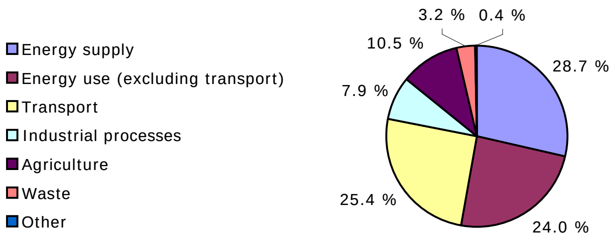
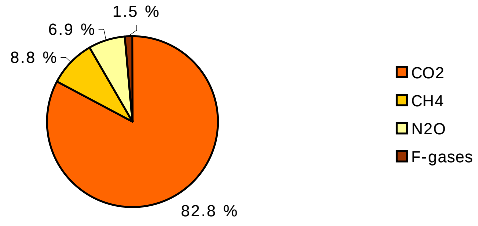
GHG trends and projections in Spain

European Environment Agency

Key GHG data [1]	1990	2006	2007	2008 [2]	Unit	Rank in EU-27 [3]	Rank in EU-15 [3]
Total greenhouse gas emissions (GHG)	288.1	433.1	442.3	*n.a.*	Mt CO_2-eq.	5	5
GHG from international bunkers [4]	15.1	36.5	37.6	n.a.	Mt CO_2-eq.	3	3
GHG per capita	7.4	9.9	9.9	*n.a.*	t CO_2-eq. / capita	16	11
GHG per GDP [5]	602	563	555	*n.a.*	g CO_2-eq. / euro		
Share of GHG in total EU-27 emissions	5.2 %	8.5 %	8.8 %	*n.a.*	%		
EU ETS verified emissions [6]		179.7	186.6	163.5	Mt CO_2-eq.	5	4
Share of EU ETS verified emissions in total GHG		41.5 %	42.2 %	*n.a.*	%		
ETS verified emissions compared to annual allowances [7]		8.1 %	16.8 %	6.1 %	%		

Share of GHG emissions (excluding international bunkers) by main source and by gas in 2007 [1],[8]





Key GHG trends	1990-2007		2006-2007		1990-2008 [2]		2007-2008 [2]	
	Mt CO_2-eq.	%	Mt CO_2-eq.	%	Mt CO_2-eq.	%	Mt CO_2-eq.	%
Total GHG	154.2	53.5 %	9.3	2.1 %	*n.a.*	*n.a.*	*n.a.*	*n.a.*
GHG per capita	2.5	34.0 %	0.0	0.5 %	*n.a.*	*n.a.*	*n.a.*	*n.a.*
EU ETS verified emissions [9]			6.8	3.8 %			– 23.1	– 12.4 %

Assessment long-term trend of total GHG (1990-2007)

Overall, emission trends were characterised by a sustained increase in the context of general economic growth. Following a moderate increase between 1990 and 1996, emissions have increased more rapidly thereafter. The largest increase in emissions was observed in the transport sector. Annual fluctuations in rainfall affect hydropower and nuclear power production.

Assessment short-term trend of total GHG (2006-2007)

The emission increase in Spain is mainly due to public electricity and heat production (intensified use of gaseous and solid fuels due to reduced rainfall and subsequent reduction in use of nuclear and hydro power), road transport and the agricultural sector.A decrease in energy use by manufacturing and construction industries offset some of the general increase in emissions from the energy sector. Most emissions from industrial processes show moderate decreases, but emissions due to the consumption of F– gases continue to increase.

Source and additional information

Greenhouse gas emission data and EU ETS data	www.eea.europa.eu/themes/climate/data-viewers
List and description of national policies and measures	www.eea.europa.eu/themes/climate/pam
National assessment of emission trends	[Espanol] www.mma.es/portal/secciones/calidad_contaminacion/atmosfera/emisiones/inventario.htm

[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] Preliminary estimates reported by the country for total greenhouse gas emissions.

[3] Comparison of 2007 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 quantitative comparison between countries for the same year.

[6] All installations included. This includes new entrants and closures. Data from the community independent transaction log (CITL) released on 29 April 2009 for the reporting years 2005-2007 and as of 26 May 2009 for the reporting year 2008. The CITL regularly receives new information (including delayed verified emissions data, new entrants and closures) so the figures shown may change over time.

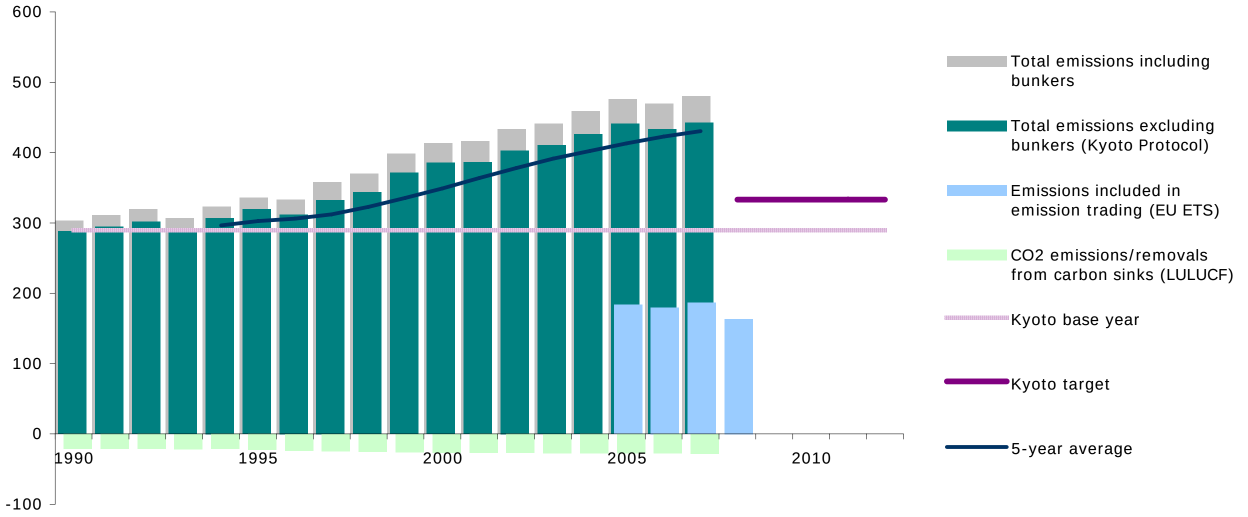
[7] "+" and "-" mean that verified emissions exceeded allowances or were below allowances, respectively. Annual allowances include allocated allowances and allowances auctioned during the same year.

[8] LULUCF sector and emissions from international bunkers excluded. Due to independent rounding the sums do not necessarily add up.

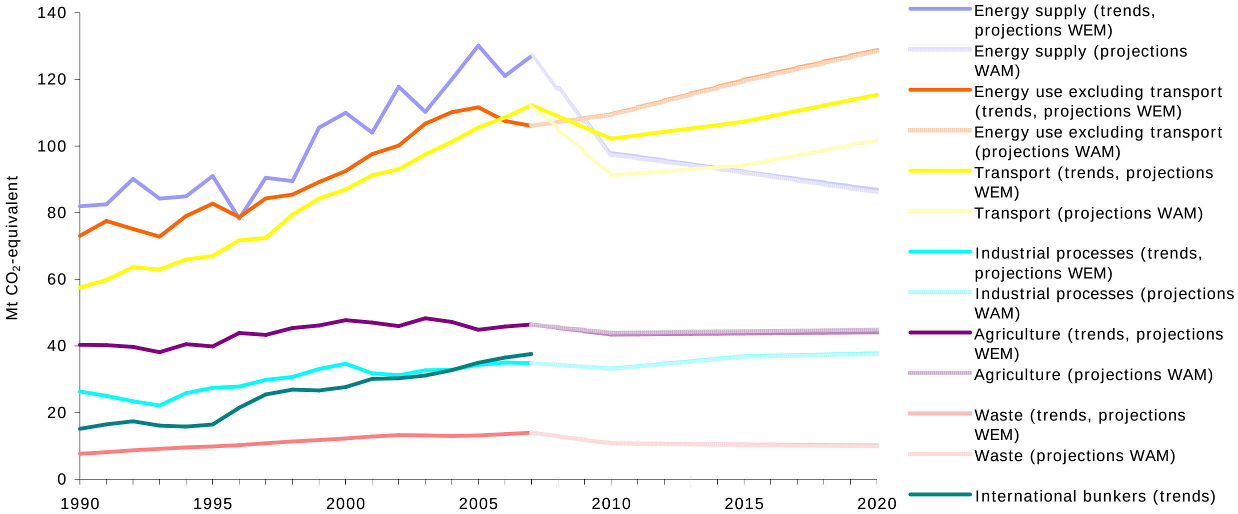
[9] The 2007–2008 comparison should be interpreted with care, as the scope of installations covered changed significantly.

For further information on greenhouse gas emission trends and projections in Europe: www.eea.europa.eu/publications/eea_report_2009_9

GHG trends and projections 1990–2020 - total emissions and removals



GHG trends and projections 1990–2020 - emissions by sector



Progress towards Kyoto target	Annual average Mt CO2-eq.	% of base year emissions
Base-year emissions	289.8	
Kyoto target (initial assigned amount 2008–2012)	333.2	115.0 %
Total GHG over 2003–2007	430.6	148.6 %
Implied target for the sectors not included in the EU ETS	180.9	
Intended use of flexible mechanisms by governments	31.8	11.0 %
Projected CO_2 removals from carbon sink activities	5.8	2.0 %
Kyoto target for the sectors not included in the EU ETS, including Kyoto mechanisms and carbon sinks	218.6	
Projected emissions (sectors not included in the EU ETS) with existing measures (WEM) 2008-2012	226.6	
Projected emissions (sectors not included in the EU ETS) with additional measures (WAM) 2008-2012	217.4	
Gap between projections WEM and target (sectors not in the EU ETS), including Kyoto mechanisms and carbon sinks	8.0	2.8 %
Gap between projections WAM and target (sectors not in the EU ETS), including Kyoto mechanisms and carbon sinks	– 1.2	– 0.4 %

Assessment of projected progress towards Kyoto target

In Spain, average emissions over the period 2003–2007 were 48.6 % higher than the base-year level, significantly above the burden-sharing target of + 15 % for the period 2008–2012. Part of the Kyoto compliance will be achieved through operators in the EU emission trading scheme, which covers approximately 42 % of total emissions. Projections concerning the remaining emissions in the sectors not covered by the EU ETS indicate that these are expected to remain higher than their 'non-ETS' target. However, Spain expects to reach its burden-sharing target by implementing additional measures, enhancing its carbon sinks and using to a large extent the Kyoto flexible mechanisms.

Comparison of projected emissions with Kyoto units for the sectors not included in the EU emission trading scheme for the period 2008–2012