Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

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In accordance with Decision 280/2004/ concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol, the Commission presents a report on progress towards achieving the Kyoto objectives. Under the Kyoto Protocol, the EU-15 has agreed to reduce its GHG emissions by 8% by 2008–12 compared to base year levels. Based on the latest available inventory data of 2010, total GHG emissions in the EU-15 were 11% below base year emissions without Land Use Change and Forestry (LULUCF).

All in all, **projections of total GHG emissions indicate that the EU-15 is well on track to reach its Kyoto target. The estimate shows that the target is likely to be overachieved.**

1) GHG emissions in 2010 compared to 2009: European GHG emissions increased in 2010 (+2.4%) due to the return to economic growth – after European GHG emissions drastically decreased in 2009 mainly because of the economic recession (-7.3%) – and a colder than usual winter. Among the industrial sectors, the largest combined increase stemmed from manufacturing industries and construction (including iron and steel process emissions) and from public heat and electricity production. Higher industrial activity during 2010, after the strong contraction in 2009, appears to have led to a sharp increase in final energy demand and emissions in these sectors. The sector that contributed most to higher emissions in the EU in 2010 was, however, 'residential and commercial', which broadly falls outside the scope of the EU ETS. The key reason for the 43 million tonnes increase in emissions there was the cold winter in 2010, which increased demand for heating, particularly by households. The **continued strong increase in renewable energy use** and the improved carbon intensity of fossil fuels - underpinned by strong natural gas consumption - prevented the increase in GHG emissions from being higher.

About 56 % of the EU increase in GHG emissions was accounted for by Germany (+3%), Poland (+5%) and the United Kingdom (+3%). In percentage terms, growth in emissions was highest in Estonia (+25%), Finland (+13%), Sweden (+11%) and Latvia (+10%). Contrastingly, Spain, Greece, Portugal, Romania, Cyprus and Ireland continued reducing GHG emissions in 2010. The increase in emissions in 2010 was partly driven by the economic recovery from the 2009 recession in many European countries, which had itself caused substantial emission reductions in 2008 and 2009 in all Member States. Final energy demand increased by 3.7 % in 2010, outpacing the increase in economic output (2.0 %).

2) Progress in 2010: in 2010, total EU-27 greenhouse gas (GHG) emissions without emissions and removals from Land Use, Land Use Change and Forestry (LULUCF) were 15% lower compared to 1990 levels. Emissions increased by 2.4% compared to 2009. This partly compensates the significant decrease of GHG emissions in 2009 as a result of the economic recession (-7.3%). **Leaving the exceptional drop in 2009 aside, 2010 GHG emissions continue to follow the general decreasing trend seen from 2004 onwards.**

Additionally, according to the provisional 2011 data, EU-15 and EU-27 GHG emissions decreased by 3.6% and 2.5% in 2011 compared to 2010. Based on these estimates, EU-15 emissions are 14% below the base-year level. **EU-27 2011 emissions are approximately 18% below the 1990 level.** The **change of GDP in 1990-2011 was 43% for EU-15 and 48% for EU-27,** and around 1.5% between 2010 and 2011. While the economy has grown significantly, emissions in both the EU-27 and the EU-15 have been

decreasing, which demonstrates that decoupling of economic growth from GHG emissions has been progressing steadily since 1990.

According to the GHG projections submitted in 2011 and updated in 2012:

- **six EU-15 Member States** (Finland, France, Germany, Greece, Sweden, the United Kingdom) are on track to achieve their individual GHG reduction targets domestically. Taking into account the planned use of the Kyoto flexible mechanisms, use of unused allowances from the EU ETS new entrants reserve and carbon sinks as well as additional policy measures, only one Member State (Italy) is not on track to achieve their targets;
- **in most of the twelve Member States that acceded the Union as from 2004**, emissions are projected to slightly increase between 2009 and 2012. However, nine of them that have a Kyoto target are projected to meet or over-achieve their commitments using only existing policies and measures. Slovenia is estimated to meet its target when all the existing and planned measures, including the purchase of Kyoto credits, deliver as expected.

3) New measures to reach the ambitious Europe 2020 target: the climate and energy package adopted in 2009 provides an integrated and ambitious package of policies and measures to tackle climate change until 2020 and beyond. It forms one of the five headline targets of the Europe 2020 jobs and economic growth strategy. From 2013 onwards the total effort of the Union to reduce greenhouse gas emissions by 20% by 2020 compared to 1990 **will be divided between the EU ETS and non-ETS sectors.** The GHG data refer to the scope of the first commitment period under the Kyoto Protocol and cannot be directly used to assess progress towards the Union's domestic commitment by 2020 because of its broader sectoral coverage.

Preparations for the implementation of the GHG reduction commitment by 2020 are almost completed.

With regard to the EU ETS, substantial progress in preparing for Phase 3 (2013-2020) has been made since the last progress report in October 2011, including on the auctioning platform, on the Single Union Registry and on adoption of harmonised rules on monitoring, reporting, accreditation and verification.

- As far as the Effort Sharing Decision, which regulates GHG emissions in sectors outside the EU ETS by setting binding annual GHG emissions targets for each Member State (MS) is concerned, work on implementing measures is continuing, especially in relation to determining the absolute values for Member States' targets and the compliance system which will be put in place for monitoring Member States' action annually and helping them to take any necessary corrective measures if they fail to meet their targets.
- The 20% GHG reduction objective is rooted in the Europe 2020 strategy for jobs and smart, sustainable and inclusive growth adopted by the European Council in June 2010. The emission reduction target is one of the five headline targets. As noted in the Commission's Annual Growth Survey 2011, in the field of climate change mitigation **the existing and planned measures are not yet sufficient to reach the 2020 headline targets**. **Many Member States need to make additional efforts to meet their obligations under the Effort Sharing Decision.**

The report illustrates the considerable emission reduction effort required between business as usual for 2020 and the Union's 2020 targets (-20% and -30% respectively). In 2011, EU-27 emissions (including international aviation emissions) were 16% below 1990 level. Business as usual would lead to an emissions cut of around 15% between 1990 and 2020.

According to the latest available GHG projections, which include the implementation of the Climate and Energy Package, the EU would collectively meet its 2020 target. However, only 13 Member States can expect to meet their 2020 commitments with policies already in place, and a further 8 Member States

could deliver on their targets when their additional policies and measures deliver as expected. The **remaining 6 need to design additional policies in order to accomplish their targets and/or make use of the flexibilities provided for in the Climate and Energy Package.**