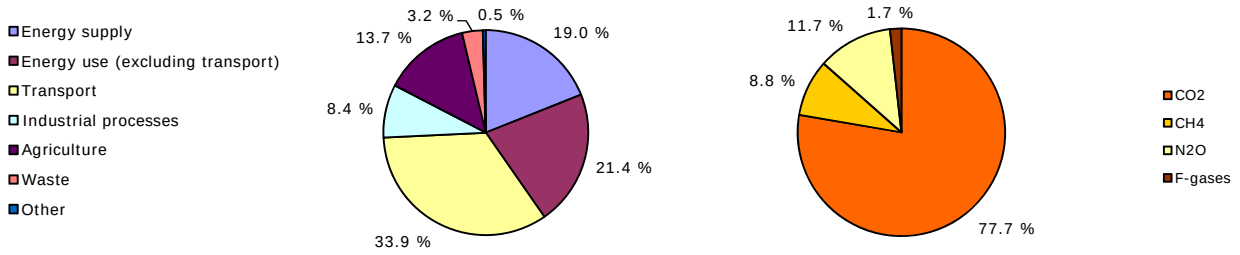
GHG trends and projections in Sweden

European Environment Agency

Key GHG data (1)	1990	2008	2009	2010 (2)	Unit	Rank in EU-27 (3)	Rank in EU-15 (3)
Total greenhouse gas emissions (GHG)	72.5	63.6	60.0	64.4	Mt CO_2-eq.	18	14
GHG from international bunkers (4)	3.6	9.5	9.4	n.a.	Mt CO_2-eq.	9	9
GHG per capita	8.5	6.9	6.5	6.9	t CO_2-eq. / capita	24	15
GHG per GDP (constant prices) (5)	332	194	193	197	g CO_2-eq. / euro		
Share of GHG in total EU-27 emissions	1.3 %	1.3 %	1.3 %	1.4 %	%		
EU ETS verified emissions - all installations (6)		20.1	17.5	22.7	Mt CO_2-eq.	19	13
EU ETS verified emissions - constant scope (7)		20.0	17.5	22.6	Mt CO_2-eq.		
Share of EU ETS verified emissions (all installations) in total GHG		31.6 %	29.1 %	35.2 %	%		
ETS verified emissions compared to annual allowances (8)		– 3.4 %	– 17.2 %	– 3.7 %	%		

Share of GHG emissions (excluding international bunkers) by main source and by gas in 2009 (1) (9)



Key GHG trends	1990–2009		2008–2009		1990–2010 (2)		2009–2010 (2)	
	Mt CO_2-eq.	%	Mt CO_2-eq.	%	Mt CO_2-eq.	%	Mt CO_2-eq.	%
Total GHG	– 12.5	– 17.2 %	– 3.6	– 5.6 %	– 8.1	– 11.1 %	4.4	7.4 %
GHG per capita	– 2.0	– 23.8 %	– 0.4	– 6.4 %	– 1.6	– 18.9 %	0.4	6.4 %
EU ETS verified emissions - all installations (6)			– 2.6	– 12.9 %			5.2	29.6 %
EU ETS verified emissions - constant scope (7)			– 2.6	– 12.8 %			– 2.6	– 12.8 %

Assessment of long-term GHG trend (1990–2009)

The large overall decrease is principally due to the declining use of oil for heating in the residential and service sector and its replacement principally by district heating, based on biomass fuels. Transport emissions increased overall between the early 1990s and 2005, but they have been stabilised and even reduced since. Emissions from industrial processes primarily derive from production of iron and steel and the mineral industry. Since 1990, total emissions in this sector have reflected the variations of production volumes with economic cycles. Having dropped by 26 % in 2009 compared to 2008, emissions from industrial processes were 20 % lower than in 1990. Emissions from agriculture decreased, mainly due to reduced livestock husbandry. The collection of landfill gas, a ban on landfill deposit and the introduction of a landfill tax have played a key role for the decrease in emissions from waste.

Assessment of short-term GHG trend (2008–2009)

Emissions decreased mainly in industry, in particular the iron and steel industry, reflecting a decline in steel production of almost 50 %. Emissions from cement production and from road transport also declined, reflecting the economic downturn. The small increase in renewables partly contributed to lower GHG emissions in 2009.

Source and additional information

Greenhouse gas emission data and EU ETS data www.eea.europa.eu/themes/climate/data-viewers

(1) Total greenhouse gas emissions (GHG), GHG per capita, GHG per GDP and shares of GHG do not include emissions and removals from LULUCF (carbon sinks) and emissions from international bunkers.

(2) Based on EEA estimate of 2010 emissions.

(3) Comparison of 2009 values, 1 = highest value among EU countries.

(4) International bunkers: international aviation and international maritime transport.

(5) GDP in constant 2000 prices - not suitable for a ranking or quantitative comparison between countries for the same year. 1990 information not available for some countries, replaced by later years: 1991 (Bulgaria, Germany, Hungary and Malta), 1992 (Slovakia), 1993 (Estonia) and 1995 (Croatia). Source GDP: Eurostat, 2011; Ameco database, 2011.

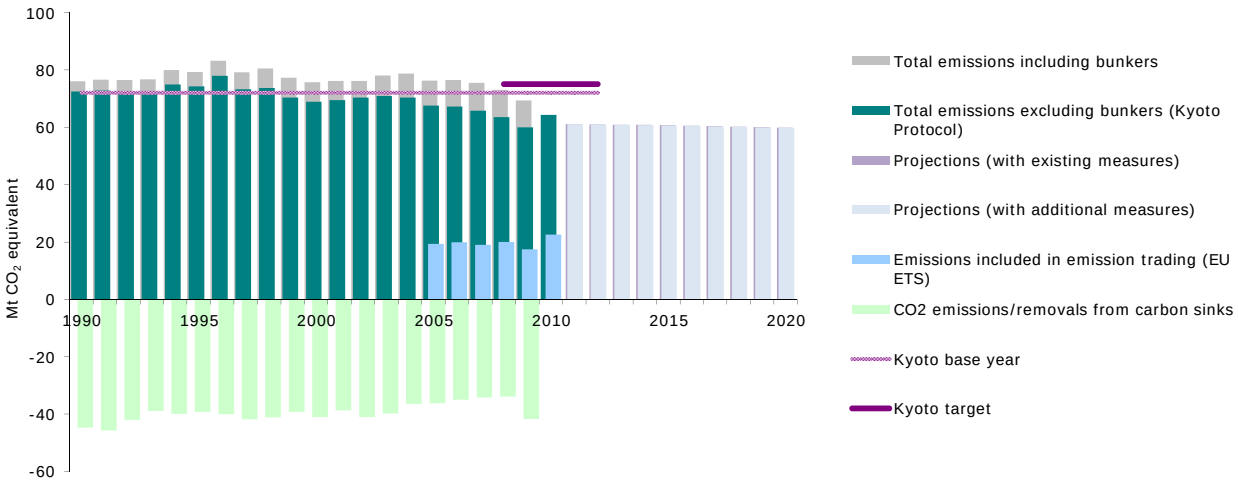
(6) All installations included. This includes new entrants and closures. Data from the community independent transaction log (CITL) as of 29 April 2009 for the reporting years 2005 and 2006, 11 May 2009 for the reporting year 2007, 17 May 2010 for the reporting year 2008 and 23 May for the reporting years 2009 and 2010. The CITL regularly receives new information (including delayed verified emissions data, new entrants and closures) so the figures shown may change over time.

(7) Constant scope: includes only those installations with verified emissions available for 2008, 2009 and 2010.

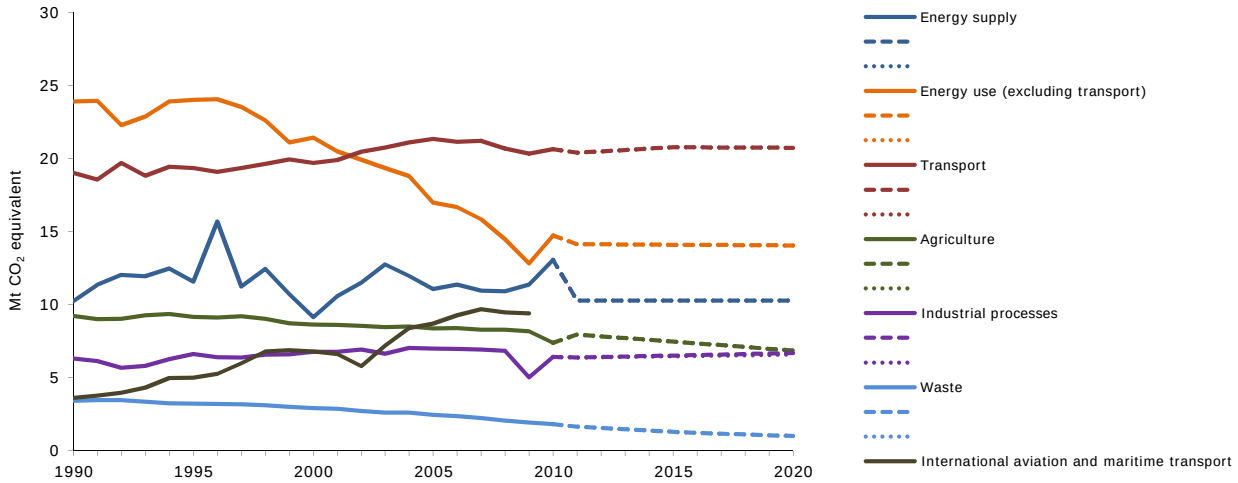
(8) "+" and "-" mean that verified emissions exceeded allowances or were below allowances, respectively. Annual allowances include allocated allowances and allowances auctioned during the same year.

(9) LULUCF sector and emissions from international bunkers excluded. Due to independent rounding the sums may not necessarily add up.

GHG trends and projections 1990–2020 — total emissions



GHG trends and projections 1990–2020 — emissions by sector

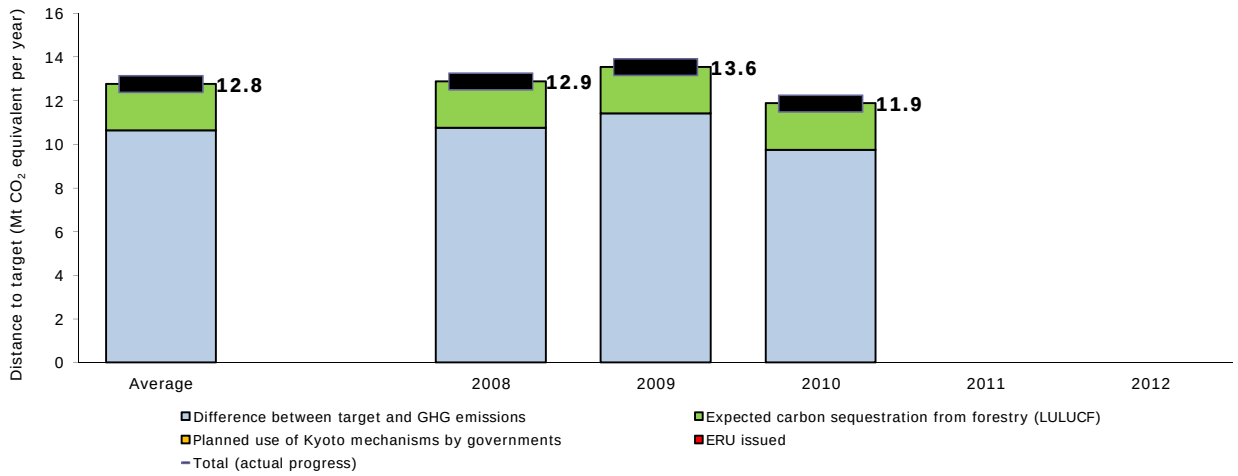


Note: GHG emission projections are represent either through dashed lines (with existing measures) or dotted lines (additional measures).

Source: National inventory, 2011; EEA proxy estimate; 2011; national projection data.

Progress towards Kyoto target

Average 2008–2010 emissions in Sweden were 13.2 % lower than the base-year level, well below the burden-sharing target of 4 % for the period 2008–2012. In the sectors not covered by the EU ETS, emissions were significantly lower than their respective target, by an amount equivalent to 14.8 % the country's base-year emissions. LULUCF activities are expected to decrease net emissions by an annual amount equivalent to 3 % of base-year level emissions. Taking all these effects in to account, average emissions in the sectors not covered by the EU ETS in Sweden were standing below their target level, by a gap representing 17.7 % of the base-year emissions. Sweden was therefore on track towards its burden-sharing target by the end of 2010.



Note: The difference between target and GHG emissions concerns the sectors not covered by the EU ETS. A positive value indicates emissions lower than the average target.