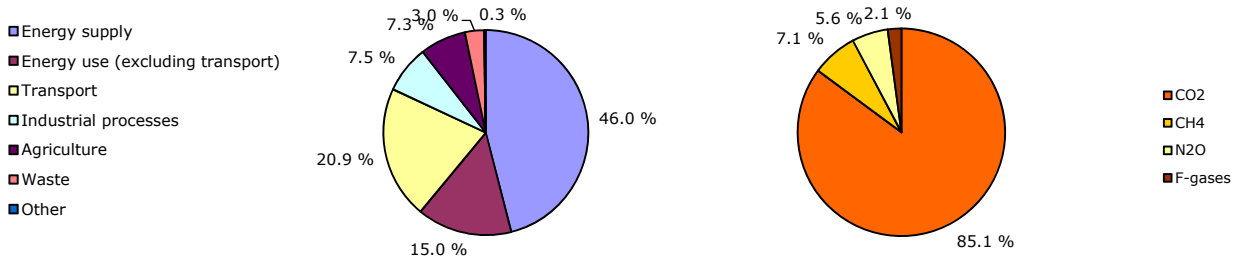
GHG trends and projections in Greece

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)	104.4	128.6	122.5	120.3	Mt CO_2-eq.	11	8
GHG from international bunkers (4)	10.6	12.9	11.0	n.a.	Mt CO_2-eq.	8	8
GHG per capita	10.3	11.5	10.9	10.6	t CO_2-eq. / capita	11	8
GHG per GDP (constant prices) (5)	954	690	672	690	g CO_2-eq. / euro		
Share of GHG in total EU-27 emissions	1.9 %	2.6 %	2.7 %	2.5 %	%		
EU ETS verified emissions - all installations (6)		69.9	63.7	59.9	Mt CO_2-eq.	9	7
EU ETS verified emissions - constant scope (7)		69.9	63.6	59.9	Mt CO_2-eq.		
Share of EU ETS verified emissions (all installations) in total GHG		54.3 %	52.0 %	49.8 %	%		
ETS verified emissions compared to annual allowances (8)		9.7 %	0.7 %	– 7.3 %	%		

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	18.2	17.4 %	– 6.0	– 4.7 %	16.0	15.3 %	– 2.2	– 1.8 %
GHG per capita	0.6	5.5 %	– 0.6	– 5.1 %	0.3	3.2 %	– 0.2	– 2.2 %
EU ETS verified emissions - all installations (6)			– 6.2	– 8.9 %			– 3.7	– 5.8 %
EU ETS verified emissions - constant scope (7)			– 6.2	– 8.9 %			– 6.2	– 8.9 %

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

Emissions have overall increased since 1990 (+ 17 %), although they have been levelling off since 2005. The improvement of living standards, due to the economic development during the period 1990–2007, the significant growth of the services sector and the introduction of natural gas in the Greek energy system represent the basic factors explaining energy-related emission trends. The substantial increase of GHG emissions from road transport (+ 78 %) is directly linked to the increase of vehicles fleet but also to the increase of transport activity. Emissions from industrial processes increased until 1999, stabilised over the period 2000–2005 and decreased sharply afterwards. The intense fluctuation of these emissions is mainly due to the cease of HCFC-22 production. Emissions reduction from agricultural sector is mainly due to the reduction of N2O emissions from agricultural soils, because of the reduction in the use of synthetic nitrogen fertilizers.

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

The reduction of emissions in public electricity and heat production reflects a marked decline in thermal power production, mainly due to a 3.4 % reduction in final electricity consumption and an increase in electricity generation from hydropower. Other main emission decreases occurred in manufacturing industries and construction, as well as in process-related emissions in the cement industry. Also emission from household and services decreased. The increase in renewables also 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.

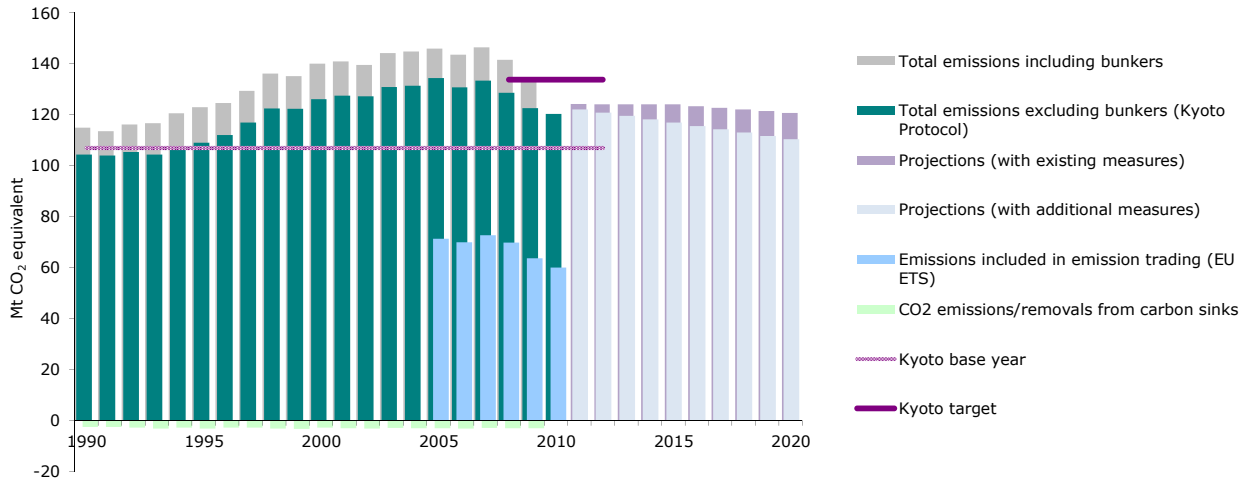
(6) All installations included. This includes new entrants and closures. Data from the community independent transaction log (CITL) as of 29 April 2009 for the reporting years 2005 and 2006, 11 May 2009 for the reporting year 2007, 17 May 2010 for the reporting year 2008 and 23 May for the reporting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

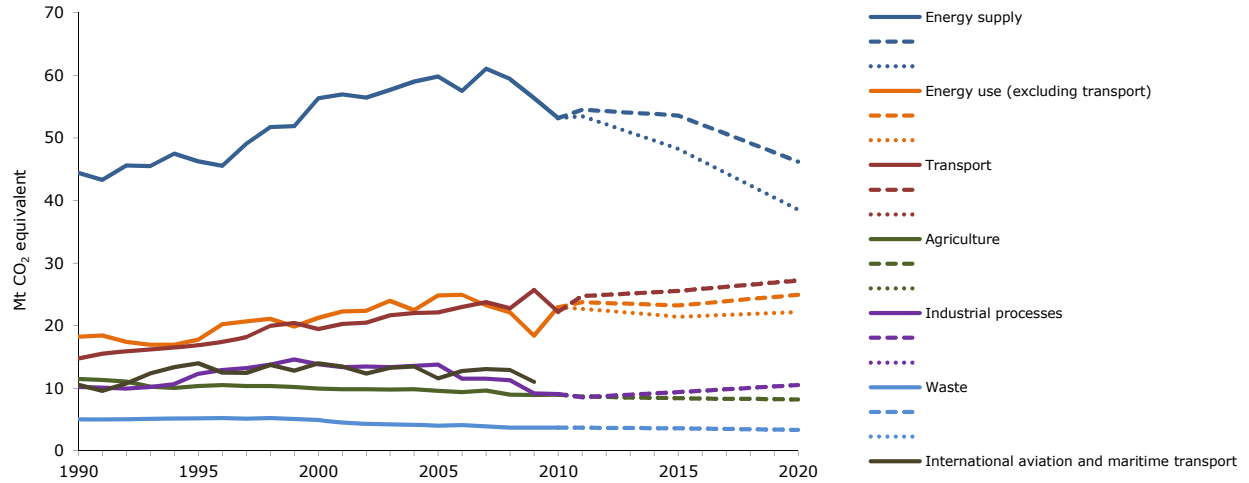
(8) "+" and "-" mean that verified emissions exceeded allowances or were below allowances, respectively. Annual allowances include allocated allowances and allowances auctioned during the same year.

(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

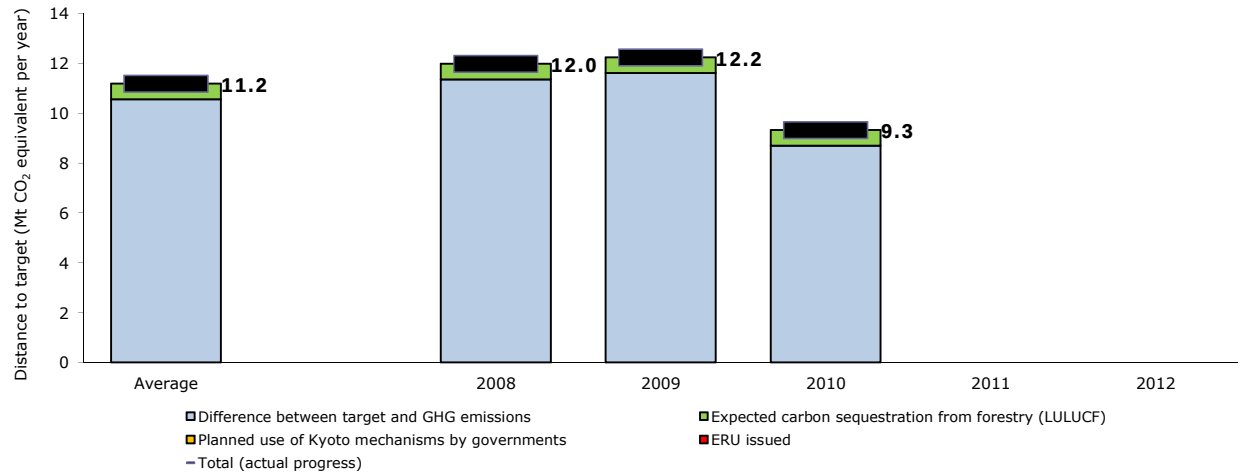


Note: GHG emission projections are represent either through dashed lines (with existing measures) or dotted lines (additional measures).

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

Progress towards Kyoto target

Average 2008–2010 emissions in Greece were 15.7 % higher than the base-year level, well below the burden-sharing target of 25 % 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 9.9 % the country's base-year emissions. LULUCF activities are expected to decrease net emissions by an annual amount equivalent to 0.6 % of base-year level emissions. Taking all these effects in to account, average emissions in the sectors not covered by the EU ETS in Greece were standing below their target level, by a gap representing 10.5 % of the base-year emissions. Greece 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.