

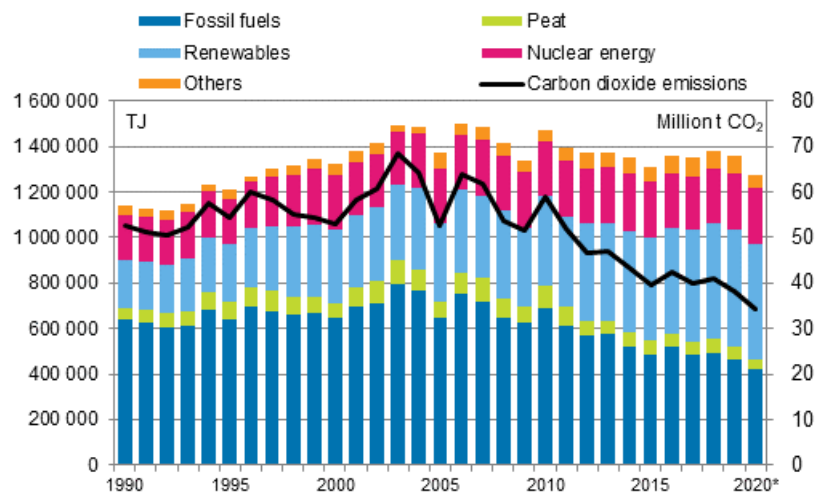
Energy supply and consumption

2020, 4th quarter

Renewable energy surpassed fossil fuels and peat in total energy consumption in 2020

According to Statistics Finland's preliminary data, total consumption of energy in 2020 amounted to 1.28 million terajoules (TJ), which corresponded to a drop of six per cent compared with the previous year. The volume of energy produced by incineration decreased clearly. By contrast, renewable production of hydro, wind and solar power increased. Carbon dioxide emissions from the energy use of fuels decreased by 10 per cent. Total electricity consumption fell to its lowest in 20 years.

Total energy consumption and carbon dioxide emissions 1990–2020*



The use of renewable energy sources decreased by one per cent in 2020, but their share of total energy consumption grew to 40 per cent. For the first time since the compilation of the energy statistics started, the consumption of renewable energy was higher than the consumption of fossil fuels and peat combined. The consumption of wood fuels fell by six per cent. The fall was fairly even in all wood fuel categories and was due to the warm weather and the contraction of output in the forest industry. The consumption of black liquor declined most, by seven per cent. Wood fuels covered 28 per cent of total energy consumption and they were the most used energy source in Finland.

Among other renewable energy sources, production of hydro power grew by 28 per cent and production of wind power by 30 per cent. The consumption of biogas declined by three per cent. Preliminary data on biogas are released for the first time by type of plant in connection with this statistical release. The data are based on collected data, which will be supplemented after the first preliminary publication. More information about the coverage is available in the quality description of the statistics (in Finnish only).

The use of fossil fuels and peat went down by 10 per cent compared to 2019. Their share of total energy consumption decreased to 37 per cent. The drop was biggest for peat, the consumption of which fell by one quarter. The consumption of coal also decreased significantly, by 22 per cent. The ban on the use of hard coal for energy production, which will enter into force in 2029, is already beforehand affecting the decrease of coal consumption. Due to the effects of the corona virus, the consumption of transport fuels, which is usually quite stable, decreased, which was visible as a six per cent drop in the consumption of fossil oil.

In 2020, as much electricity was produced in Finland as one year earlier, that is, 66 TWh. However, total electricity consumption declined by six per cent and was 81 TWh. A lower total consumption of electricity was last recorded in 2000. In addition to the warm weather, the lower electricity consumption in industry affected the fall in electricity consumption. The fall in total consumption was visible in net imports of electricity, which decreased by one quarter. Production of electricity with hydro power, wind power and solar power increased. The production of hydro power was influenced by the favourable water situation and wind power by increased capacity and favourable wind conditions. The share of solar power is still small, but its volume has grown fastest for many years. The volume of electricity generated in combined heat and power production as well as with condensing power decreased.

Final consumption of energy went down as a whole by six per cent. The fall was biggest in industry, seven per cent. The share of industry in total final consumption stood at 45 per cent. The consumption of heating energy for buildings and energy consumption in transport decreased by six per cent each. The share of heating energy for buildings was 26 per cent and that of energy consumption in transport 17 per cent of final energy consumption.

Last year, diverse energy products were imported into Finland to the value of EUR 6.7 billion, which was 36 per cent less than one year earlier. Most energy products were imported from Russia, whose share of the value of imports was 54 per cent. Energy products were exported from Finland to the value of EUR 3.9 billion. The value of exports decreased by 32 per cent compared to the previous year. Most energy products were exported to OECD countries, which accounted for 74 per cent of the value of exports.

Total energy consumption by source (TJ) and CO2 emissions (Mt)

Energy source, TJ ⁴⁾	2020*	Annual change-%*	Percentage share of total energy consumption*
Oil (fossil)	270,518	-6	21
Coal ¹⁾	70,993	-22	6
Natural gas	70,474	-4	6
Nuclear energy ²⁾	243,907	-2	19
Net imports of electricity ³⁾	53,817	-25	4
Hydro power ³⁾	56,188	28	4
Wind power ³⁾	28,110	30	2
Peat	42,489	-25	3
Wood fuels	356,281	-6	28
Others	84,554	-2	7
TOTAL ENERGY CONSUMPTION	1,277,329	-6	100
CO2 emissions from fuel combustion	34	-10	.

1) Coal: includes hard coal, coke, blast furnace gas and coke oven gas.

2) Conversion of electricity generation into fuel units: Nuclear power: 10.91 TJ/GWh (33% total efficiency)

3) Conversion of electricity generation into fuel units: Hydro power, wind power and net imports of electricity: 3.6 TJ/GWh (100%)

4) *Preliminary

Contents

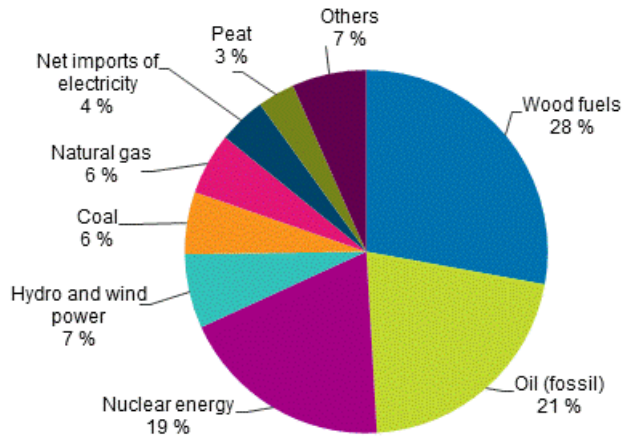
Figures

Appendix figures

Appendix figure 1. Total energy consumption 2020* (Corrected on 28 April 2021).....	5
Appendix figure 2. Total energy consumption 1970–2020*.....	5
Appendix figure 3. Energy and electricity intensity 1975–2020*.....	5
Appendix figure 4. Renewable energy sources 1970–2020*.....	6
Appendix figure 5. Electricity supply 1970–2020*.....	6
Appendix figure 6. Electricity consumption by sector 1970–2020*.....	6
Revisions in these statistics.....	7

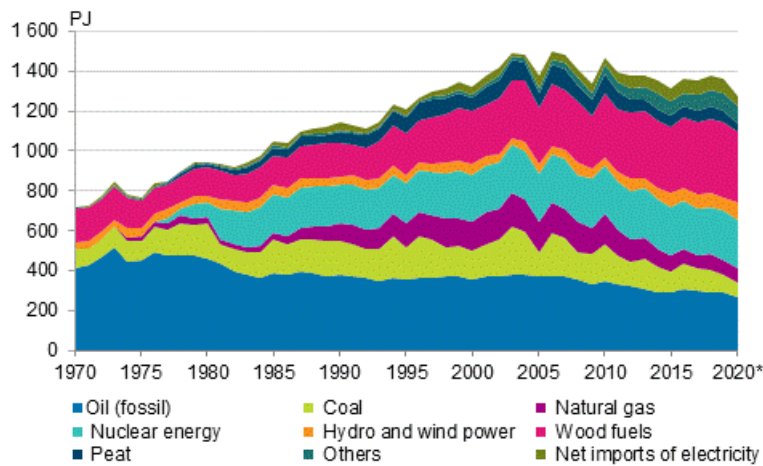
Appendix figures

Appendix figure 1. Total energy consumption 2020* (Corrected on 28 April 2021)



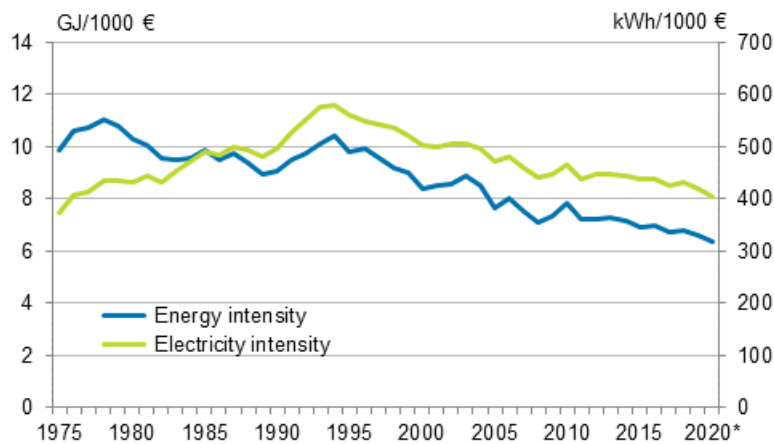
*preliminary

Appendix figure 2. Total energy consumption 1970–2020*



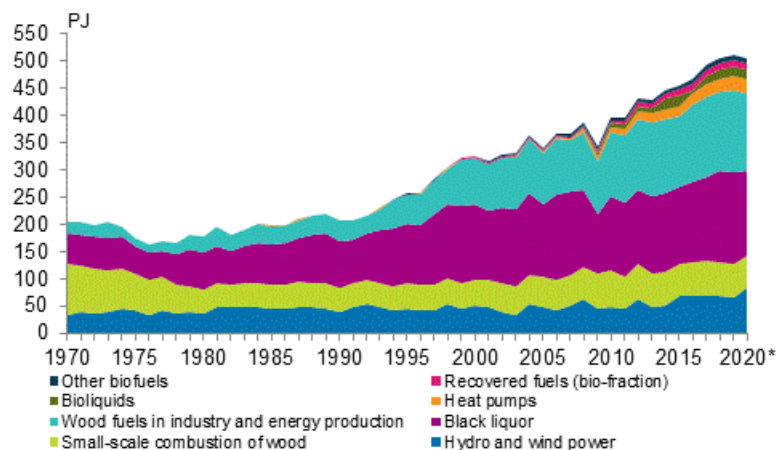
*preliminary

Appendix figure 3. Energy and electricity intensity 1975–2020*



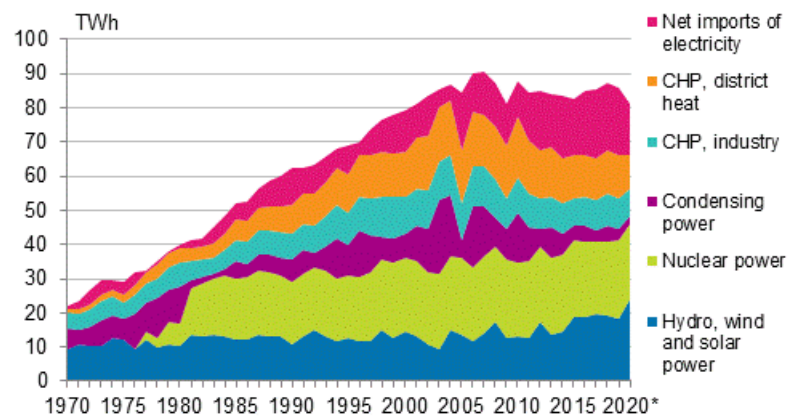
*preliminary

Appendix figure 4. Renewable energy sources 1970–2020*



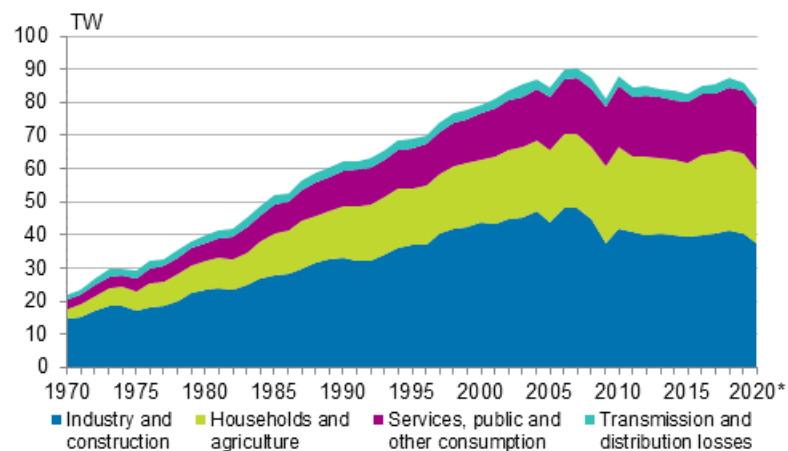
*preliminary

Appendix figure 5. Electricity supply 1970–2020*



*preliminary

Appendix figure 6. Electricity consumption by sector 1970–2020*



*preliminary

Revisions in these statistics

The data of the statistics have become revised according to the table below. For more information about data revisions, see Section 3 of the quality description (only in Finnish).

Revisions to data on annual changes in total energy consumption¹⁾

Total energy consumption and quarter		Annual change (%)		Revision (%-point)
		1st release	Latest release 16th April 2021 (%)	
	I-IV 2020	.	-6	.
	I/2020	-11	-8	3
	II/2020	-9	-3	6
	III/2020	-12	-6	6
	IV/2020	.	-7	.

1) The revisions describe the difference between the annual change percentages of the latest and first releases in percentages. The first release refers to the time when preliminary data for the statistical reference quarter in question were released for the first time.

Inquiries

Aleksi Sandberg 029 551 3326
Head of Department in
charge:
Katri Kaaja

energia@stat.fi
www.stat.fi

Source: Statistics Finland, Energy supply and consumption