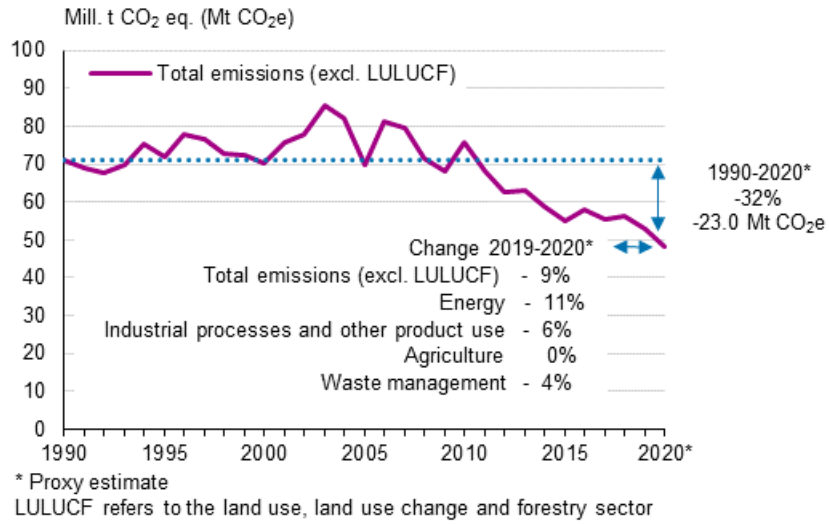
Greenhouse gases

2020, instant preliminary data

Greenhouse gas emissions decreased by 9 per cent

According to Statistics Finland's instant preliminary data, the total emissions of greenhouse gases in 2020 corresponded with 48.3 million tonnes of carbon dioxide (CO2 eq.). Compared with the previous year, emissions decreased by nine per cent. The fall in emissions was affected by the warm winter, recent changes in the structure of electricity production and a decrease in transport performance. The effect of the corona pandemic on emission reductions is not available from the inventory data, because the amount of emissions was affected not only by exceptional circumstances but also by weather and cyclical fluctuations in industry, but the exceptional conditions were visible as a decrease in transport emissions. Emissions not included in the EU Emissions Trading System fell by three per cent but exceeded the annual emission allocations set by the EU by 0.1 million tonnes of CO2 equivalent. On the basis of data so far, Finland will meet its emission reduction commitments for emissions not included in the EU Emissions Trading System for the period 2013 to 2020. Especially the decrease in fellings from the previous year increased the net sink of the LULUCF sector, i.e. land use, land-use change and forestry, which according to the instant preliminary data was -23.0 million tonnes of CO2 eq. Emissions and removals in the LULUCF sector are not included in the total emissions described above. In the instant preliminary data, the emissions and removals of the latest year are produced at a less detailed level than data for previous years.

Finland's greenhouse gas emissions without the LULUCF sector in 1990 to 2020 and changes in emissions compared to 1990 and 2019



Statistics Finland releases instant preliminary data on greenhouse gas emissions of the previous year by sector and broken down between activities included in the EU Emissions Trading System (ETS) and not included in the EU ETS. More information on greenhouse gas emissions, their development by sector and factors affecting the development, as well as the fulfilment of international commitments can be found in the review of this release. The Finland’s greenhouse gas emissions 1990 to 2020 report (in Finnish only) will be published in June on Statistics Finland's website.

According to the instant preliminary data, total emissions in 2020 decreased by nine per cent (4.8 million tonnes of CO2 equivalent) from the previous year and were 32 per cent lower than in the comparison year 1990. The sum of emissions and removals in the LULUCF sector, or the net sink are not included in the total emissions.

The energy sector is Finland's largest source of emissions, significantly affecting the annual variation of total emissions. According to the instant preliminary calculation, the energy sector’s emissions totalled 34.7 million tonnes of CO2 equivalent, which is 11 per cent lower than in the previous year and 50 per cent less than in the peak year of 2003. The fall in emissions was affected by the warm winter, recent changes in the structure of energy production and a decrease in transport performance.

Emissions from industrial processes and product use (incl. F-gases) amounted to 5.2 million tonnes of CO2 equivalent in 2020 and they fell by six per cent from the year before. Emissions from agriculture totalled 6.6 million tonnes of CO2 eq. The emissions remained on level with the previous year: The instant preliminary data for 2020 were under half a per cent lower than the emissions of the previous year. Emissions from the waste sector went down by four per cent from 2019 to 2020, being 1.7 million tonnes of CO2 eq.

According to the instant preliminary data, the net sink of the LULUCF sector was -23.0 million tonnes of CO2 eq. in 2020, or 56 per cent higher than in the year before. The change was particularly due to the 11 per cent drop in fellings from the year before.

Greenhouse gas emissions and removals by sector in 1990, 2000, 2005, 2010, 2015, 2018 to 2020 (million tonnes of CO2 eq.)[1)]

	1990	2000	2005	2010	2015	2018	2019	2020 *
	Emissions and removals, mil. t CO2 eq							
Energy sector	53,5	53,7	53,7	60,2	40,6	42,1	39,1	34,7
where Transport	12,1	12,1	12,9	12,7	10,9	11,7	11,3	10,4
Industrial processes and products use	5,4	6,0	6,8	6,2	5,8	5,8	5,5	5,2
[2)] where Consumption of F-gases	0,1	0,7	1,2	1,4	1,3	1,2	1,2	1,1
Agriculture	7,5	6,6	6,5	6,7	6,6	6,5	6,6	6,6
Waste management	4,7	3,8	2,8	2,6	2,1	1,8	1,8	1,7
[3)]Indirect CO2 emissions	0,2	0,1	0,1	0,1	0,1	0,1	0,1	0,1
Emissions without LULUCF sector	71,2	70,3	69,9	75,7	55,1	56,3	53,1	48,3
[4)]LULUCF sector	-13,5	-15,1	-20,5	-20,8	-17,9	-8,2	-14,7	-23,0

1) The time series 1990 to 2019 can be found in Statistics Finland's database tables (StatFin). Data for 2020 are proxy estimates (*).

2) F-gases refer to fluorinated greenhouse gases (HFC, PFC compounds, SF6 and NF3).

3) Indirect CO2 emissions from the energy sector's fugitive emissions and NMVOC and CH4 emissions from industrial processes and product use.

4) Land use, and land–use change and forestry. The net sink describes the sum of the sector's emissions and removals.

Emissions not included in the EU Emissions Trading System amounted to around 28.6 million tonnes of CO2 equivalent in 2020, and they fell by three per cent from the previous year. Emissions not included in the EU ETS are calculated as the difference between the total emissions and verified emissions of the sectors in the EU ETS, from which CO2 emissions from domestic civil aviation are deducted as calculated in the inventory. The data on the verified emissions (only in Finnish) of the emissions trading sector are published by the Energy Authority. Annual emission allocations for the years 2013 to 2020 have been defined in the EU's Effort Sharing Decision for emissions not included in the EU Emissions Trading System (EU ETS) (only in Finnish). Although emissions have decreased in recent years, the target path is exceeded in 2016 and in 2018 to 2020. However, based on data so far, Finland is meeting the targets set for the commitment period by utilising the emissions allocations not used in 2013 to 2015 and in 2017.

Target path for Finland's emissions not included in the EU ETS for the period 2013 to 2020, reviewed data on emissions not included in the EU ETS for 2013 to 2019, and instant preliminary data for 2020 and their difference to the target path

	2013	2014	2015	2016	2017	2018	2019	2020
	Mil. t CO2 eq.							
Target path for Finland in accordance with the EU's Effort Sharing Decision	31,8	31,3	30,8	30,3	30,2	29,6	29,1	28,5
[1)2)]Emissions not included in the EU ETS	31,6	30,1	29,9	31,4	30,1	29,9	29,6	28,6[3)]
[4)]Difference to the target path	-0,2	-1,1	-0,9	1,0	-0,1	0,3	0,6	0,1[3)]

1) Calculated as the difference between the total emission estimates, from which are deducted CO2 emissions from domestic civil aviation as calculated in the inventory, and the emissions trading data published by the Energy Authority.

2) The figures used in the monitoring of the Effort Sharing Decision are set in connection with the annual review and they are not updated retrospectively (the years 2013 to 2019 in the table). The figures of the inventory submission and this release may differ from those presented in this table.

3) Proxy estimate

4) The difference to the target path is expressed as a negative figure when the realised emissions are below the path and as a positive figure when they are higher than the target path emissions.

The instant preliminary data on emissions and removals for 2020 have been calculated at a less detailed level than the data for the preceding years, which means that they contain higher uncertainties than the

data calculated using actual inventory methods. The 2020 emissions will become revised as all data used in the calculation are completed. Preliminary data of the statistics on greenhouse gases will be released in December 2021 and official data in March 2022. More detailed information about the calculation methods of the instant preliminary data can be found in the methodological description (only in Finnish)..

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