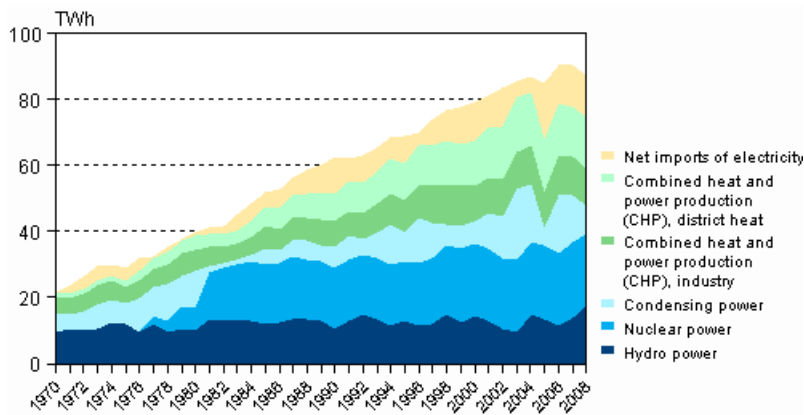


Figure 6. Electricity consumption by sector 1970–2008

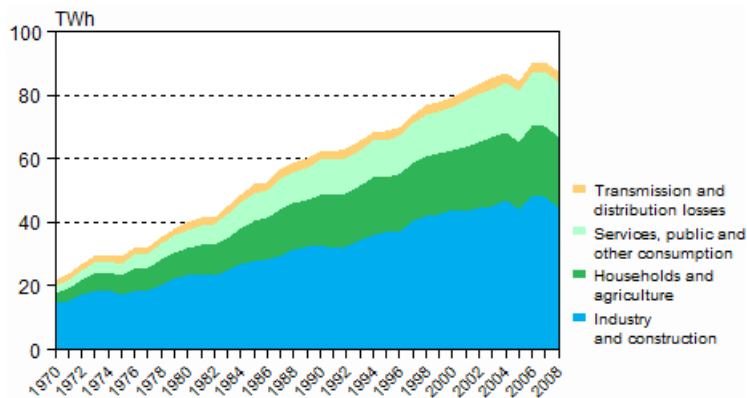
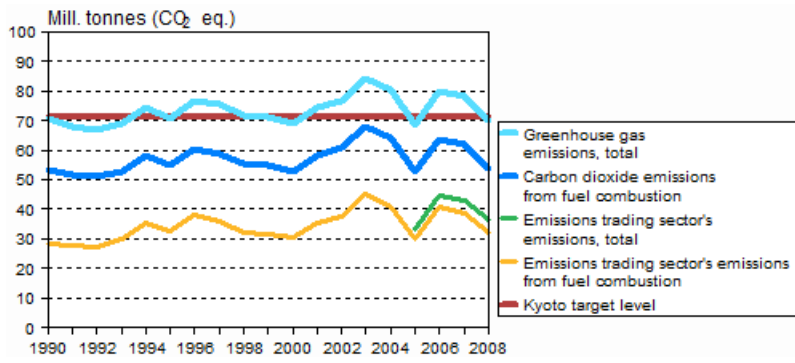


Figure 7. Finland's greenhouse gas emissions 1990–2008



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Energy 2009

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