Ambient air quality and cleaner air for Europe

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COMMISSION'S IMPACT ASSESSMENT

For further information regarding the context of this issue, please refer to the summary of the Commission'sCommunication on the Thematic Strategy on Air Pollution and the Directive on "Ambient Air Quality and Cleaner Air for Europe" – COM(2005)0446.

1- POLICY OPTIONS AND IMPACTS: Three scenarios, A, B and C, have been explored in depth to assess the cost and benefits of closing the gap between the environmental situation calculated in the baseline scenario in 2020 (i.e. no extra measures or additional legislation are implemented) and the Maximum Technically Feasible Reduction (MTFR) scenario for 2020 (i.e. whereby all possible emissions abatement measures are deployed irrespective of cost).

These scenarios represent differing levels of ambition based on the gap closure concept, i.e. the percentage of the gap to be closed between the 2020 baseline and the MTFR (excluding transport sector), for losses in life expectancy from exposure to particulate matter, for the cases of premature deaths attributable to ozone, for accumulated excess deposition over the critical loads for acidification and for accumulated excess deposition for eutrophication.

IMPACTS

Health benefits: The major monetised benefits of policy options would come from reduced premature deaths and reduced loss of life expectancy. Also benefits from reduced morbidity contribute significantly to the overall benefits, although it must be kept in mind that the basis of evidence for quantifying the most influential morbidity health endpoints is more limited than for mortality.

For environmental benefits, a comparative analysis was made of the impacts of reduced air pollution on ecosystems, using a precise ecosystem-specific deposition methodology. For acidification, although improvements are expected following the present environment policies, major problems would remain in areas with sensitive ecosystems and high emissions. Regarding eutrophication, the scenarios would reduce the area with excess deposition of nitrogen above the critical load, but substantial and severe eutrophication problems would remain in many Member States. As there is still no sound basis for further quantification impacts and valuation of impacts on different types of ecosystems, omission of monetised ecosystem benefits outside of agriculture may trigger a significant bias towards underestimation of total benefits and further research will be undertaken. There will also be benefits in other environmental areas. There are linkages and overlaps with climate change policy, and air pollution directly affects soil and water quality.

Socio-economic impact: The costs of meeting Scenarios A, B and C were estimated at 0.04%, 0.08% and 0.12% of EU-25 GDP in 2020 respectively. The Strategy has very little impact on overall employment. There are some sectoral shifts and some differences between Member States. However, they cancel each other out. There would be a small positive impact to exports. However, imports are estimated to grow more, mainly due to the terms of trade effect.

The **sectoral impacts** are rather small. The price increase remains small, which can be partly explained by the cost effectiveness of the measures. The equipment goods sectors benefit from increased demand for abatement equipment, while the consumer goods industry is projected to suffer from the decrease in consumption.

The reduction of SO2 and NO_X emissions from **power generation** sector will increase the power generation costs by (about 2) billion euros per annum in 2020. As production costs of power generation will be increased these costs will eventually be reflected in the wholesale price of power. In 2020, the predicted electricity consumption in the CAFE baseline was 3856 TWh. Thus, the estimated increase in electricity price is about 0.05 eurocents per kWh being about 1% of the wholesale price of electricity. The exact increase will depend on the fuel mix in each Member State.

The thematic strategy will also benefit the **agricultural sector**. This is because the reduced ozone concentrations will increase agricultural productivity. It has been estimated that the monetary value alone of increase crop (wheat) production due to lower ozone concentrations will be about 0.5 billion euros (check) per annum.

*CONCLUSION:***All scenarios deliver benefits far in excess of costs**. However, the additional costs relative to benefits start to increase steeply at around the mid range (Scenario A/B). Furthermore, the changes in ecosystem improvements between the lower (Scenario A) and mid range scenario (Scenario B), balanced against costs, argue in favour of choosing **a level between the low and mid range that delivers the lowest levels of air pollution that can be justified in terms of benefits and costs while preventing undue health risks for the population.** It should also be noted that the largest improvements are estimated to materialise from moving from the baseline to Scenario A.. The costs of moving from Scenario A to B are estimated almost to double and increase further by about €4 billion in Scenario C for relatively small additional benefits. This is why the Commission is proposing an ambitious, yet prudent, approach to setting environment and health objectives for 2020 coupled with a review in about five years from the adoption of the Strategy.

2- FOLLOW-UP: The EEA and Eurostat have developed indicators to monitor the impacts of air emissions on human health and the environment, and there will be long-term monitoring under the UNECE Convention on Long-range Transboundary Air Pollution. Monitoring, modelling, assessment and mapping will follow agreed methodologies. Since Community air pollution policy is built on robust scientific and technical knowledge, continual further research will be needed to refine current and future policies and measures. Our understanding of adverse health and environmental impacts is improving all the time, so it is important to keep targets and policies under review, and to take account of changes in the costs and effectiveness of measures. The Commission plans to carry out a first review in about five years from the adoption of the Strategy.