

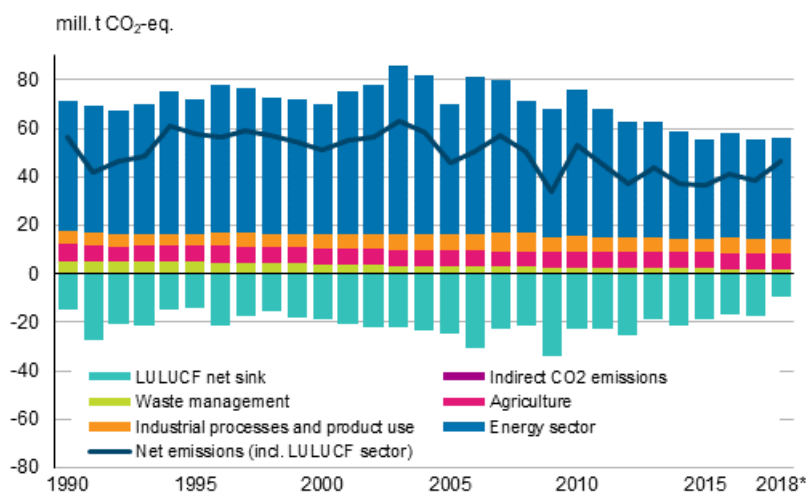
Greenhouse gases

2018, preliminary data

Greenhouse gas emissions went up by two per cent

According to Statistics Finland's preliminary data, the total emissions of greenhouse gases in 2018 correspond with 56.4 million tonnes of carbon dioxide equivalent (CO₂ eq.), being 14.9 million tonnes less than in the comparison year 1990. Emissions grew by two per cent from the previous year. The growth in emissions was most affected by increased consumption of natural gas and peat. Emissions not included in the EU Emissions Trading System (EU ETS) remained at last year's level and were 0.3 million tonnes above the emission allocations set by the EU. The data are based on the preliminary report to be submitted by Statistics Finland to the European Commission by 15 January 2020 concerning emissions in 2018.

Finland's greenhouse gas emissions and removals by sector in 1990 to 2018 (million tonnes of CO₂ eq.)



LULUCF refers to the land use, land use change and forestry sector. The figures for the latest years will become revised as the source data are updated (e.g. growing stock and surface areas).*Preliminary data

According to the preliminary data, total emissions in 2018 grew by close on two per cent compared with the previous year. The sum of emissions and removals in the LULUCF sector, or the net sink are not included in the total emissions. In the energy sector, emissions grew by three per cent, the growth was most affected by increased consumption of natural gas and peat (link to [energy release](#)). Emissions from industrial processes and product use remained on level with 2017, emissions from agriculture declined by

one per cent and emissions in the waste sector by two per cent from 2017 to 2018. The net sink of the land use, land use change and forestry sector (LULUCF) was -9.8 million tonnes of CO₂ eq. in 2018, or 43 per cent lower than in the year before. Record high felling affected the decrease in the net sink. Calculation of the net sink becomes revised yearly for the penultimate years. This is due to utilisation of new data, e.g. national forest inventory data, in the calculation. New data affect, e.g. the areas and growing stock which, in turn, affect the calculation of carbon storage in soil through litter (see [review](#) (in Finnish) and [Natural Resources Institute Finland's news release](#) (In Finnish)).

Greenhouse gas emissions in Finland by sector

	Emissions, million tonnes CO ₂ eq.							
	1990	2000	2005	2010	2015	2016	2017	2018 ⁴⁾
Emissions without LULUCF sector ¹⁾	71.3	70.2	69.9	75.7	55.1	58.1	55.3	56.4
Energy sector	53.6	53.7	53.7	60.3	40.6	43.4	41.0	42.2
Energy industries	19.0	22.1	22.1	30.9	17.8	19.1	17.5	18.7
Manufacturing industries and construction	13.4	12.0	11.4	10.0	6.8	6.8	6.7	6.9
Transport	12.1	12.1	12.9	12.7	10.9	12.1	11.5	11.7
Other energy ²⁾	9.1	7.5	7.3	6.5	5.2	5.3	5.3	5.0
Industrial processes and products use	5.4	6.0	6.8	6.2	5.8	6.0	5.8	5.8
Industrial processes (excl. F-gases) ³⁾	5.3	5.2	5.6	4.8	4.4	4.7	4.6	4.6
Consumption of F-gases ³⁾	0.1	0.7	1.2	1.4	1.4	1.3	1.2	1.2
Agriculture	7.5	6.6	6.5	6.7	6.6	6.7	6.6	6.5
Waste management	4.7	3.8	2.8	2.6	2.1	2.0	1.9	1.8
Indirect CO ₂ emissions	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
LULUCF sector ¹⁾	-14.8	-18.9	-24.4	-22.5	-18.9	-16.8	-17.1	-9.8

1) LULUCF refers to the land use, land use change and forestry sector. The sector does not come under the scope of the EU Emissions Trading System or the reduction targets of the EU's Effort Sharing Decision. The figures for the latest years will become revised as the source data are updated (e.g. growing stock and surface areas).

2) Other energy includes sub-categories heating of buildings, fuel use in agriculture, forestry and fisheries (incl. machinery), other fuel use and fugitive emissions from fuels.

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

4) Preliminary data

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, excluding CO₂ emissions from domestic civil aviation as calculated in the inventory. The data on the verified emissions of the emissions trading sector are published by the [Energy Authority](#) (in Finnish). 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 ETS. The emissions in question were below the target path in 2013 to 2015 and in 2017. The 2016 emissions and the 2018 emissions based on preliminary data exceeded the target path, but these could be compensated for with the emission allocations not used in previous years. More information in Finnish is available in the [Review of the release](#).

Greenhouse gas emissions broken down between sources within the EU Emissions Trading System and emissions not in the ETS in 2013 to 2018 (million t CO2 eq.)

	Emissions, million tonnes CO2 eq.						
	2013	2014	2015	2016	2017	2018 ³⁾	Change, 2017-2018
Emissions without LULUCF sector	62.9	58.7	55.1	58.1	55.3	56.4	1.0
CO2 emissions from civil aviation	0.2	0.2	0.2	0.2	0.2	0.2	0.0
Emissions Trading System emissions ¹⁾	31.5	28.8	25.5	27.2	25.2	26.2	1.1
Non-ETS emissions ²⁾	31.2	29.8	29.4	30.6	30.0	29.9	-0.1

1) Source: The Energy Authority. In 2013, the EU Emissions Trading System (ETS) was expanded with new activities

2) Excluding CO2 emissions from domestic civil aviation as calculated in the inventory

3) Preliminary data

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Revision of Finland's greenhouse gas emissions. Emissions expressed in million tonnes CO2 equivalent

	Statistical reference year	Previous release, 23 May 2019	Latest release, 12 December 2019	Change ¹⁾
		Mill. t CO2-eq.		%
Total emissions (without LULUCF sector)	1990	71.3	71.3	0.0
	2005	69.9	69.9	0.0
	2010	75.7	75.7	0.0
	2015	55.2	55.1	-0.1
	2016	58.1	58.1	-0.1
	2017	55.4	55.3	-0.1
	2018	56.5 ²⁾	56.4 ³⁾	-0.2
LULUCF sector ⁴⁾	1990	-14.8	-14.8	0.0
	2005	-24.4	-24.4	0.0
	2010	-22.1	-22.5	1.4
	2015	-20.1	-18.9	-6.0
	2016	-18.5	-16.8	-9.6
	2017	-20.4	-17.1	-15.9
	2018	-14.2 ²⁾	-9.8 ³⁾	-30.9
Emissions not in Emissions Trading System ⁵⁾	2013	31.3	31.2	-0.2
	2014	29.8	29.8	-0.2
	2015	29.5	29.4	-0.2
	2016	30.7	30.6	-0.1
	2017	30.1	30.0	-0.2
	2018	30.0 ²⁾	29.9 ³⁾	-0.4

1) Change between the latest and previous releases

2) Proxy estimate

3) Preliminary data

4) The estimates of the LULUCF sector for the latest years have been updated based on new input data (incl. tree biomass, surface areas)

5) Excluding CO2 emissions from domestic civil aviation

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Source: Greenhouse gas inventory unit. Statistics Finland