

Greenhouse gases

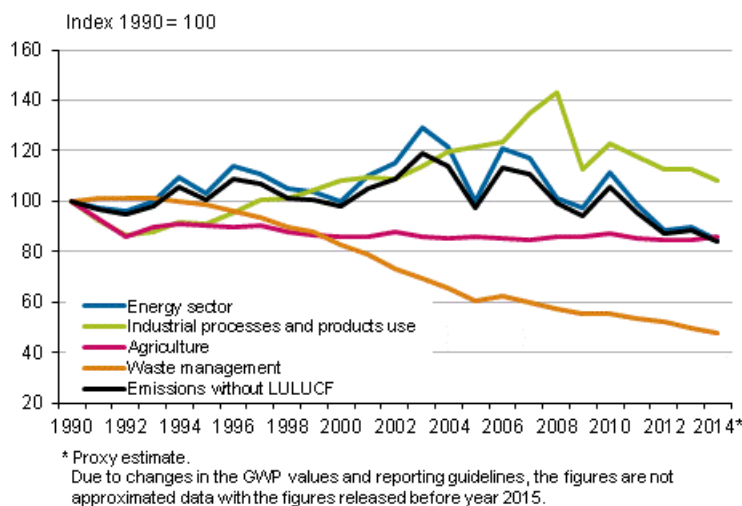
2014, approximated data

Finland's greenhouse gas emissions continue to decrease

Corrected on 28 May 2015. The corrections are indicated in red.

According to Statistics Finland's approximated data, the total emissions of greenhouse gases in 2014 corresponded with 60.1 million tonnes of carbon dioxide (CO₂ eq.). Emissions went down by approximately five per cent from the previous year. The consumption of natural gas, coal and oil declined in the energy sector. Emissions from the non-emissions trading sector went down by one per cent and were below the annual emission allocations set by the EU by 0.1 million tonnes of CO₂ equivalent.

Development of greenhouse gas emissions by sector in Finland in 1990 to 2014. The data concerning 2014 are approximated data.



Statistics Finland releases approximated data on greenhouse gas emissions in 2014 by sector and broken down between emissions trading and non-emissions trading sectors. In addition, Statistics Finland has estimated regional emissions data from the non-emissions trading sector by municipality and region and emissions from the emissions trading sector by region for 2010 to 2013. Regional emissions are reported according to the place of origin. More information on greenhouse gas emissions, their trends and factors affecting the trends, as well as the fulfilment of international obligations can be found in Statistics Finland's report [Finland's greenhouse gas emissions in 1990 to 2014](#) (only in Finnish).

Emissions from sources in the non-emissions trading sector are calculated as the difference between the reviewed total emissions, excluding CO₂ emissions from domestic civil aviation according to the inventory, and verified emissions of the emissions trading sector. The data on the verified emissions of the emissions trading sector are published by the [Energy Authority](#). National domestic civil aviation for the years 2013 to 2020 have been defined in the EU's effort sharing decision for emissions from the non-emissions trading sector. Finland's annual emission allocations are based on the reduction obligation of 16 per cent from the emissions level of 2005 by the year 2020. According to the now released approximated data, emissions from the non-emissions trading sector are below the annual emission allocations in 2013 and 2014.

Greenhouse gas emissions and removals by sector broken down between emissions trading sources and non-emissions trading in 2005 and 2008 to 2014 (million t CO₂ eq.) The data concerning 2014 are approximated data.

| | 2005 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 ¹⁾ | Change, 2013-2014 |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------------|-------------------|
| Emissions ²⁾ without LULUCF sector ³⁾ | 69.6 | 71.3 | 67.5 | 75.8 | 68.2 | 62.5 | 63.2 | 60.1 | -3.1 |
| CO ₂ emissions from civil aviation | 0.3 | 0.3 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.0 |
| Emissions trading sector emissions | 33.1 | 36.2 | 34.4 | 41.3 | 35.1 | 29.5 | 31.5 | 28.8 | -2.7 |
| Energy sector | 29.5 | 31.8 | 30.8 | 37.3 | 31.0 | 25.7 | 27.5 | 25.0 | -2.5 |
| Industrial processes | 3.6 | 4.3 | 3.4 | 4.0 | 4.0 | 3.8 | 4.0 | 3.8 | -0.2 |
| Difference between the emissions trading data and the inventory ⁴⁾ | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | .. |
| Non-emissions trading sector emissions ⁵⁾ | 36.1 | 34.8 | 32.9 | 34.3 | 32.8 | 32.7 | 31.5 | 31.1 | -0.4 |
| Energy sector | 23.8 | 22.3 | 21.2 | 22.5 | 21.6 | 21.6 | 20.6 | 20.3 | -0.3 |
| Transport ⁵⁾ | 12.6 | 12.5 | 12.0 | 12.5 | 12.3 | 12.0 | 11.9 | 11.6 | -0.3 |
| Other than transport | 11.2 | 9.8 | 9.2 | 10.0 | 9.3 | 9.6 | 8.7 | 8.7 | 0.0 |
| Industrial processes and products use | 2.9 | 3.3 | 2.6 | 2.5 | 2.2 | 2.1 | 2.0 | 1.9 | -0.1 |
| Industrial processes (excl. F-gases) ⁶⁾ | 2.0 | 1.9 | 1.1 | 0.6 | 0.6 | 0.6 | 0.4 | 0.3 | -0.2 |
| Consumption of F-gases ⁶⁾ | 0.9 | 1.4 | 1.5 | 1.8 | 1.6 | 1.5 | 1.6 | 1.7 | 0.1 |
| Agriculture | 6.5 | 6.5 | 6.6 | 6.7 | 6.5 | 6.5 | 6.5 | 6.5 | 0.1 |
| Waste management | 2.8 | 2.7 | 2.6 | 2.6 | 2.5 | 2.5 | 2.3 | 2.2 | -0.1 |
| Indirect CO ₂ emissions | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 |
| Difference between the emissions trading data and the inventory ⁴⁾ | 0.0 | -0.1 | -0.1 | 0.0 | -0.1 | 0.0 | 0.0 | 0.0 | .. |
| LULUCF sector ³⁾ | -29.6 | -26.9 | -39.4 | -26.7 | -26.2 | -27.9 | -20.4 | -21.1 | -0.7 |

1) Approximated data

2) Due to changes in the GWP values and reporting guidelines, the figures are not comparable with the figures released prior to 2015

3) LULUCF refers to the land use, land use change and forestry sector. The sector does not come under the scope of the emissions trading scheme or the reduction targets under the effort sharing decision

4) The divergence caused by the methodological and definitional differences in total emissions in the emissions trading sector between the data of the Energy Authority and the Greenhouse Gas Inventory

5) Excluding CO₂ emission from domestic civil aviation according to the inventory

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

The calculation of greenhouse gas emissions has changed in 2015 due to the revised, internationally agreed methodological and reporting guidelines for greenhouse gas emissions. The entire time series has been updated from 1990 onwards to correspond to the new guidelines. Finland's emissions level has risen by one to three per cent compared with the previously released emissions estimates, depending on the year. The emissions level is influenced, for example, by the revised GWP (global warming potential) values used in commensurating greenhouse gases, the allocation of emissions and methodological changes made.

Regional data on emissions

Statistics Finland's calculations have been performed for the years 2010 to 2013 from the so-called region-based perspective, i.e. emissions have been allocated to their places of origin. The data have been calculated with methods consistent with the greenhouse gas inventory by allocating emissions to regions on the basis of data on activity by municipality. The data have been separately calculated for the sectors of energy, transport, industrial processes and product use, agriculture and the waste sector. The calculations exclude the land use, land-use change and forestry sector (LULUCF). Statistics Finland does not publish numeric data by municipality on the emissions trading sector for confidentiality reasons. Total emissions and emissions from the emissions trading sector are published on the level of regions. The emissions data can be found in the [database tables](#).

More detailed information in Finnish can be found in the [Quality description](#) and [Methodological description of the statistics](#).

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Revisions in these statistics

During the Kyoto Protocol's second commitment period (2013 to 2020), the calculation of emissions and commitments has changed due to the new, internationally agreed methodological and reporting guidelines for greenhouse gas emissions. Compared with the previous releases, Finland's emissions level has risen due to said calculation reasons by one to three per cent, depending on the year. The emissions level is influenced, for example, by the revised GWP (global warming potential) values used in commensurating greenhouse gases, the changes made to the allocation of emissions and to the methods. The inventory figures calculated for the first reporting for the Kyoto Protocol's second commitment period are considered as the first release for the statistics.

Revision of the greenhouse gas emissions in Finland. Emissions corresponding to million tonnes of CO₂

| Emissions | Statistical year | Previous release | Latest release | Change ¹⁾ |
|--|------------------|------------------|--------------------|----------------------|
| | | 15 Apr 2015 | 22 May 2015 | % points |
| Total emissions | 1990 | 71.6 | 71.6 | 0.0 |
| | 2005 | 69.6 | 69.6 | 0.0 |
| | 2008 | 71.3 | 71.3 | 0.0 |
| | 2009 | 67.5 | 67.5 | 0.0 |
| | 2010 | 75.8 | 75.8 | 0.0 |
| | 2011 | 68.2 | 68.2 | 0.0 |
| | 2012 | 62.5 | 62.5 | 0.0 |
| | 2013 | 63.2 | 63.2 | 0.0 |
| | 2014 | | 60.1 ³⁾ | |
| Non-emissions trading sector ²⁾ | 2005 | 36.1 | 36.1 | 0.0 |
| | 2008 | 34.8 | 34.8 | 0.0 |
| | 2009 | 32.9 | 32.9 | 0.0 |
| | 2010 | 34.3 | 34.3 | 0.0 |
| | 2011 | 32.8 | 32.8 | 0.0 |
| | 2012 | 32.7 | 32.7 | 0.0 |
| | 2013 | 31.5 | 31.5 | 0.0 |
| | | 2014 | | 31.1 ³⁾ |

1) Change between the latest and previous releases

2) Excluding CO₂ emissions from domestic civil aviation

3) Approximated data

Inquiries

Pia Forsell 029 551 2937

Riitta Pipatti 029 551 3543

Director in charge:

Mari Ylä-Jarkko

kasvihuonekaasut@stat.fi

www.stat.fi

Source: Greenhouse gas inventory unit. Statistics Finland