

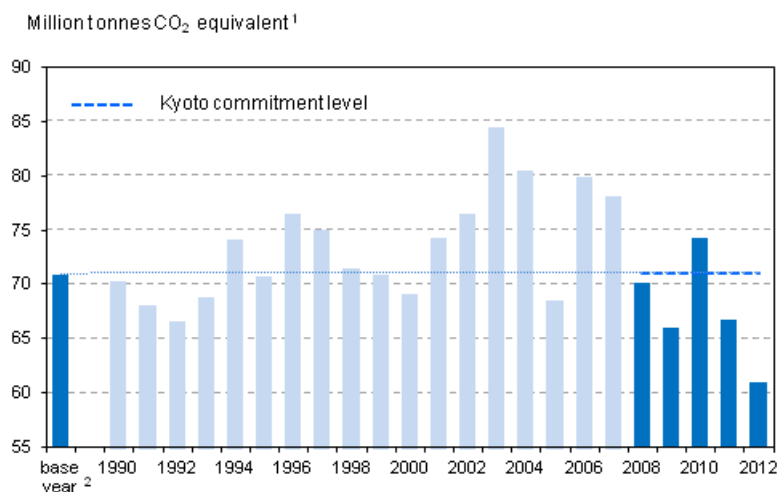
Greenhouse gases

2012

Finland's greenhouse gas emissions in the Kyoto Protocol's first commitment period evaluated

According to Statistics Finland's greenhouse gas emission data, Finland fulfils its emission reduction commitment for the Kyoto Protocol's first commitment period. The emissions for the period 2008 to 2012 were five per cent below the assigned amount of emissions specified for Finland. The change caused by the review calculation compared to the preliminary data released in December 2013 was quite minor (0.01 per cent over the period 2008 to 2012).

Commitment level of the Kyoto Protocol and Finland's greenhouse gas emissions in 1990 to 2012 (million tonnes of CO₂ eq.), does not include LULUCF sector



¹ CO₂ equivalent describes the warming effect of various gases in relation to CO₂, e.g. 1 t of N₂O is equivalent to 310 t of CO₂

² Finland's base year under the Kyoto Protocol is 1990, except for the so-called F-gases (HFC, PFC and SF₆) 1995. Finland's Kyoto commitment for 2008 - 2012 is estimated and fixed based on the reviewed base year inventory in the initial inventory submission under the Protocol

Finland's greenhouse gas emissions in 2012 fell from the previous year by 5.9 million tonnes of carbon dioxide (CO₂ equivalent) and corresponded to 61.0 million tonnes of carbon dioxide. The emissions decreased in all sectors compared to the previous year; the largest drop was seen in the energy sector, ten

per cent (5.5 million tonnes of carbon dioxide). Fossil fuels and peat in the production of electricity were replaced with electricity imports, wood and domestic hydro power. The use of fossil fuels and peat also decreased clearly in manufacturing. A majority of the emission decrease materialised in emissions trading.

Net sink in the Land Use, Land-Use Change and Forestry sector (LULUCF) remained at the previous year's level, being 25.9 million tonnes of carbon dioxide.

Greenhouse gas emissions in Finland by sector. Emissions as amounts corresponding to million tonnes of carbon dioxide. Negative figures indicate removal of greenhouse gases from the atmosphere

	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012
Emissions excl. LULUCF sector	70.3	70.8	69.2	68.6	79.9	78.2	70.1	66.0	74.4	66.9	61.0
Energy sector	54.5	56.0	54.4	54.0	65.3	63.2	54.7	52.7	60.5	53.3	47.8
Energy industries	19.2	24.1	22.1	21.9	32.9	30.8	24.2	25.2	30.6	24.7	20.7
Manufacturing industries and construction	13.4	12.1	11.9	11.3	11.6	11.4	10.7	8.4	9.9	9.6	8.4
Transport	12.8	12.0	12.8	13.7	13.9	14.2	13.6	12.9	13.4	13.2	12.7
Other energy ¹⁾	9.2	7.8	7.6	7.0	6.9	6.7	6.2	6.2	6.6	5.7	6.1
Industrial processes	5.1	4.7	5.6	6.4	6.3	6.8	7.2	5.4	5.8	5.6	5.3
Industrial processes (excl. F-gases)	5.0	4.6	5.0	5.4	5.5	5.9	6.1	4.4	4.6	4.5	4.3
Consumption of F-gases	0.1	0.1	0.6	0.9	0.8	1.0	1.1	0.9	1.2	1.1	1.0
Solvents and other products use	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Agriculture	6.5	6.0	5.8	5.7	5.7	5.8	5.8	5.7	5.9	5.8	5.7
Waste management	4.0	3.9	3.3	2.4	2.5	2.4	2.3	2.2	2.2	2.1	2.1
LLULUCF sector	-13.7	-12.8	-19.2	-28.6	-32.5	-24.3	-29.0	-38.8	-24.1	-24.1	-25.9

1) Other energy includes subcategories heating of buildings, other fuel use in agriculture, forestry and fisheries, other fuel use and fugitive emissions from fuels

Emissions from non-emissions trading scheme sources are calculated as the difference between the reviewed total emissions and verified emissions of the emissions trading scheme sector. The data on the verified emissions of the emissions trading scheme sector are published by the Energy Authority.

Greenhouse gas emissions and removals broken down between emissions trading scheme sources and non-emissions trading scheme sources in 2005 and 2008 to 2012 (million tonnes CO₂ eq.). Negative figures indicate removal of greenhouse gases from the atmosphere

	2005	2008	2009	2010	2011	2012	Change, 2011–2012
Total excl. LULUCF sector	68.6	70.1	66.0	74.4	66.9	61.0	-5.9
Emissions trading sector ¹⁾	33.1	36.2	34.4	41.3	35.1	29.5	-5.6
Non-emissions trading sector ²⁾	35.5	34.0	31.6	33.1	31.8	31.5	-0.3
LULUCF sector³⁾	-28.6	-29.0	-38.8	-24.1	-24.1	-25.9	-1.7

1) Source: Energy Authority

2) Also includes the emissions of domestic civil aviation, although the emissions in question are in the emissions trading scheme of the EU's internal civil aviation

3) The LULUCF sector does not come under the scope of the emissions trading scheme

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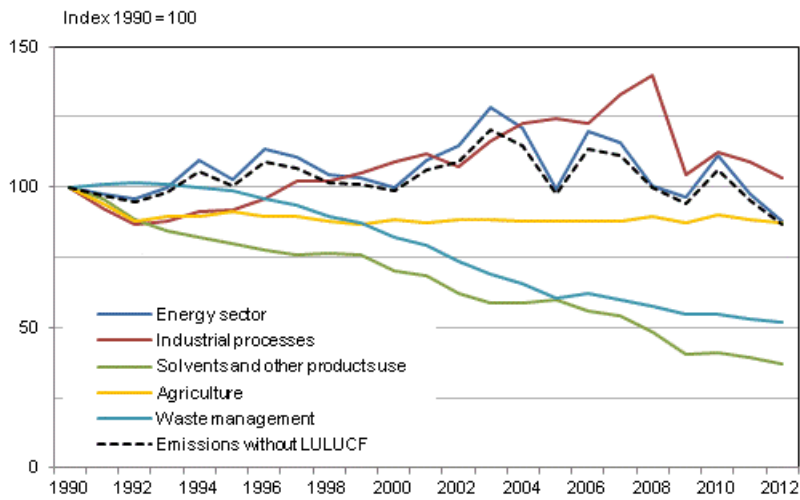
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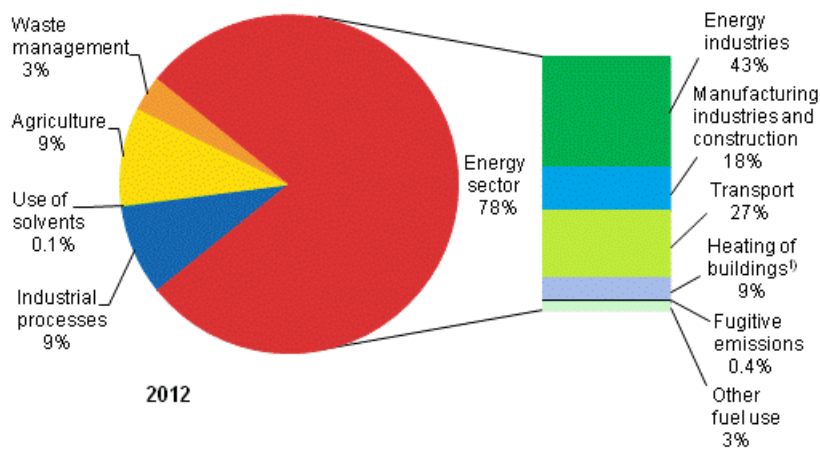
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Appendix figure 1: Development of greenhouse gas emissions by sector in Finland in 1990 to 2012

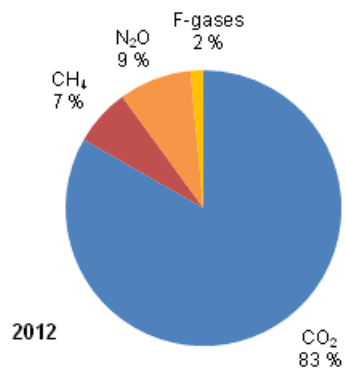


Appendix figure 2: Greenhouse gas emissions in Finland by sector in 2012



^{b)} includes also emissions from machines used in agriculture and forestry and from fishing boats

Appendix figure 3: Greenhouse gas emissions in Finland by gas in 2012



Revisions in these statistics

Revision of the greenhouse gas emissions in Finland. Emissions as amounts corresponding to million tonnes of carbon dioxide

	Statistical year ¹⁾	First release			Previous release	Latest release ⁴⁾	Revision ⁵⁾
		Proxy estimate ²⁾	Preliminary data	Official data ³⁾	12.12.2013	15.4.2014	%
Total emissions	1990			71.1	70.3	70.3	-1.1
	2005		69.3	69.3	68.7	68.6	-0.9
	2008		70.1	70.1	70.1	70.1	0.0
	2009	68.6	66.4	66.3	66.0	66.0	-0.5
	2010	76.0	74.6	74.6	74.4	74.4	-0.2
	2011	67.3	66.8	67.0	66.8	66.9	-0.2
	2012	61.4	60.9	61.0	60.9	61.0	
Non-emissions trading sector	2005			36.2	35.6	35.5	-1.8
	2008			34.0	34.0	34.0	0.0
	2009			32.0	31.6	31.6	-1.1
	2010			33.3	33.1	33.1	-0.5
	2011	32.2	31.7	31.9	31.8	31.8	-0.5
	2012	31.9	31.4	31.5	31.4	31.5	

1) The revisions to the 1990 amount of emissions have been calculated based on the assigned amount confirmed in the review of the report on the first commitment period under the Kyoto Protocol compiled in 2006, the revisions for all other years have been calculated on the official figures of the year in question

2) Proxy estimate figures have been calculated using different methods than the preliminary and official figures

3) The official figures are amounts that have been reported under the Climate Convention and the Kyoto Protocol for the years in question

4) The emission figures for greenhouse gas inventory are revised every year in the entire time series, because continuous improvements are made to the inventory, taking into account the international review recommendations of inventories and the development of the scientific basis for emission calculation methods

5) The revision compares figures of the latest release with the figures of the first release

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Source: Greenhouse gas inventory unit, Statistics Finland