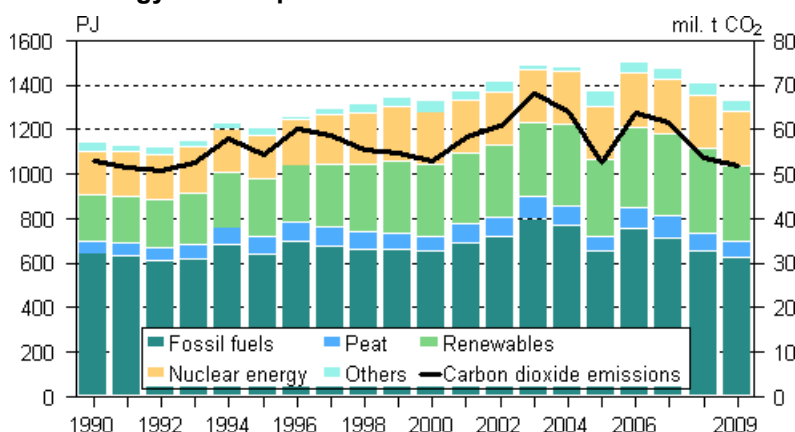


Energy consumption 2009

Total energy consumption fell by nearly 6 per cent in 2009

According to Statistics Finland's statistics on energy consumption, total consumption of energy in Finland amounted to 1.33 million terajoules (TJ) in 2009, which was 5.5 per cent less than in 2008. Nearly seven per cent less electricity was used than in the previous year, 81.3 terawatt hours (TWh). The use of renewable energy sources contracted by 12 per cent and that of fossil fuels by four per cent. Carbon dioxide emissions from the production and use of energy diminished by three per cent, to 51.9 million tonnes of carbon dioxide.

Total energy consumption and carbon dioxide emissions



The contraction in industrial output due to the economic downturn cut down consumption of energy in 2009. The fall in consumption was particularly caused by reduced production in energy-dominated manufacturing sectors, the forest industry and manufacture of basic metals. As an industry, the forest industry is the biggest user of electricity in manufacturing and a major user of renewable energy sources. The used amount of black liquor generated in pulp production reduced, which also contributed to the 12 per cent contraction in the use of renewable energy sources. The share of renewable energy of total energy consumption stood at 25 per cent. EU targets for the share of renewable energy are calculated relative to final energy consumption and in Finland this share has been four to five percentage points higher than the share calculated relative to total energy consumption. Finland's target for the share of renewable energy is 38 per cent of total energy consumption in 2020.

Total energy consumption 2008–2009, terajoule

	2009	2008	Change %
Oil	334 427	350 299	–5
Wood fuels	267 501	302 116	–11
Nuclear energy	246 555	240 542	2
Coal	151 982	141 901	7
Natural gas	134 568	150 768	–11
Peat	71 743	81 457	–12
Hydro power	45 263	60 874	–26
Net imports of energy	43 504	45 980	–5
Wind power	996	938	6
Others	29 698	28 749	3
Total	1 326 236	1 403 623	–6

The use of fossil fuels fell by four per cent from the year before. Of fossil fuels the consumption of coal (including hard coal, coke, and blast furnace and coke oven gas) went up by seven per cent. In addition to the scarcity of hydro power, the use of hard coal was put up by the lower prices of emission rights compared with the previous year, which increased the attractiveness of coal use in electricity and heat production instead of fuels with lower emission rates. The weather was also colder than in the year before, and this heightened the need for heating. The use of peat fell by 12 per cent from the year before.

The worsened water situation from the year before reduced the production of hydro power by 26 per cent from the previous year of record. The production of wind power grew by six per cent, but it still accounted for just 0.4 per cent of electricity produced.

The production of nuclear power increased by over two per cent and at the same time a record volume thus far was attained in annual production. In all, 33 per cent of electricity production in Finland was covered by nuclear energy.

Imports of electricity diminished by four per cent. Most electricity was imported from Russia, from where the volume of imports was in 2009 record high - 11.8 TWh. In contrast, Finland was a net seller in the Nordic electricity market. Electricity exports to Sweden increased due to the poor water situation in the Nordic countries and maintenance shutdowns of nuclear power plants in Sweden. The net imports of electricity covered around 15 per cent of total electricity consumption.

Consumption of electricity fell by seven per cent in 2009. Electricity use in manufacturing decreased while the volume of electricity bought for heating use increased. This was due to the colder winter than average. Consumption of electricity totalled 81.3 terawatt hours. In 2009, production of electricity fell to the level of 2000.

Consumption of district heat grew due to the colder weather than average. Consumption of district heat amounted to 32.8 TWh and it was ten per cent higher than one year previously. In 2009, the average price of district heat rose by nine per cent, being EUR 56.2 per MWh.

Energy consumption in transport fell by three per cent from 2008.

Carbon dioxide emissions from the production and use of energy diminished by three per cent from 2008, to 51.9 million tonnes of carbon dioxide.

CO2-emissions from fuel combustion 2008–2009, million tonnes

	2009 ¹⁾	2008	Change %
CO2-emissions ²⁾	51.9	53.7	3.4

1) preliminary data

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

The use of fuels in the production of electricity and heat decreased by seven per cent in 2009. Emissions reduced as the use of peat and natural gas declined more than use of coal increased. Carbon dioxide emissions in the energy sector accounted for 78 per cent of all greenhouse gas emissions in Finland in 2009.

Link to [Statistical release on greenhouse gas emissions](#) (10 Dec. 2010)

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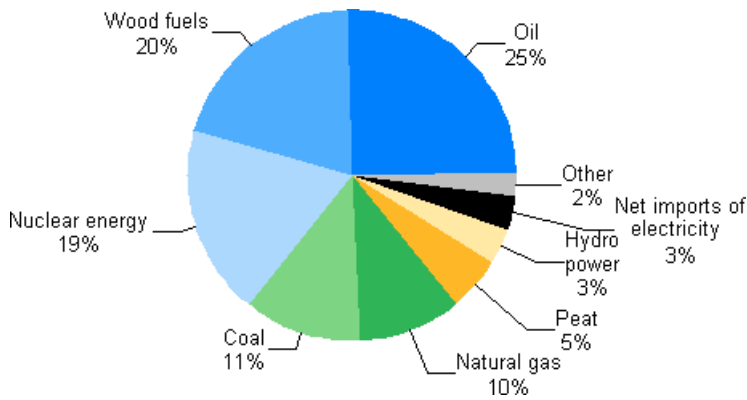
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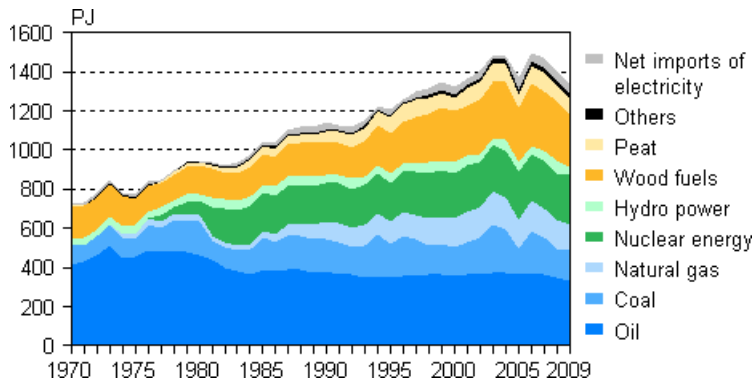
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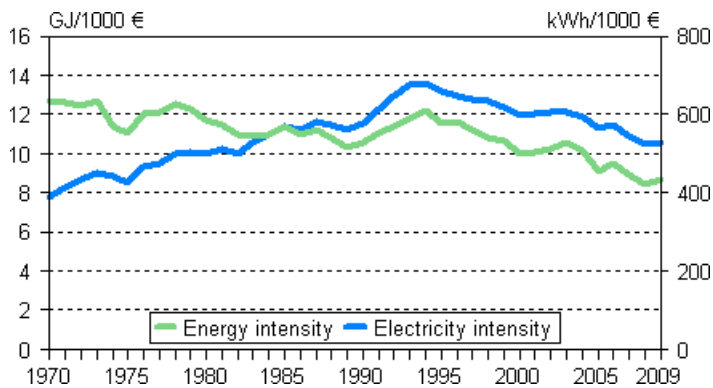
Appendix figure 1. Total energy consumption 2009



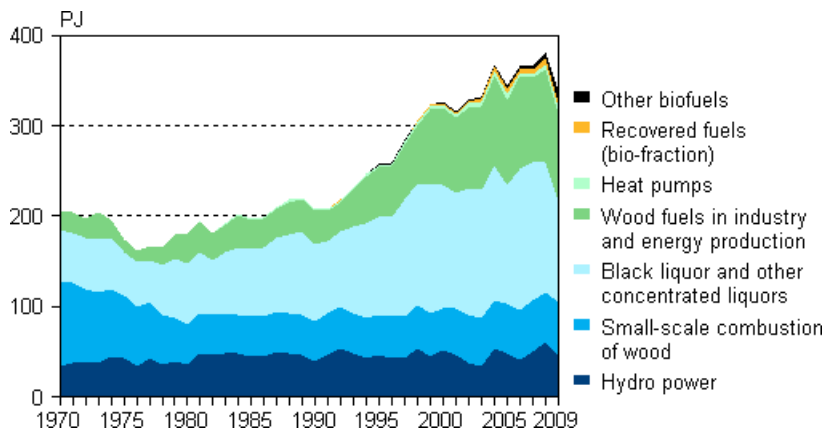
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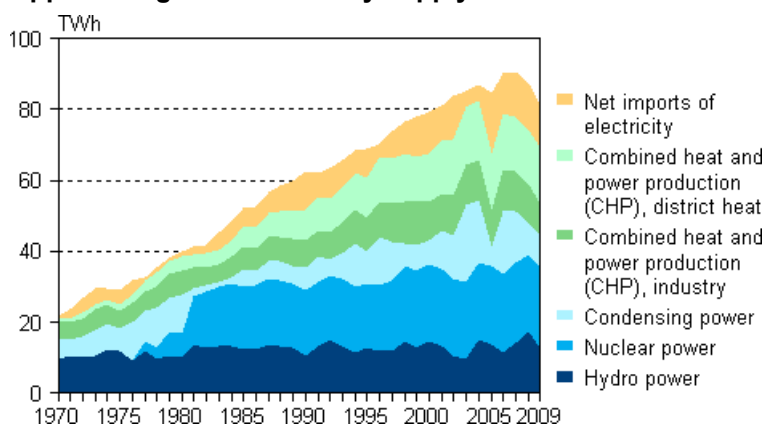
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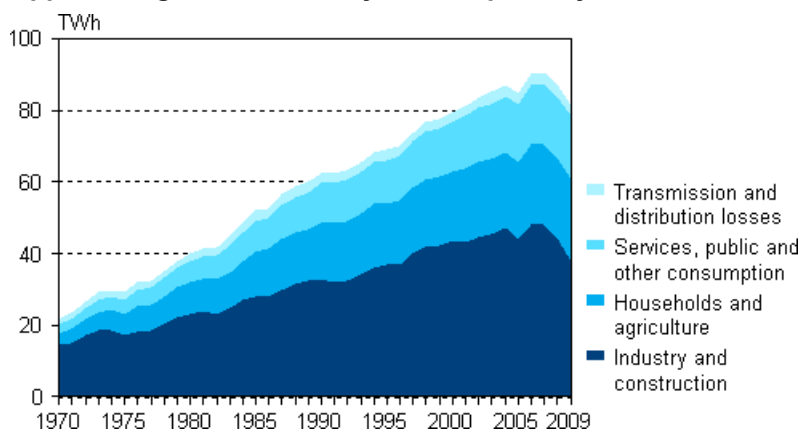
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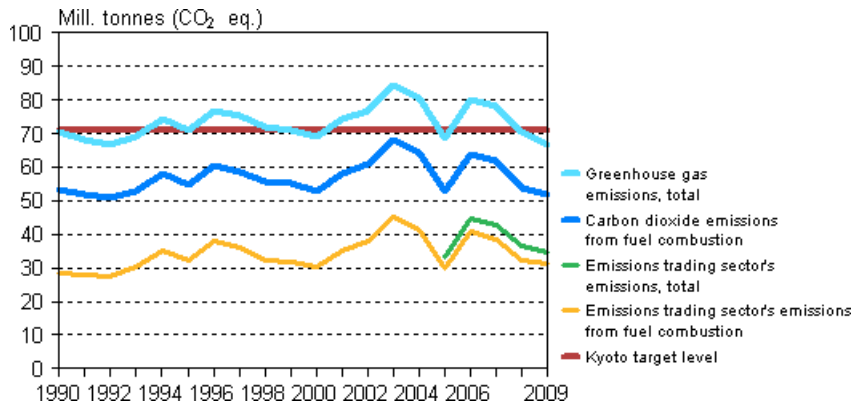
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Appendix figure 6. Electricity consumption by sector 1970–2009



Appendix figure 7. Finland's greenhouse gas emissions 1990–2009



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Source: Yearbook of Energy Statistics 2010. Statistics Finland (due out in early 2011).