

Finland

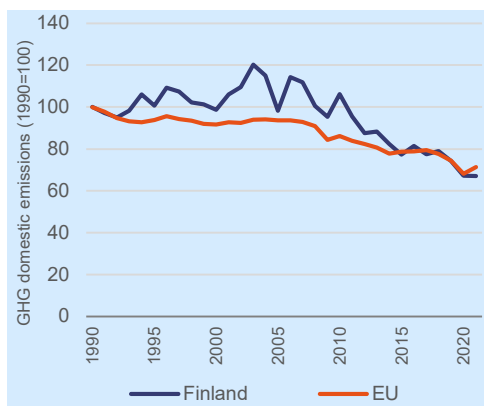
1) Key takeaways

- In 2021, GHG emissions in Finland were 9.6% below 2019 pre-pandemic levels.
- Over the same period, ETS and Effor Sharing emissions decreased by 12.6% and by 8.3%, respectively.
- Net GHG emissions (i.e. including LULUCF) in 2021 were 29.8% lower than 1990 levels.
- The LULUCF sector emitted 0.74 MtCO₂-eq on average per year from 2013 to 2020, based on accounting.

2) Greenhouse gas emissions



In 2021, approximated domestic greenhouse gas (GHG) emissions in Finland were 47.7 MtCO₂-eq, 0.1% lower compared to 2020 and 9.6% below pre-pandemic levels. Overall, net domestic emissions, including the Land Use, Land Use Change and Forestry (LULUCF) sector, were 29.8% lower than 1990 levels.



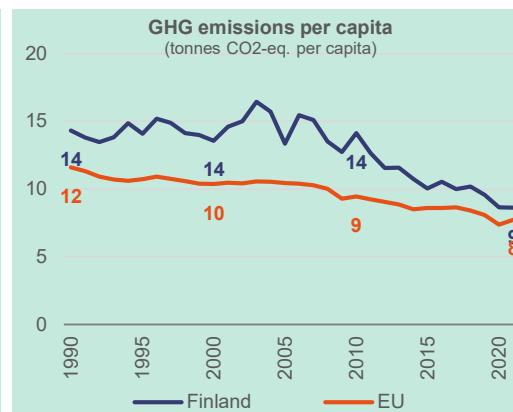
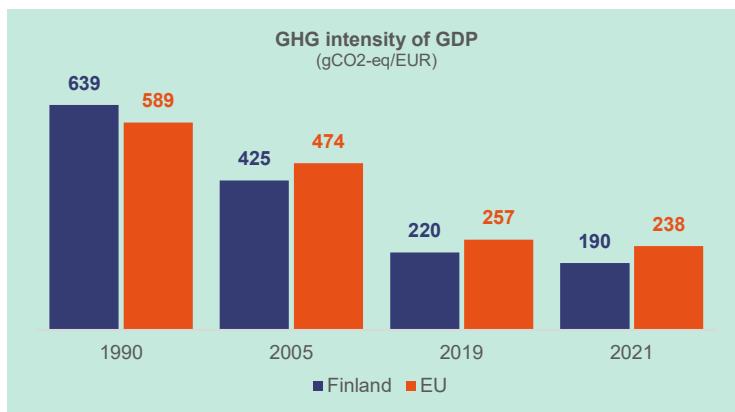
Total domestic GHG emissions

	1990 (MtCO ₂ -eq)	2005 to 1990 (% change)	2019 to 2005 (% change)	2021 to 2019 (% change)	2021 to 1990 (% change)
Finland	71	-2%	-25%	-10%	-33%
EU	4847	-6%	-21%	-4%	-29%

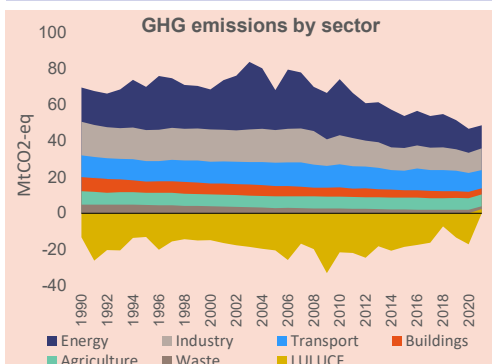
Total net domestic GHG emissions (including LULUCF)

	1990	2005 to 1990	2019 to 2005	2021 to 2019	2021 to 1990
Finland	58	-31%	-44%	-5%	-30%
EU	4633	-13%	-26%	-10%	-33%

Note: GHG emissions and removals for 1990-2020 are based on data submitted by EU Member States to the UNFCCC under Regulation (EU) No 525/2013. Figures may change following resubmissions. GHG emissions for 2021 are based on approximated GHG inventories.



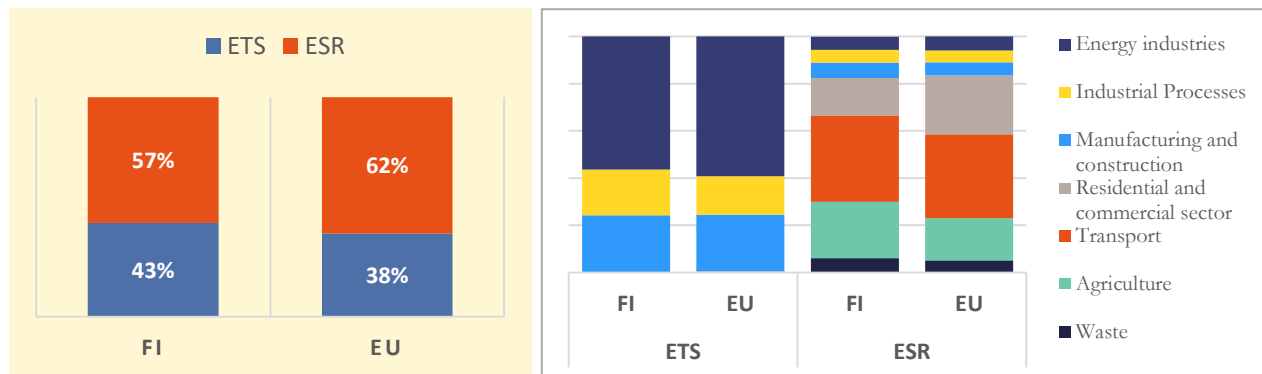
3) Greenhouse gas emissions by sector



	1990 (MtCO ₂ -eq)	2005 to 1990 (% change)	2019 to 2005 (% change)	2021 to 2019 (% change)	2021 to 1990 (% change)
Energy	19.0	17%	-27%	-21%	-32%
Industry	18.8	-3%	-34%	1%	-36%
Transport	12.1	6%	-13%	-10%	-17%
Buildings	7.7	-26%	-34%	-11%	-57%
Agriculture	7.5	-13%	1%	-2%	-14%
Waste	4.7	-40%	-36%	-7%	-64%
LULUCF	-13.4	52%	-34%	-117%	-117%
International aviation	1.0	28%	100%	-68%	-18%

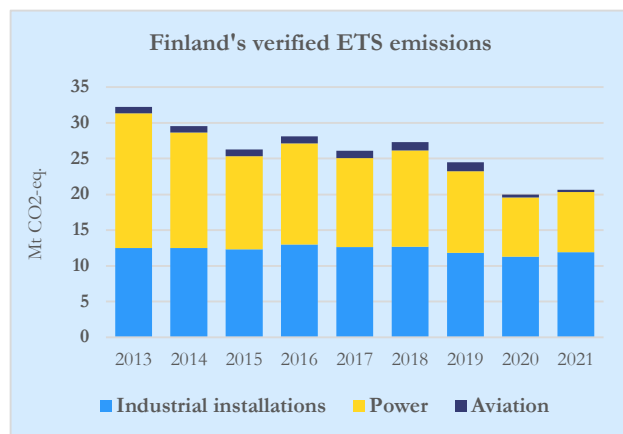
Notes: (1) Energy sector refers to electricity and heat production and petroleum refining. (2) Industry includes fuel combustion in manufacturing and construction and emissions in industrial processes and product use. (3) Buildings include emissions from energy use in residential and tertiary buildings, and energy use in agriculture and fishery sectors.

In 2021, the highest contribution to net GHG emissions in Finland came from the Energy sector (26%), followed by the Industry sector (24%) and the Transport sector (20%). Emissions from sectors under the Effort Sharing Regulation (ESR) were 57% compared to 62% for the EU as a whole (see shares in the charts below).



4) Emissions under the EU Emissions Trading System (ETS)

In 2021, stationary installations (e.g. power generation and manufacturing industry) in Finland emitted 20.3 million tonnes of CO₂-eq emissions (equal to 43% of Finland's total GHG emissions). This is 3.7% higher compared to 2020 but 12.6% below pre-pandemic levels. By 2021, emissions from stationary installations were down by 35.2% against 2013 level (i.e. -43.0% to 2005 levels). Aviation emissions covered by the EU ETS were 15.1% lower compared to 2020 and 72.8% below 2019 level.



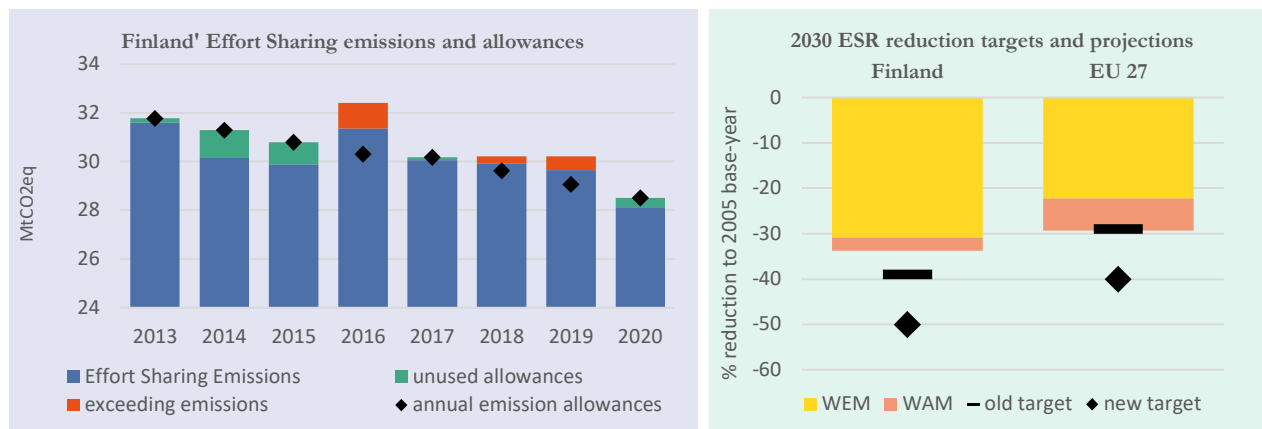
In parallel, Finland has raised over EUR 1.5 billion in auction revenues since 2013, available for further climate action and energy transformation. Finland reported that an average of 88% of revenues was spent for climate and energy purposes over the same period. (*)

Mt CO ₂ -eq	2013	2020	2021
Power installations	18.8	8.3	8.4
% change since 2013	-	-56.1%	-55.5%
Industrial installations	12.5	11.3	11.9
% change since 2013	-	-9.6%	-4.7%
Aviation (**)	0.89	0.40	0.34
% change since 2013	-	-55.1%	-61.9%

(*) Revenues are not earmarked. National spending on climate and energy is >100% of auctioning revenues. Only a part of actual spending has been reported, in some years covering specific projects, in other years up to 100% of revenues, even though this funding cannot be directly linked to the auctioning revenues.

(**) ETS emissions from aviation include flights within the European Economic Area (EEA) and outgoing flights to Switzerland and to the UK.

5) Emissions in Effort Sharing sectors



Note: (1) Verified emissions based on annual inventory review under the Effort Sharing Decision (ESD). (2) Projections as reported by Member States under Reg. (EU) 2018/1999, compiled and checked by the EEA. (3) ESR base-year emissions and targets have been approximately converted into GWP AR4 for comparability. For these reasons, the distances to targets for 2030 are provided for illustrative purposes only (4) WEM = with existing measures, WAM = with additional measures.

In 2021, effort sharing approximated emissions in Finland were 27.2 MtCO₂eq (equal to 57% of Finland's total GHG emissions), 3.3% lower than in 2020 and 8.3% lower than 2019 pre-pandemic level.

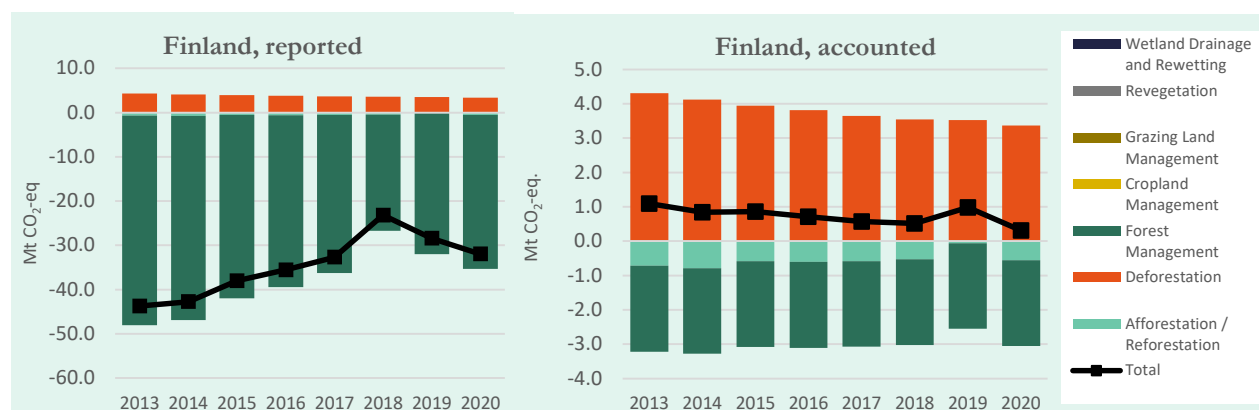
Between 2013 and 2019, Finland exceeded its annual emission allocations (AEAs) 3 times. However, Finland complied with the Effort Sharing Decision by making use of the flexibilities provided therein.

In 2020, effort sharing emissions in Finland were below the annual limit.

6) Land Use, Land Use Change and Forestry (LULUCF)



Reported quantities under the Kyoto Protocol for Finland show net removals of -34.6 Mt CO₂-eq on average per year for the period 2013 to 2020. In this regard, Finland contributes with 10.8% to the annual average sink of -320.2 Mt CO₂-eq of the EU-27. Accounting for the same period depicts net debits of, on average, 0.7 Mt CO₂-eq, which represents -0.9% of the EU-27 accounted sink of -83.4 Mt CO₂-eq. Reported net removals show a decreasing trend from 2013 to 2018 and an increase for 2019 and 2020. Accounted net debits show a slight decreasing trend even if they are consistent for each year.



Notes: (1) Charts based on the submissions delivered until May 2022. (2) Data reported for the period 2013-2020, for mandatory and elected LULUCF activities, were submitted by Member States to the European Environment Agency (EEA) and underwent a simulated accounting process developed by the Joint Research Centre (JRC), together with DG CLIMA. (3) Reported data represent the gross annual flux of greenhouse gas from the sector, by activity, according to the IPCC methods for calculation in the framework of the Kyoto Protocol (KP). Accounting is aimed at assessing the impact of policies on climate actions on the actual data, for example as an increase in the sink within the Forest Management activity. (4) The simulated accounting process does not take into account any adjustments or flexibilities that a Member State may apply, for example the purchase of KP credits.

The dominant reported activity is Forest Management with removals. Emissions by Deforestation are comparatively small, and removals by Afforestation/Reforestation can be neglected in the emission budget of the LULUCF sector. Removals by Forest Management decrease markedly by 21.2 Mt CO₂-eq between 2013 and 2018. The main reason for this is the international wood markets behaviour with increased harvest. In 2020 removals have increased again by 8.6 Mt CO₂-eq, from 2018 levels, but remain lower compared to the years before 2018.

Debits by Deforestation are the dominating accounting quantity over the eight-year period. In this simulated accounting exercise potential credits by Forest Management of, on average, -6.2 Mt CO₂-eq per year are capped to -2.5 Mt CO₂-eq per year. Credits from Afforestation/Reforestation are small. Debits by Deforestation show a decreasing trend but still remain high.

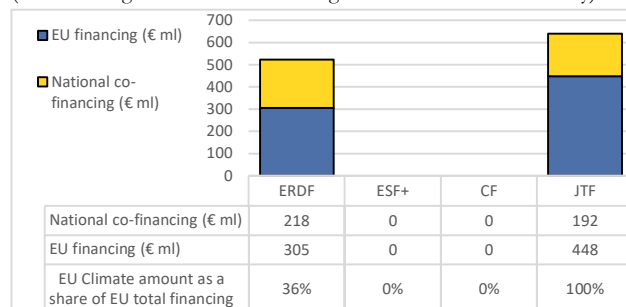
7) Financing Climate Action



Cohesion policy

Finland's Planned Financing for Climate Actions

(EU financing & national co-financing - 2021-2027 Cohesion Policy)



The chart presents information on investment plans and achievement targets from adopted programmes. Financing for cohesion policy uses a categorisation to provide thematic information on the finances planned.

Source: <https://cohesiondata.ec.europa.eu/>

Innovation and Modernisation Fund

Innovation Fund (Portfolio of signed projects)

	n.	EUR million
Small Scale Projects	-	-
Large Scale Projects	2	223.3

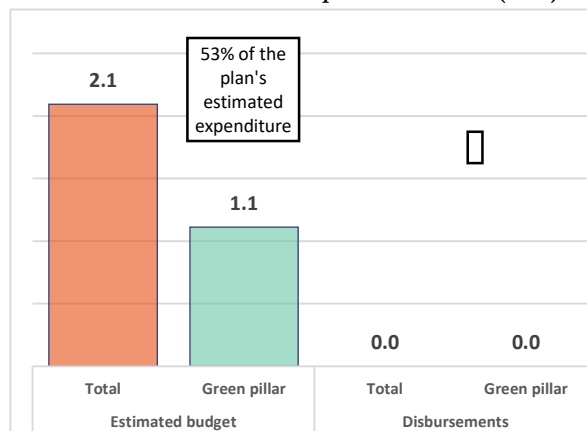
Modernisation Fund

(List of confirmed or approved investment proposals) non-beneficiary

Recovery & Resilience Facilities

RRF allocations (EUR billion)	Grants:	Loans:	% of GDP
	2.09	-	0.8

RRF contribution to the Green pillar in Finland (€ bn)



This graph displays: 1) the estimated cost of measures attributed by the Commission, in consultation with the Member State, to the green pillar either as primary or secondary assignments; and 2) how disbursements under the RRF (excluding pre-financing) relate to the green pillar.

Source: https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/index.html?lang=en