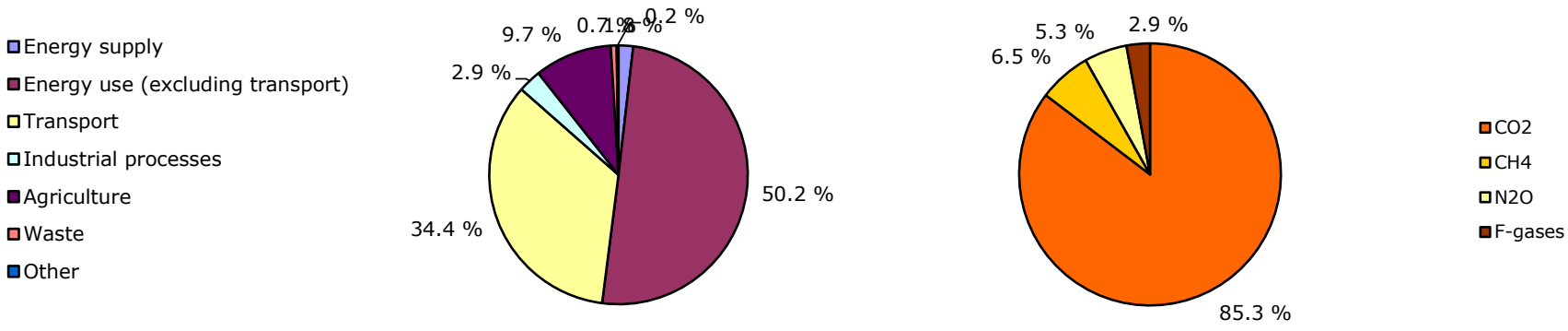
GHG trends and projections in Liechtenstein

European Environment Agency

Key GHG data ([1])	1990	2008	2009	2010	2011 ([2])	2012	1990–2011	2010–2011 ([2])
Average 2008–2012 target under the Kyoto Protocol (Mt CO_2-eq.)		0.211	0.211	0.211	0.211	0.211		
Total GHG emissions (Mt CO_2-eq.)	0.231	0.265	0.249	0.233	n.a.	n.a.	n.a.	n.a.
GHG from international bunkers ([3]) (Mt CO_2-eq.)	0.000	0.001	0.001	0.001	n.a.	n.a.	n.a.	n.a.
GHG per capita (t CO_2-eq. / capita)	8.1	7.5	7.0	6.5	n.a.	n.a.	n.a.	n.a.
GHG per GDP (constant prices) ([4]) (g CO_2-eq. / euro)	n.a	n.a	n.a	n.a	n.a.	n.a.	n.a.	n.a.
EU ETS allocated allowances (free + auctioning)		0.021	0.019	0.018	0.018	n.a.		0.0%
EU ETS verified emissions - all installations ([5]) (Mt CO_2-eq.)		0.020	0.013	0.002	n.a.	n.a.		n.a.
Share of EU ETS verified emissions (all install.) in total GHG (%)		7.5 %	5.4 %	0.8 %	n.a.	n.a.		n.a.
ETS verified emissions compared to annual allowances ([7]) (%)		94.2%	68.6%	10.2%	n.a.	n.a.		n.a.
GHG emissions in the non-ETS sectors		0.245	0.235	0.231	n.a.	n.a.		n.a.
Equivalent annual target for non-ETS GHG emissions		0.190	0.192	0.194	0.194	n.a.		0.0%

Share of GHG emissions (excluding international bunkers) by main source and by gas in 2010 ([1]) ([8])



Assessment of short-term GHG trend (2009–2010)

Liechtenstein was among the countries with decreasing emissons between 2009 and 2010 (-6.2%). Since 2008 GHG emissions in the residential sector have constantly decreased until 2010. This negative trend can partly be attributed to the installation of a new district heating pipeline, that was considered stepwise in 2009 and 2010. Furthermore the various emission reduction measures in Liechtenstein, such as the increase of the CO2-tax in 2010, might have resulted in a respective decrease.

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.

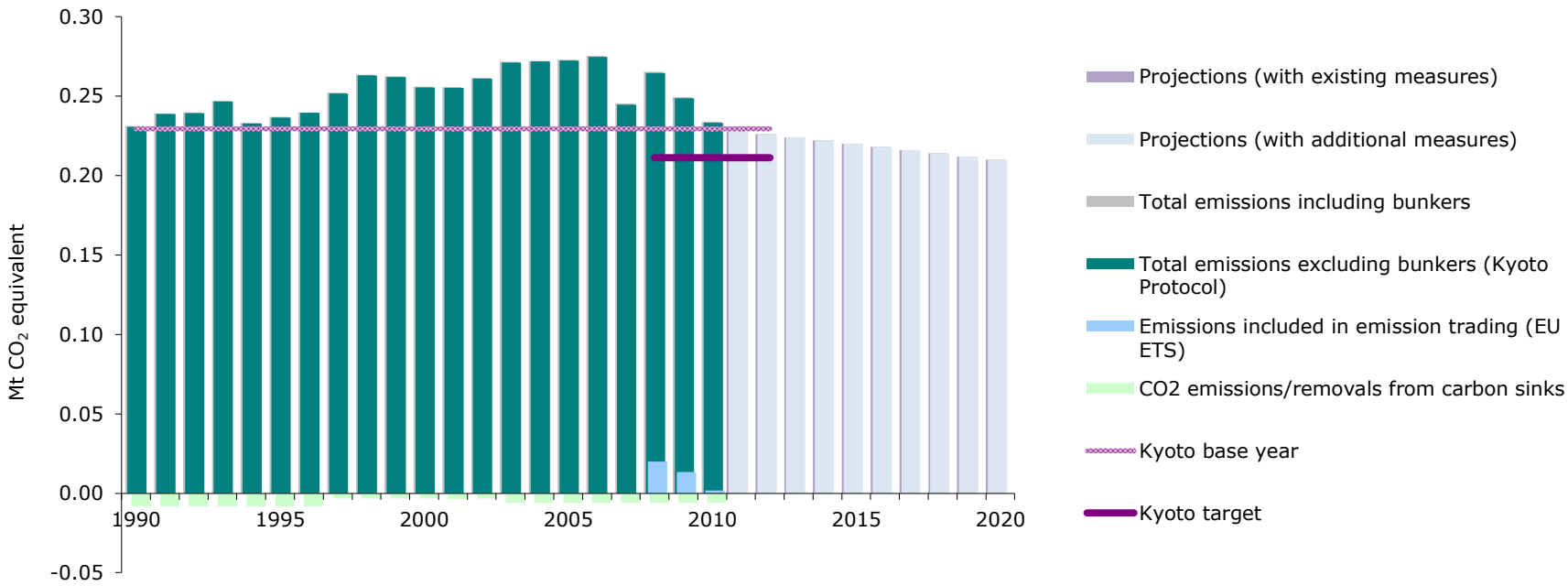
([2]) Based on EEA estimate of 2011 emissions.

([3]) International bunkers: international aviation and international maritime transport.

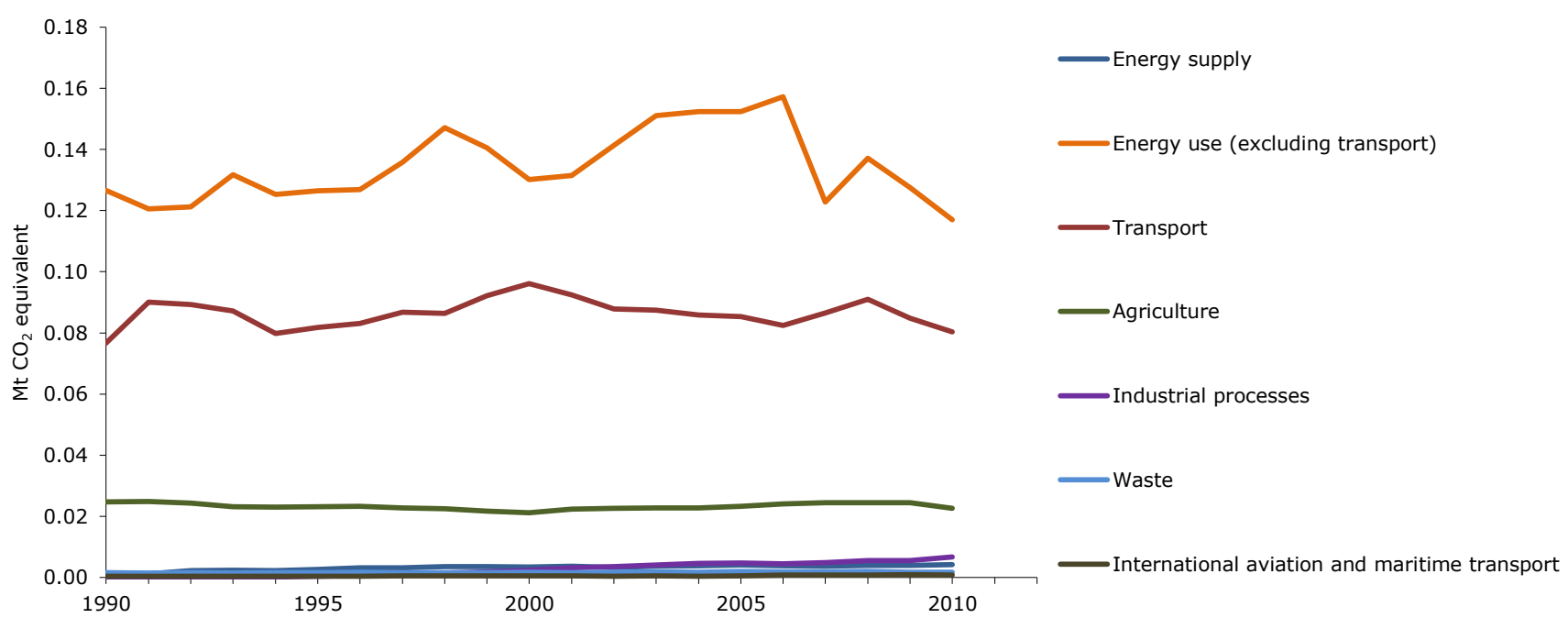
([4]) Gross domestic product (GDP) in 2005 market prices - not suitable for a ranking or quantitative comparison between countries for the same year. GDP information for the year 1990 is not available for some countries. For this reason, the 'GHG per GDP' values presented in the '1990' column correspond to the following years: 1991 (EU-15, Bulgaria, Germany, Hungary and Malta), 1992 (Slovakia), 1993 (EU-27 and Estonia) and 1995 (Croatia). Source GDP: Annual macro-economic database (AMECO), European Commission, 2012.

([8]) 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



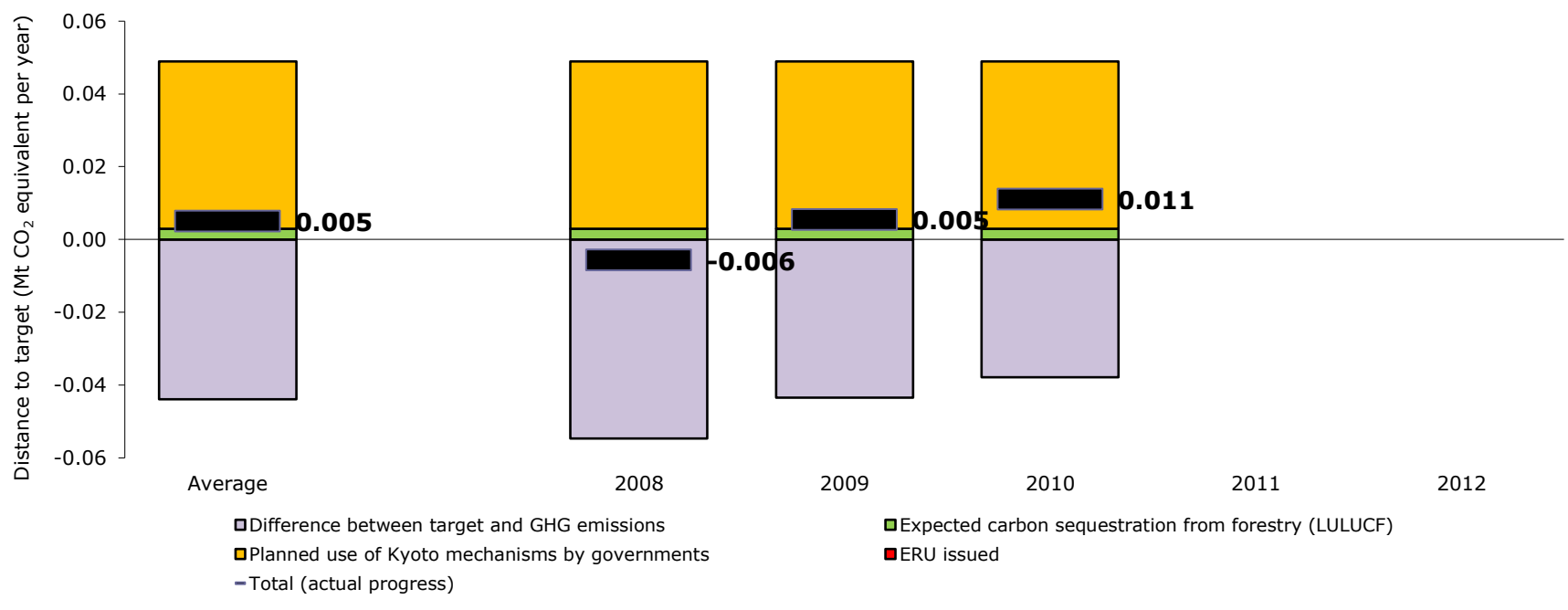
GHG trends 1990–2010 - emissions by sector



Source: National GHG inventory report, 2012.

Progress towards Kyoto target

Average 2008–2010 emissions in Liechtenstein were 8.4 % higher than the base-year level, significantly above the Kyoto target of -8 % for the period 2008–2012. In the sectors not covered by the EU ETS, emissions were significantly higher than their respective target, by an amount equivalent to 19.1 % of base-year emissions. LULUCF activities are expected to decrease net emissions by an annual amount equivalent to 1.3 % of base-year level emissions. Liechtenstein intends to use the flexible mechanisms at government level by acquiring an amount of Kyoto units equivalent to 20 % of base-year emissions per year. Taking all these effects into account, average emissions in the sectors not covered by the EU ETS in Liechtenstein were standing below their target level, by a gap representing 2.2 % of the base-year emissions. Liechtenstein was therefore on track towards its Kyoto target by the end of 2010. The decrease in emissions between 2009 and 2010 resulted in a decrease of average non-ETS emissions. This trend was sufficient to bring Liechtenstein on track towards its 8 % Kyoto reduction target. In addition, the gap filling of anticipated removals from carbon sink activities for the 2012 assessment resulted in an increased quantity of permissible emissions for this country.



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.