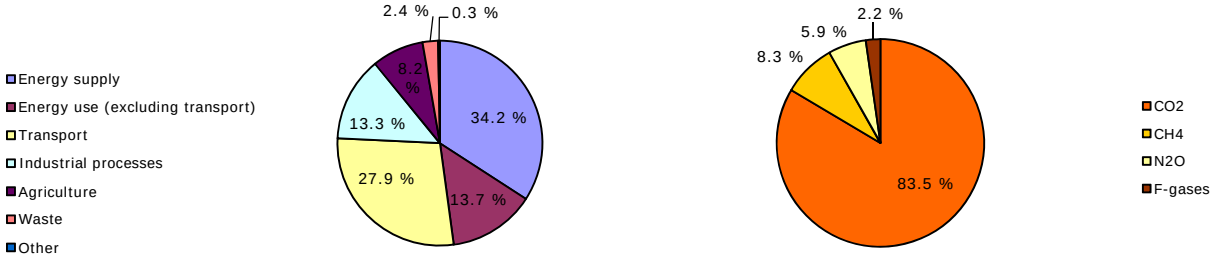
GHG trends and projections in Norway

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)	49.8	53.7	51.3	53.7	Mt CO_2-eq.	n.a.	n.a.
GHG from international bunkers (4)	2.1	3.3	2.9	n.a.	Mt CO_2-eq.	n.a.	n.a.
GHG per capita	11.8	11.3	10.7	11.1	t CO_2-eq. / capita	n.a.	n.a.
GHG per GDP (constant prices) (5)	392	249	241	251	g CO_2-eq. / euro		
EU ETS verified emissions - all installations (6)		19.3	19.2	19.3	Mt CO_2-eq.	n.a.	n.a.
EU ETS verified emissions - constant scope (7)		19.3	19.2	18.9	Mt CO_2-eq.		
Share of EU ETS verified emissions (all installations) in total GHG		36.0 %	37.5 %	36.0 %	%		
ETS verified emissions compared to annual allowances (8)		156.9 %	– 7.0 %	34.6 %	%		

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	1.5	3.1 %	– 2.5	– 4.6 %	4.0	8.0 %	2.5	4.8 %
GHG per capita	– 1.1	– 9.1 %	– 0.7	– 5.8 %	– 0.7	– 6.0 %	0.4	3.4 %
EU ETS verified emissions - all installations (6)			– 0.1	– 0.7 %			0.1	0.6 %
EU ETS verified emissions - constant scope (7)			– 0.1	– 0.7 %			– 0.1	– 0.7 %

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

Norway has experienced economic growth since 1990, with only minor setbacks in the early nineties. This explains the general increase in emissions, in particular from energy use, both in energy industries and for transportation. The total emissions show a marked decrease between 1990 and 1992, mainly due to the low economic activity during that time and the CO2 tax, implemented with effect from 1991, which led to a decrease in the consumption of gasoline and fuel oils as well as reduced production of metals. Emissions increased thereafter, and they have remained relatively stable after 1999. The decrease observed between 2001 and 2002 was due to close-downs and reductions in the ferroalloy industry and magnesium industry, reduced flaring in the oil and gas extraction sector and reduced domestic navigation. Emissions decreased again in 2005 due to high prices on heating oil and lower production volumes in the industry. Increases in emissions in 2003, due to a cold winter combined with low generation of hydropower (due to a long dry period). Emissions from transport showed an overall increase of about 29 per cent from 1990 to 2009, while the emissions decreased by more than 2 per cent from 2008 to 2009. The share of transport in the total GHG emissions has increased from 22 per cent in 1990 to almost 28 per cent in 2009. Due to technical improvements in production of nitric acid, and despite increased production, the total emissions of N2O have decreased by 36 per cent since 1990.

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

The decrease in emissions was mainly due to decreased production of ferroalloys and aluminium (e.g. one Søderberg production line was closed down), reduced production of nitric acid connected with improved technology and decreased emission from road traffic. Also, fugitive emissions from oil and natural gas decreased by more than 18 per cent from 2008 to 2009. The reduction was primarily counteracted by increased emissions from gas-fired electricity power plants.

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 national 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.

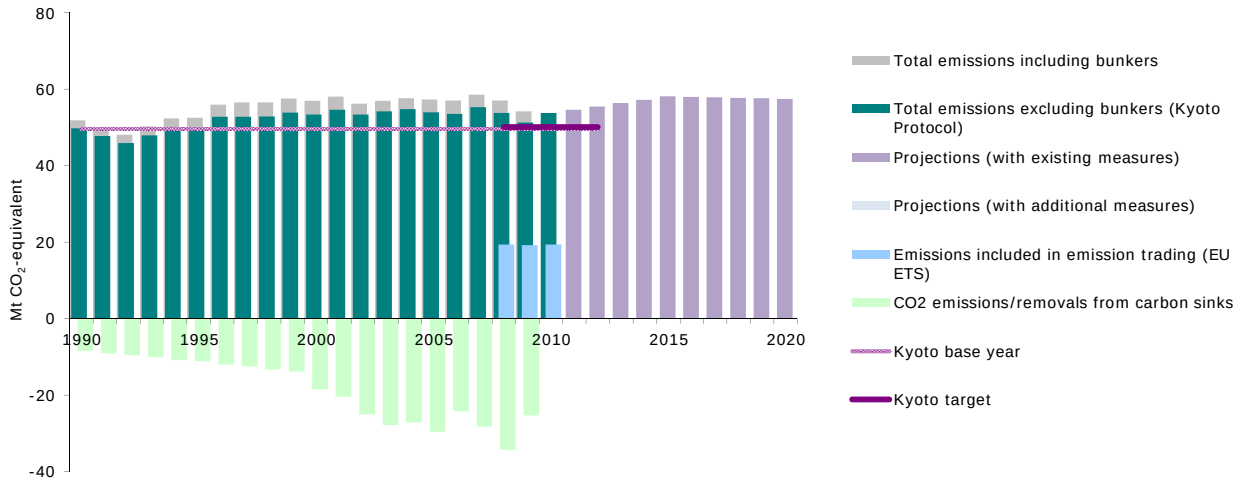
(6) All installations included. This includes new entrants and closures. Data from the community independent transaction log (CITL) as of 29 April 2009 for the reporting years 2005 and 2006, 11 May 2009 for the reporting year 2007, 17 May 2010 for the reporting year 2008 and 23 May for the reporting 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.

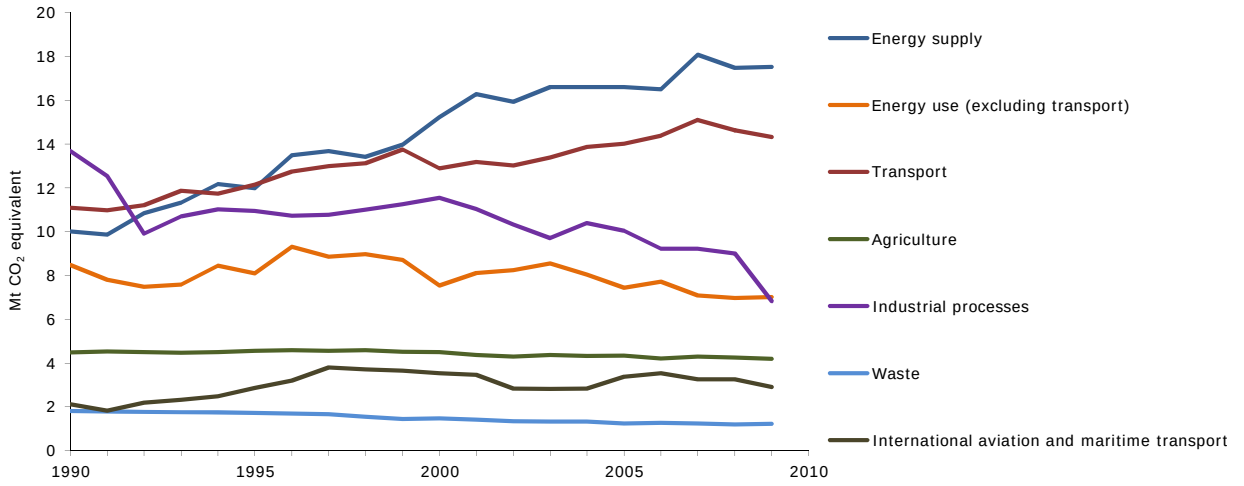
(8) "+" and "-" mean that verified emissions exceeded allowances or were below allowances, respectively. Annual allowances include allocated allowances and allowances auctioned during the same year.

(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



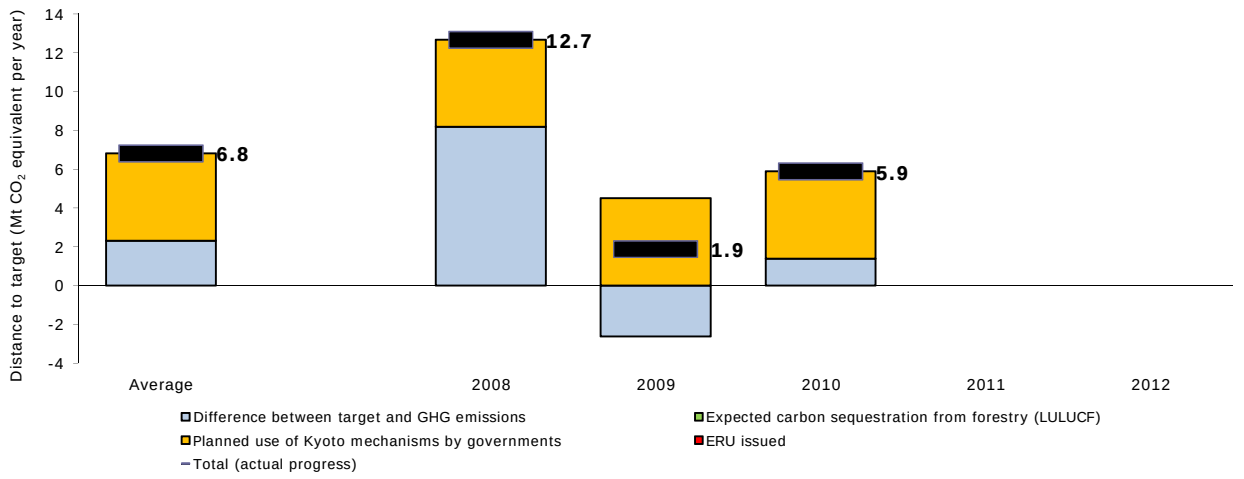
GHG trends 1990–2009 - emissions by sector



Source: National GHG inventory, 2011.

Progress towards Kyoto target

Average 2008–2010 emissions in Norway were 6.7 % higher than the base-year level, significantly above the Kyoto target of 1 % for the period 2008–2012. In the sectors not covered by the EU ETS, emissions were lower than their respective target, by an amount equivalent to 4.7 % the country's base-year emissions. Norway intends to use the flexible mechanisms at government level by acquiring an amount of Kyoto units equivalent to 9.1 % of base-year emissions per year. Taking all these effects in to account, average emissions in the sectors not covered by the EU ETS in Norway were standing below their target level, by a gap representing 13.7 % of the base-year emissions. Norway was therefore on track towards its Kyoto 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.