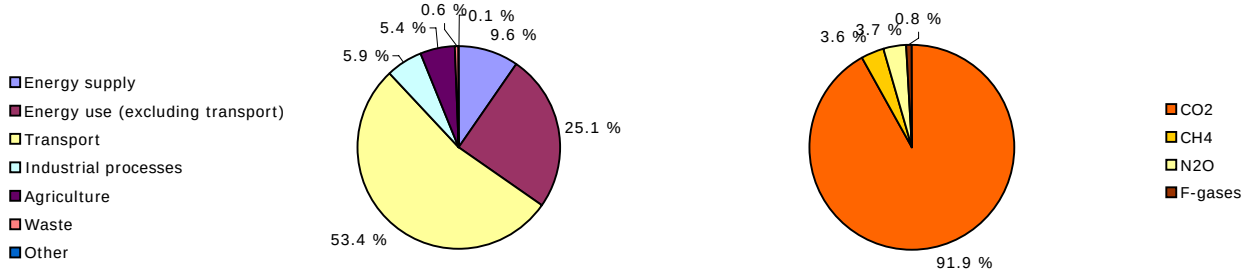
GHG trends and projections in Luxembourg

European Environment Agency

Key GHG data [1]	1990	2007	2008	2009 [2]	Unit	Rank in EU-27 [3]	Rank in EU-15 [3]
Total greenhouse gas emissions (GHG)	13.1	12.8	12.5	12.0	Mt CO_2-eq.	24	15
GHG from international bunkers [4]	0.4	1.3	1.3	n.a.	Mt CO_2-eq.	17	15
GHG per capita	34.6	26.9	25.8	24.3	t CO_2-eq. / capita	1	1
GHG per GDP [5]	975	434	423	421	g CO_2-eq. / euro		
Share of GHG in total EU-27 emissions	0.2 %	0.3 %	0.3 %	0.3 %	%		
EU ETS verified emissions [6]		2.6	2.1	2.2	Mt CO_2-eq.	26	15
Share of EU ETS verified emissions in total GHG		20.1 %	16.8 %	18.2 %	%		
ETS verified emissions compared to annual allowances [7]		– 20.5 %	– 15.6 %	– 12.3 %	%		

Share of GHG emissions (excluding international bunkers) by main source and by gas in 2008 [1],[8]



Key GHG trends	1990–2008		2007–2008		1990–2009 [2]		2008–2009 [2]	
	Mt CO_2-eq.	%	Mt CO_2-eq.	%	Mt CO_2-eq.	%	Mt CO_2-eq.	%
Total GHG	– 0.6	– 4.8 %	– 0.3	– 2.3 %	– 1.1	– 8.4 %	– 0.5	– 3.9 %
GHG per capita	– 8.8	– 25.3 %	– 1.0	– 3.9 %	– 10.2	– 29.6 %	– 1.5	– 3.9 %
EU ETS verified emissions - all installations			– 0.5	– 18.2 %			0.1	3.9 %
EU ETS verified emissions - constant scope [9]			n.a.	n.a.			0.1	3.9 %

Assessment of long-term GHG trend (1990–2008)

After a strong decline between 1993 and 1998, due in particular to the conversion of the steel industry to electric arc furnaces, emissions increased sharply up to 2004, mainly due to road transport and power generation. They stabilized between 2004 and 2006 and then, in 2007, experienced a significant decrease for the first time since 1998. High transport emissions are mainly driven by 'road fuel exports' (road fuels sold to non residents) resulting from lower fuel prices, an important cross–border workforce and of Luxembourg's location at the heart of a main traffic axes for Western Europe. However, these emissions decreased between 2006 and 2008, combined with a diminution of GHG emissions from the power generation sector.

Assessment of short-term GHG trend (2007–2008)

Overall emission decreases were mainly the result of declining emissions from public electricity and heat production (considerable reduction in thermal power production) and from industry. These reductions were – to some extent – offset by emission increases from households and services due to colder winter months. Emissions from road transportation increased slightly; this category is by far the largest category in Luxembourg's GHG inventory mainly reflecting large 'road fuel exports' due to low road fuel prices.

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

[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. EEA estimates in the case of EU-27, EU-15 and Slovakia.

[3] Comparison of 2008 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.

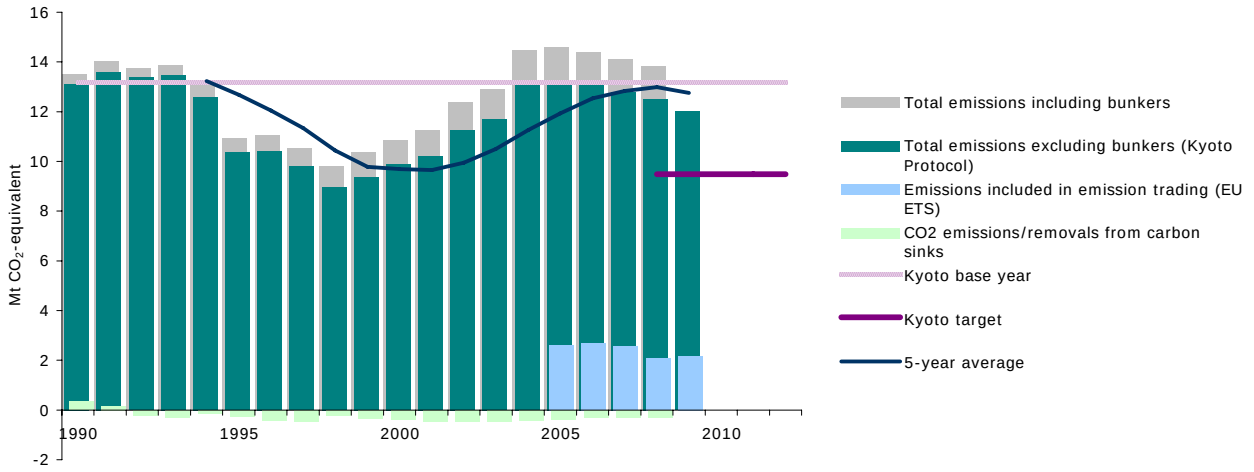
[6] All installations included. This includes new entrants and closures. Data from the community independent transaction log (CITL) released on 29 April 2009 for the reporting years 2005 and 2006, 11 May 2009 for the reporting year 2007 and data as of 17 May 2010 for the reporting year 2008 and 2009.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

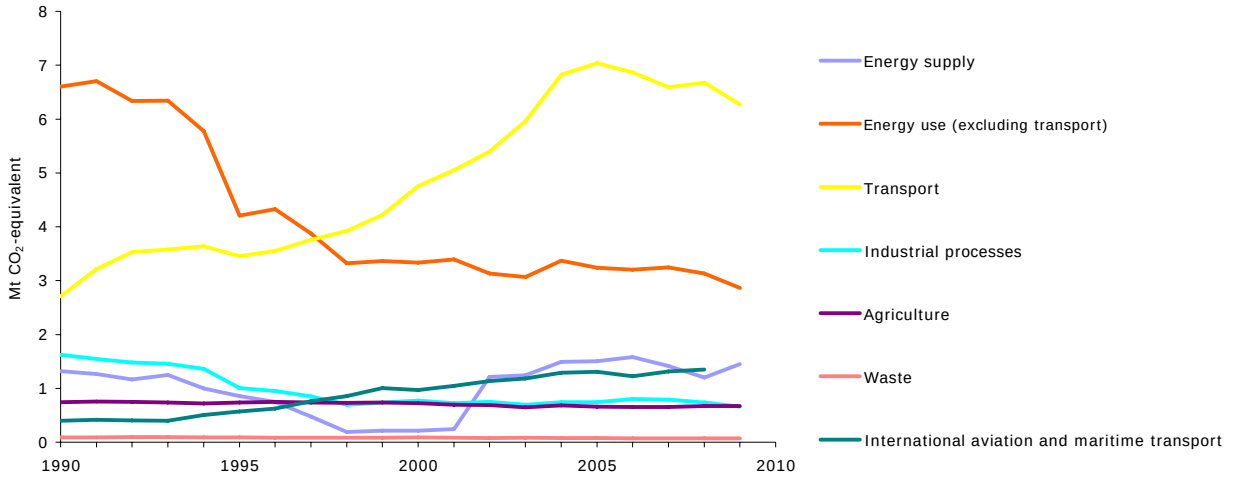
[8] LULUCF sector and emissions from international bunkers excluded. Due to independent rounding the sums do not necessarily add up.

[9] Constant scope: includes only those installations with verified emissions available for the two most recent years (2008 and 2009).

GHG trends 1990–2009 - total emissions and removals



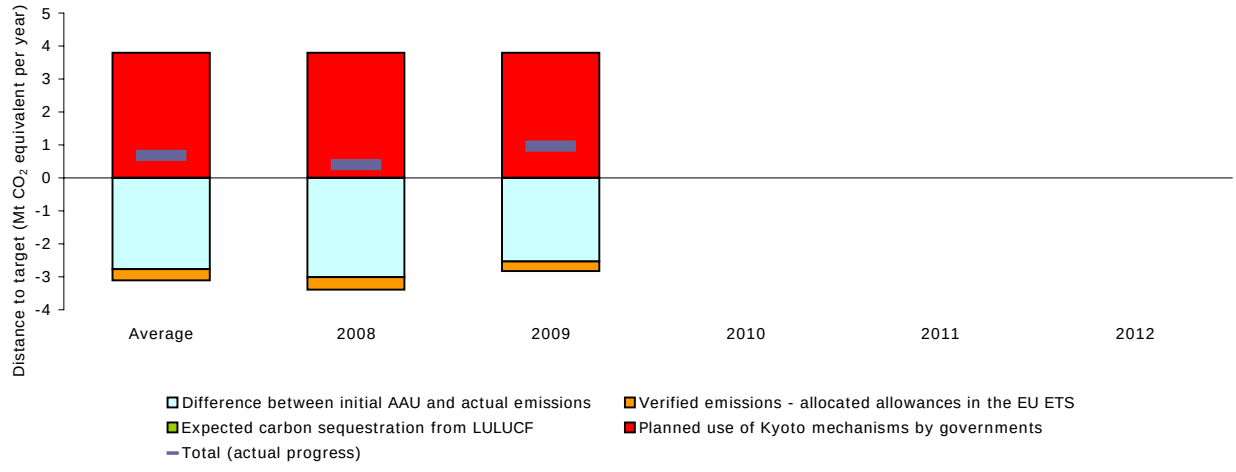
GHG trends 1990–2008 - emissions by sector



Note: updated sectoral projections, taking the effects of the economic crisis, will be presented in 2011

Progress towards Kyoto target

Average emissions in Luxembourg in 2008–2009 were 7 % lower than the base-year level, significantly above the burden-sharing target of -28 % for the period 2008–2012. Operators of installations covered by the EU ETS had to surrender less allowances than were issued to the EU ETS, decreasing the countries assigned amount by 2.6 % of base-year level emissions. Luxembourg intends to acquire allowances corresponding to 28.9 % of base-year level emissions per year through the use of flexible mechanisms at government level. Taking all these effects in to account, emissions in the sectors not covered by the EU ETS in Luxembourg stand currently below their target level, by a gap representing 5.2 % of the base-year emissions.



Note: A positive value indicates emissions lower than the average target.