Roadmap for moving to a competitive low carbon economy in 2050

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PURPOSE: to present a Roadmap for moving to a competitive low carbon economy in 2050.

BACKGROUND: climate change has long been recognised as one long-term shaping factor where coherent EU action is needed, both inside the EU and internationally.

The Commission recently proposed the Europe 2020 for a resource efficient Europeand is now putting forward a series of long-term policy plans in areas such as transport, energy and climate change.

One of the objectives of Europe 2020 relates to climate and energy: Member States have committed themselves to reducing greenhouse gas emissions (GHG) by 20%, increasing the share of renewables in the EU's energy mix to 20%, and achieving the 20% energy efficiency target by 2020. The EU is currently on track to meet two of those targets, but will not meet its energy efficiency target unless further efforts are made.

In order to keep climate change below 2ºC, the European Council reconfirmed in February 2011 the EU objective of reducing greenhouse gas emissions by 80-95% by 2050 compared to 1990. Some Member States have already made steps in this direction, or are in the process of doing so, including setting emission reduction objectives for 2050.

CONTENT: together with the White Paper on transportand the Energy Efficiency Plan, this Communication is a key deliverable under the Resource Efficiency Flagship. It presents a Roadmap for possible action up to 2050 which could enable the EU to deliver greenhouse gas reductions in line with the 80 to 95% target agreed. It outlines milestones which would show whether the EU is on course for reaching its target, policy challenges, investment needs and opportunities in different sectors, bearing in mind that the 80 to 95% reduction objective in the EU will largely need to be met internally.

The approach is based on the view that innovative solutions are required to mobilise investments in energy, transport, industry and information and communication technologies, and that more focus is needed on energy efficiency policies.

The Commission's detailed analysis of cost-effective ways of reducing greenhouse gas emissions by 2050 has produced a number of important findings.

(1) In order to be in line with the 80 to 95% overall GHG reduction objective by 2050, the Roadmap indicates that a cost effective and gradual transition would require a 40% domestic reduction of greenhouse gas emissions compared to 1990 as a milestone for 2030, and 80% for 2050. Building on what has already been achieved, the EU needs to start working now on appropriate strategies to move in this direction, and all Member States should soon develop national low carbon Roadmaps if not already done. The Commission is prepared to provide some of the necessary tools and policies.

(2) The analysis also shows that with existing policies, the EU will achieve the goal of a 20% GHG reduction domestically by 2020. If the revised Energy Efficiency Plan were to be fully and effectively implemented, meeting the 20% energy efficiency target, this would enable the EU to outperform the current 20% emission reduction target and achieve 25% reductions.

The Communication does not suggest setting new 2020 targets, nor does it affect the EU's offer in the international negotiations to take on a 30% reduction target for 2020, if the conditions are right. This discussion continues based on the Communication from the Commission of 26 May 2010.

(3) As well as reducing the threat of dangerous climate change as part of ambitious global action, deep reductions in the EU's emissions have the potential to deliver benefits in the form of savings on fossil fuel imports and improvements in air quality and public health.

(4) The Roadmap gives ranges for emissions reductions for 2030 and 2050 for key sectors:

- **Power** (CO2) : -54 to -68% in 2030 and -93 à -99% in 2050 ;
- **Industry** (CO2) : -34 to -40% in 2030 and -83 to -87% in 2050 ;
- **Transport** (including CO2 aviation, excluding maritime) : +20% to -9% in 2030 and -54 to -67% in 2050 ;
- **Residential and services** (CO2) : -37 to -53% in 2030 and-88 to-91% in 2050 ;
- **Agriculture** (non CO2): -36 to -37% in 2030 and -42 to -49% in 2050.

To realise these milestones as cost-effectively as possible, and to maximise benefits for EU manufacturing industries, the implementation of the Strategic Energy Technology Plan is of crucial importance. Considering the important labour market implications, the New Skills and

Jobs Agenda will need to support the transition process.

(5) The international dimension is important. The EU with little more than 10% of global emissions will not be able to tackle climate change on its own. Progress internationally is the only way to solve the problem of climate change, and the EU must continue to engage its partners.

If no firm global action is taken against climate change, temperatures might increase by more than 2°C already by 2050, and more than 4ºC by 2100. In order to avoid this scenario, science indicates that by 2050 global greenhouse gas emissions need to be reduced by at least 50% compared to 1990. With the preparation of this Roadmap, the EU is taking a new initiative to stimulate international negotiations in the run-up to Durban.

The Commission will continue to ensure that the EU ETS remains a key instrument to drive low carbon investments in a cost-efficient manner. It will also remain attentive to the risk of carbon leakage in order to ensure a level-playing field for industry.

As part of the development of the next Multi-Annual Financial Framework, it will also examine how EU funding can support instruments and investments that are necessary to promote the transition to a low carbon economy, taking into account the specificities of sectors, countries and regions.