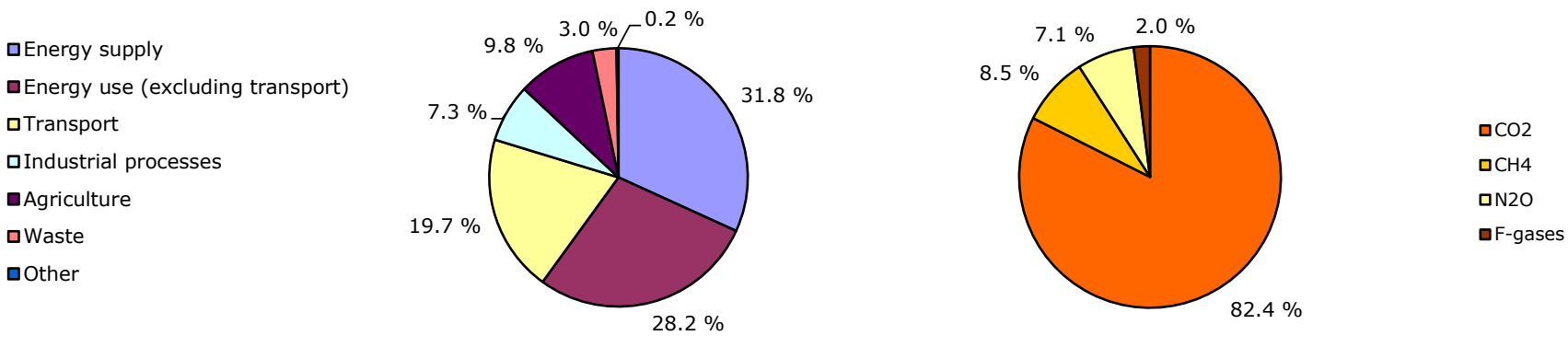
GHG trends and projections in the EU-27

European Environment Agency

Key GHG data ([1])	1990	2008	2009	2010	2011 ([2])	2012	1990–2011	2010–2011 ([2])
Total GHG emissions (Mt CO_2-eq.)	5 583.1	4 974.4	4 609.9	4 720.9	4 601.6	n.a.	-17.6%	-2.5%
GHG from international bunkers ([3]) (Mt CO_2-eq.)	183.1	320.6	293.2	284.9	n.a.	n.a.	n.a.	n.a.
GHG per capita (t CO_2-eq. / capita)	11.8	10.0	9.2	9.4	9.2	n.a.	-22.6%	-2.8%
GHG per GDP (constant prices) ([4]) (g CO_2-eq. / euro)	626	420	407	409	392	n.a.	-37.3%	-4.0%
EU ETS allocated allowances (free + auctioning)		2 008.7	2 036.9	2 073.0	2 078.6	n.a.		0.3%
EU ETS verified emissions - all installations ([5]) (Mt CO_2-eq.)		2 100.2	1 860.9	1 919.9	1 884.6	n.a.		-1.8%
EU ETS verified emissions - constant scope ([6]) (Mt CO_2-eq.)		1 984.4	1 772.4	1 818.7	1 759.5	n.a.		-3.3%
Share of EU ETS verified emissions (all install.) in total GHG (%)		42.2 %	40.4 %	40.7 %	41.0 %	n.a.		0.7%
ETS verified emissions compared to annual allowances ([7]) (%)		104.6%	91.4%	92.6%	90.7%	n.a.		-2.1%

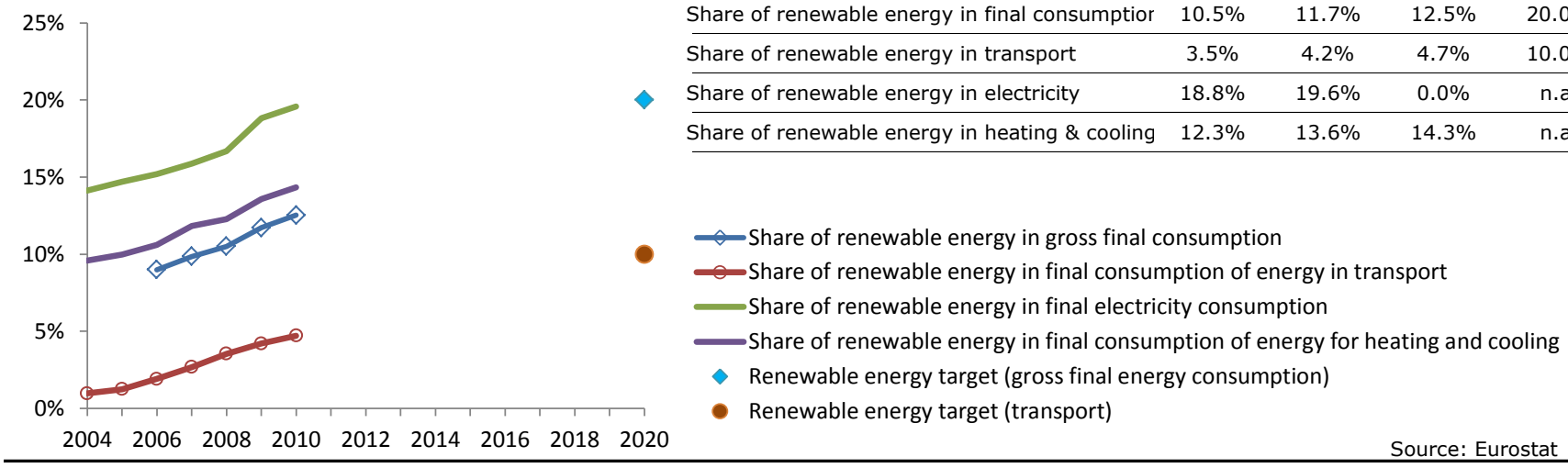
Share of GHG emissions (excluding international bunkers) by main source and by gas in 2010 ([1]) ([8])



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

In 2010, EU-27 greenhouse gas emissions increased by 2.4% compared to 2009. This was due to the return to economic growth in many countries. In 2010 the winter was also colder than in the previous year, in particular in northern, central and eastern European countries, leading to increased demand for heating and higher emissions from the residential and commercial sectors. The 2010 winter in Europe was, on average, colder than in 2009. However, the increase in emissions was contained by a move from coal to natural gas and the sustained strong growth in renewable energy generation. Emissions from manufacturing industries and construction increased, mainly driven by the significant increase of the iron and steel production.

Key data and trends on renewable energy	2008	2009	2010	2020 target
Share of renewable energy in final consumptior	10.5%	11.7%	12.5%	20.0%
Share of renewable energy in transport	3.5%	4.2%	4.7%	10.0%
Share of renewable energy in electricity	18.8%	19.6%	0.0%	n.a.
Share of renewable energy in heating & cooling	12.3%	13.6%	14.3%	n.a.



Source: Eurostat

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.

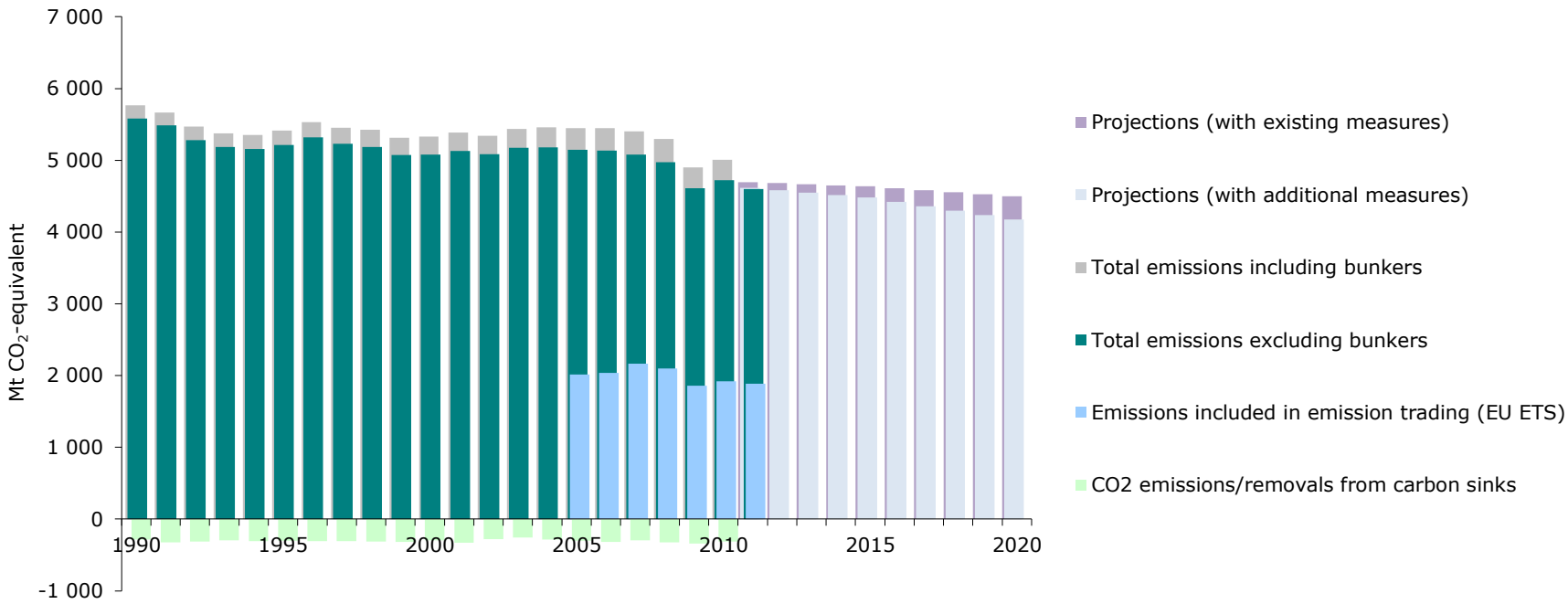
([5]) All installations included. This includes new entrants and closures. Data from the community independent transaction log (CITL) as of 31 July 2012. The CITL regularly receives new information (including delayed verified emissions data, new entrants and closures) so the figures shown may change over time.

([6]) Constant scope: includes only those installations with verified emissions available for 2008, 2009, 2010 and 2011.

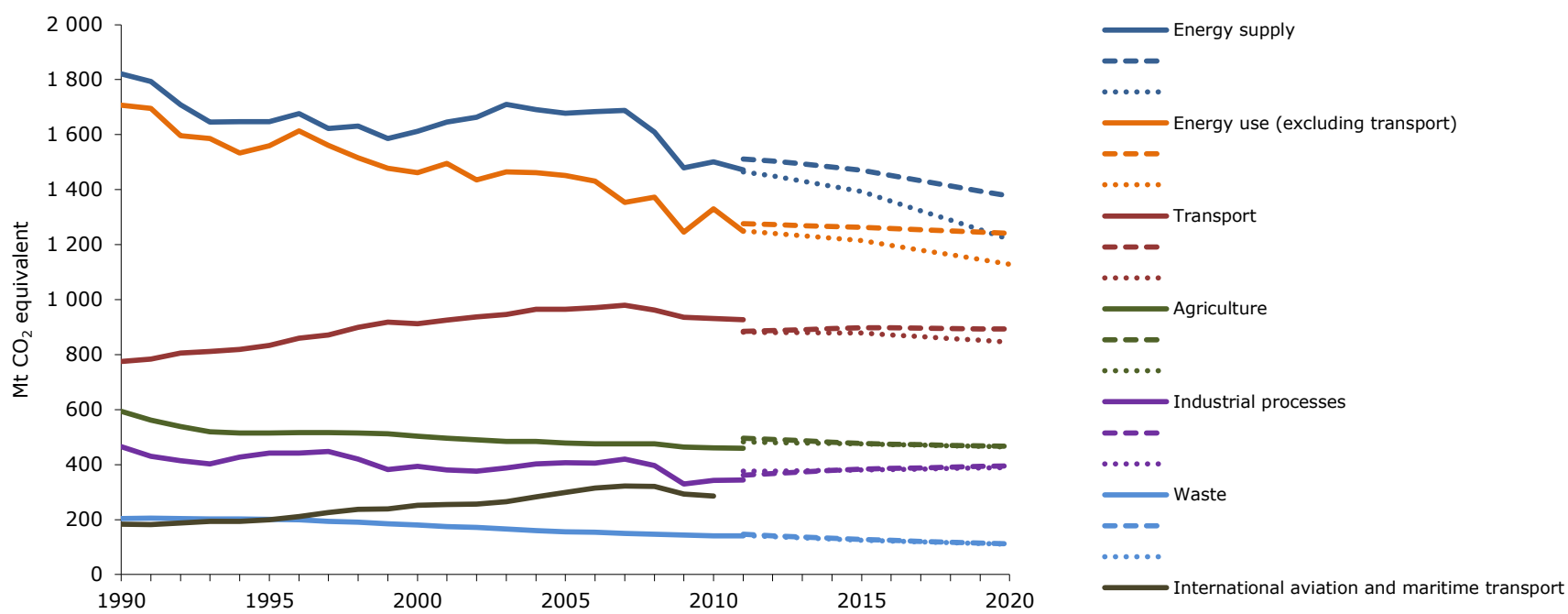
([7]) "+" and "-" mean that verified emissions exceeded allowances or were below allowances, respectively. Annual allowances include allocated allowances and allowances auctioned during the same year.

([8]) LULUCF sector and emissions from international bunkers excluded. Due to independent rounding the sums 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 GHG inventory report, 2012; EEA proxy estimate of 2011 GHG emissions; national GHG projection data submitted in 2011.

Progress towards Kyoto target

The EU-27 does not have a target under the Kyoto Protocol. Recent EEA estimates indicate a 2.5 % emission decrease in 2011 compared to 2010. Projections from Member States indicate that the long-term reduction trend observed since 1990 is expected to continue until 2020 and after. With the current set of measures in place, Member States do not project sufficient emission reductions to allow the EU to meet its unilateral 20 % reduction commitment by 2020. Additional measures, currently planned by Member States, will help in achieving this target but further policies will be needed to achieve even more important emission cuts in the long term.