

Sweden

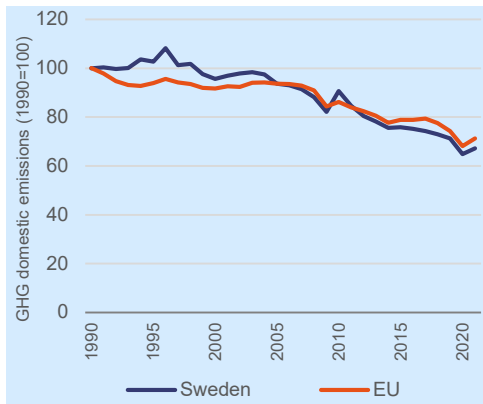
1) Key takeaways

- In 2021, GHG emissions in Sweden were 5.5% below 2019 pre-pandemic levels.
- Over the same period, ETS and Effor Sharing emissions decreased by 2.2% and by 7.4%, respectively.
- Net GHG emissions (i.e. including LULUCF) in 2021 were 88.5% lower than 1990 levels.
- The LULUCF sector removed 0.55 MtCO₂-eq on average per year from 2013 to 2020, based on accounting.

2) Greenhouse gas emissions



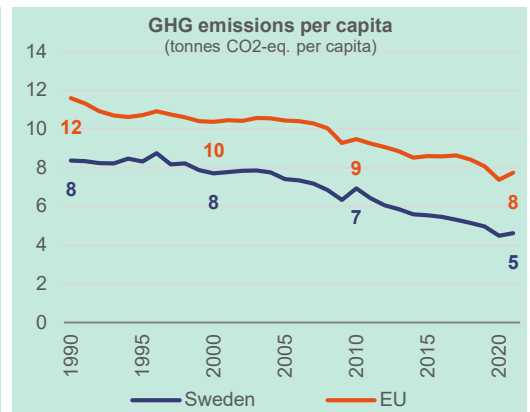
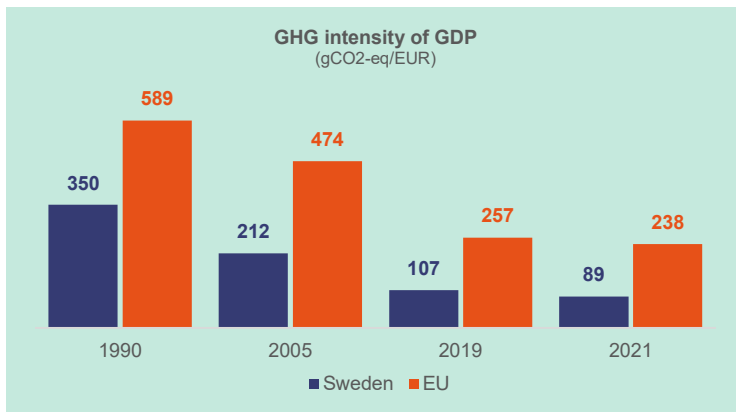
In 2021, approximated domestic greenhouse gas (GHG) emissions in Sweden were 48.0 MtCO₂-eq, 3.7% higher compared to 2020 but 5.5% below pre-pandemic levels. Overall, net domestic emissions, including the Land Use, Land Use Change and Forestry (LULUCF) sector, were 88.5% lower than 1990 levels.



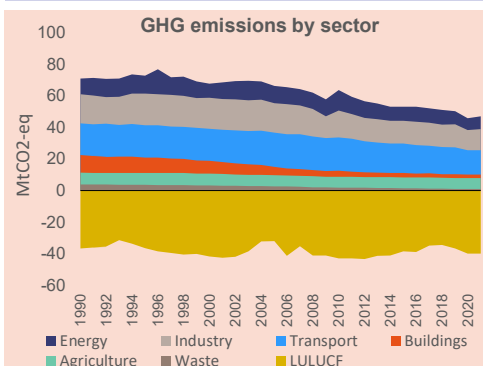
Total domestic GHG emissions					
	1990 (MtCO ₂ -eq)	2005 to 1990 (% change)	2019 to 2005 (% change)	2021 to 2019 (% change)	2021 to 1990 (% change)
Sweden	71	-6%	-24%	-6%	-33%
EU	4847	-6%	-21%	-4%	-29%

Total net domestic GHG emissions (including LULUCF)					
	1990	2005 to 1990	2019 to 2005	2021 to 2019	2021 to 1990
Sweden	35	-51%	-79%	-84%	-88%
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.



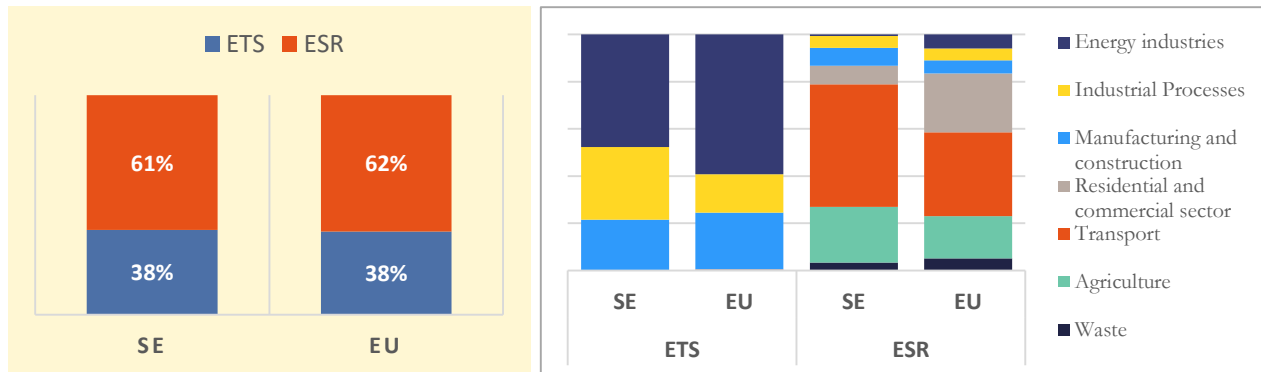
3) Greenhouse gas emissions by sector



	1990 (MtCO ₂ -eq)	2005 to 1990 (% change)	2019 to 2005 (% change)	2021 to 2019 (% change)	2021 to 1990 (% change)
Energy	9.9	9%	-25%	1%	-17%
Industry	18.5	2%	-22%	-10%	-28%
Transport	20.0	8%	-22%	-9%	-23%
Buildings	11.2	-53%	-54%	-4%	-79%
Agriculture	7.7	-8%	-3%	2%	-10%
Waste	3.7	-27%	-60%	-10%	-74%
LULUCF	-36.6	-13%	15%	8%	9%
International aviation	1.4	45%	37%	-62%	-25%

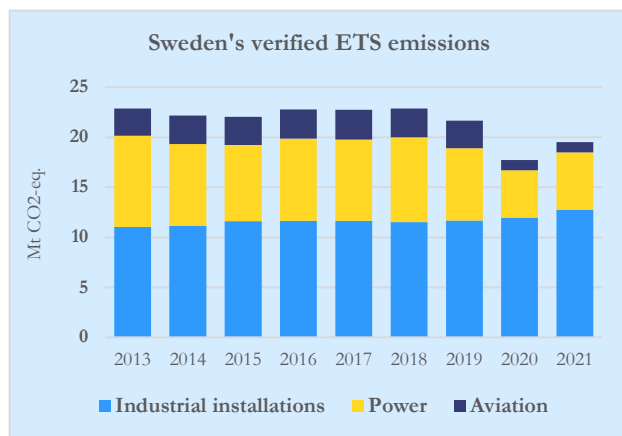
Notes: (1) Energy sector refers to electricity and heat production and petroleum refining. (2) Industry includes fuel combustion in manufacturing and construction and emissions in industrial processes and product use. (3) Buildings include emissions from energy use in residential and tertiary buildings,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

In 2021, the highest contribution to net GHG emissions in Sweden came from the Transport sector (183%), followed by the Industry sector (158%) and the Energy sector (97%). Emissions from sectors under the Effort Sharing Regulation (ESR) were 61% 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 Sweden emitted 18.5 million tonnes of CO₂-eq emissions (equal to 38% of Sweden's total GHG emissions). This is 10.6% higher compared to 2020 but 2.2% below pre-pandemic levels. By 2021, emissions from stationary installations were down by 8.3% against 2013 level (i.e. -21.2% to 2005 levels). Aviation emissions covered by the EU ETS were 3.3% higher compared to 2020 but 62.0% below 2019 level.



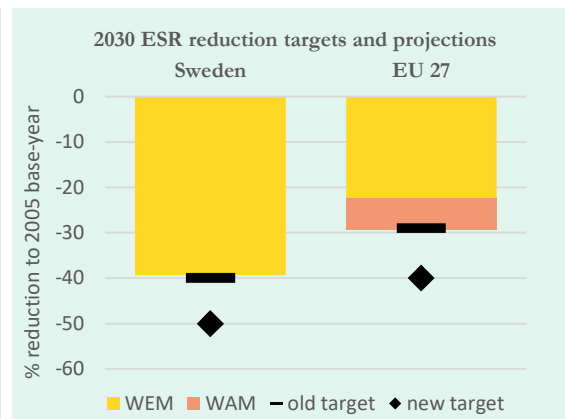
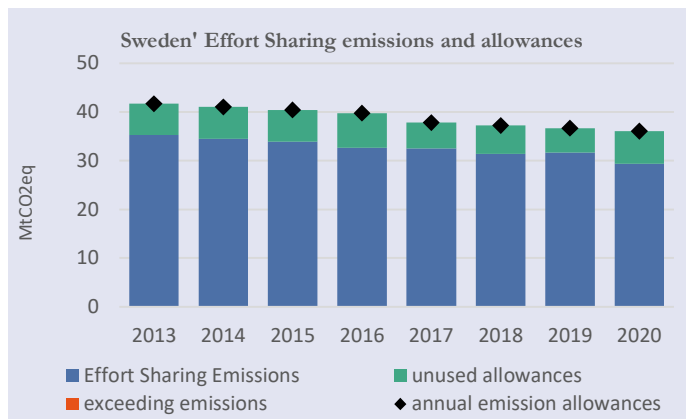
In parallel, Sweden has raised over EUR 0.8 billion in auction revenues since 2013, available for further climate action and energy transformation. Sweden reported that an average of 72% of revenues was spent for climate and energy purposes over the same period. (*)

Mt CO ₂ -eq	2013	2020	2021
Power installations	9.1	4.7	5.8
% change since 2013	-	-48.0%	-36.7%
Industrial installations	11.0	12.0	12.7
% change since 2013	-	8.5%	15.2%
Aviation (**)	2.74	1.02	1.05
% change since 2013	-	-62.8%	-61.6%

(*) Revenues are not earmarked, example projects have been reported for at least the minimum required spending on energy and climate.

(**) 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 Sweden were 29.3 MtCO₂eq (equal to 61% of Sweden's total GHG emissions), 0.2% lower than in 2020 and 7.4% lower than 2019 pre-pandemic level.

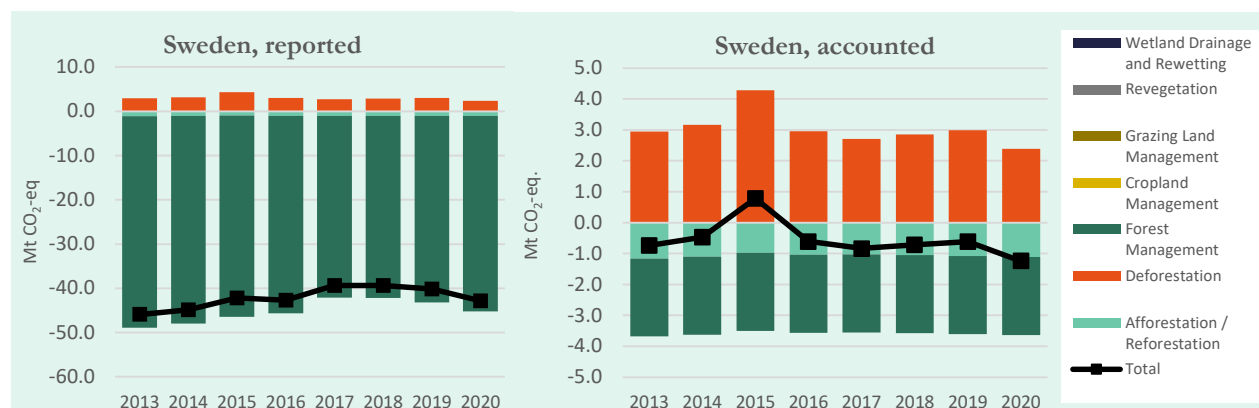
Between 2013 and 2019, Sweden's emissions have always been below the annual limits.

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

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



Reported quantities under the Kyoto Protocol for Sweden show net removals of -42.2 Mt CO₂-eq on average per year for the period 2013 to 2020. In this regard, Sweden contributes with 13.2% to the annual average sink of -320.2 Mt CO₂-eq of the EU-27. Accounting for the same period depicts net credits of, on average, -0.6 Mt CO₂-eq, which corresponds to 0.7% of the EU-27 accounted sink of -83.4 Mt CO₂-eq. Reported net removals show small dynamics with no trend. Accounted net credits follow the same pattern with net debits in 2015.



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 dominating reported activity is Forest Management with removals. Emissions by Deforestation are in comparison small and removals by Afforestation/Reforestation play a negligible role in the emission budget of the LULUCF sector. Removals by Forest Management and emissions by Deforestation show small variations but no clear trend over the eight-year period.

Credits by Forest Management are the highest accounting quantity followed by debits from Deforestation Credits by Afforestation/Reforestation depict smaller amounts. Debits by Deforestation showed an increasing trend between 2013 and 2015 but remained at a lower level for the years thereafter.

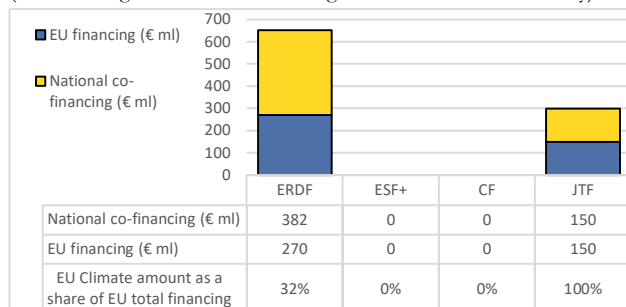
7) Financing Climate Action



Cohesion policy

Sweden'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	3	11.3
Large Scale Projects	4	500.2

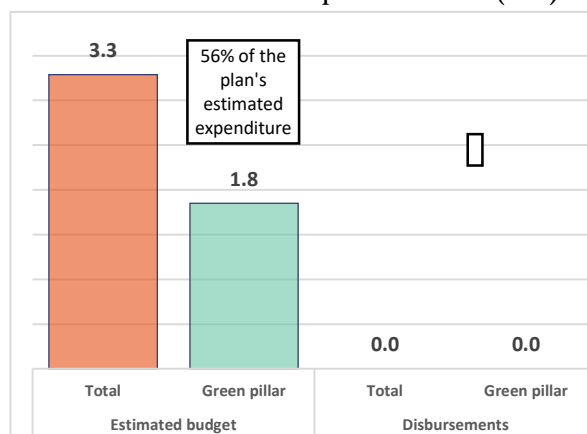
Modernisation Fund n. EUR million

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

Recovery & Resilience Facilities

RRF allocations (EUR billion)	Grants:	Loans:	% of GDP
	3.29	-	0.6

RRF contribution to the Green pillar in Sweden (€ 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