

## AIR QUALITY STRATEGY REVIEW CONSULTATION – A SUMMARY

### The Air Quality Strategy

1. The Air Quality Strategy for England, Scotland, Wales and Northern Ireland was published by the UK Government and the devolved administrations in January 2000. It established the framework for achieving further improvements in ambient air quality in the UK to 2003 and beyond and set health-based standards for eight important air pollutants and objectives for their achievement. It also set objectives for two pollutants for the protection of vegetation and ecosystems. An Addendum was published in 2003 tightening several objectives and adding an objective for another pollutant.
2. The Strategy and Addendum indicated that a future review would focus on progress towards meeting the objectives and the policy measures needed to deliver them but the opportunity might also be taken to revise objectives or consider new ones in the light of policy/scientific/technological developments.
3. A consultation document on the review of the Air Quality Strategy was published on 5 April 2006 setting out options for further improvements in air quality. Comments are invited by 11 July 2006.

### The Latest Review

4. Air quality in the UK has generally continued to improve since 1997 when the first Air Quality Strategy was adopted. An Evaluation of the Air Quality Strategy, published in 2005, indicated that between 1990 and 2001 policies have resulted in a marked decline in concentrations of air pollutants, with an estimated reduction of more than 4,200 premature deaths and 3,500 hospital admissions per annum. It also suggests that these policies reduced life years lost by between 39,000 and 117,000 life years in 2001. The Evaluation showed that these policies have been cost beneficial with an estimated £68,000m benefits generated across the UK, set against costs of £6,000m during the 1990 to 2001 period.
5. Preliminary indications are that in 2005 we met the Strategy objectives for benzene, carbon monoxide, 1,3-butadiene and lead. It is clear that all the Strategy objectives are or will be met on time in most parts of the UK. However, for some pollutants and at certain locations, levels are not declining as fast as expected and trends are flattening or even reversing. Even though further emission reductions are expected (e.g. as new vehicles and fuels become cleaner and older more polluting vehicles are replaced), projections show that there will still be exceedences of the objectives for nitrogen dioxide, particulate matter and ozone well after their target achievement dates of end of last year and 2010 in some of our major urban areas and alongside busy roads.

6. For pollutants for which no threshold for adverse health effects has been identified, such as particulate matter, air pollution continues to have a significant negative impact on people's health even in areas that have already achieved the objectives. The assessment carried out for this review of the Strategy estimates that the level of man-made particulate air pollution experienced in the UK in 2005 would be expected to reduce average life expectancy by up to about 8 months. This health impact in 2005 is estimated to cost up to £9.1 - £21.4 billion p.a.

7. Air pollution impacts on ecosystems and vegetation are also significant. While impacts on the acidification of freshwaters and other ecosystems have been showing signs of improvement over the past decade or so in response to pollution reductions, the deposition of nitrogen across the UK is responsible for exceedences of critical loads for nutrient nitrogen leading to eutrophication – an unwelcome excess of nutrients which leads to loss of biodiversity. Impacts on ecosystems have been addressed in this review for the first time in a substantive way. These impacts are significant and have been quantified wherever possible. However, these impacts are more difficult to monetise and have not been included in the monetary cost benefit analyses carried out.

8. Our assessment estimates that if no further measures in addition to those already agreed are implemented, man-made particulate air pollution in the UK will continue to reduce average life expectancy by up to about 5.5 months even by 2020. This health impact in 2020 is estimated to cost up to £6.6 - £15.4 billion p.a. In addition, a large part of our ecosystems will continue to exceed critical loads for both nutrient nitrogen and acidity even in 2020.

9. Clearly, there are uncertainties associated with every stage of the assessment which need to be considered (e.g. estimating reductions in emissions and concentrations from policy measures, quantifying and valuing benefits and estimating costs). The figures quoted in the consultation document are our current best estimate. The Technical Annex (Volume 2 of the consultation document), and the Interdepartmental Group on Cost and Benefits report accompanying the consultation document, provide more detail of the results, uncertainties and sensitivities of the different assessments carried out.

### **The Consultation Document**

10. The consultation document seeks stakeholders' views on a number of potential additional policy measures to further improve air quality. It invites consultees to respond to questions, set out in each Chapter and listed below in this paper. As well as direct benefits to public health, these new policies have the potential to provide important benefits to quality of life, reducing health inequalities and helping to protect the environment.

### **Assessment of Additional Policy Measures**

11. The additional policy measures assessed are for implementation at international (European Union and beyond), national and local level. They include technological measures (e.g. fitting pollution abatement technologies to road vehicles and industrial processes) as well as measures designed to change behaviour (e.g. traffic management measures, incentives for cleaner vehicles, road pricing and a range of techniques called “smarter choices”). This is because there is no single measure to improve air quality and packages of measures need to be deployed. The assessments estimate the impact of the potential additional policy measures on: people’s health; the environment; meeting our air quality objectives; costs and benefits; competitiveness; socially deprived areas and emissions of greenhouse gases.

12. The assessments indicate that a number of additional policy measures would, if implemented, generate significant additional benefits to society (net of additional costs), public health, the environment, and help move us closer to our air quality objectives by eliminating a significant number of areas of exceedence. These measures include:

- new tighter European vehicle emissions standards (Euro-standards)
- packages of incentives for both the early uptake of new Euro-standards and low emission vehicles
- reductions in emissions from small combustion plants
- reductions in emissions from ships
- and a number of combinations of these measures.

13. The review focused on the short list of additional policy measures on which a full national assessment was carried out. Due to the difficulties in assessing the impacts of a large number of very localised measures, a national review such as this one cannot meaningfully assess their impact. However, the consultation document provides an indication of the improvements and costs and benefits associated with a variety of local measures.

### **Estimated Benefits from New Measures**

14. Some of these additional measures generate significant net present benefits to the UK, e.g. new European vehicles emissions standards will generate estimated annual present benefits net of additional costs of up to £1.165 billion.

15. If a package of cost effective measures (including new European vehicle emission standards, a package of incentives for the early uptake of these cleaner vehicles and reduced emissions from small combustion plants) is implemented, it is estimated that average background concentrations of particulate matter in urban areas across the UK could be reduced by 15% between 2010 and 2020. The average loss of life expectancy due to man-made particulate matter in 2020 would be about 5 months: an improvement of about 0.5 months compared to the baseline in 2020. After implementation of the same package of measures, it is

estimated that man-made particulate air pollution in the UK would generate estimated damage costs of up to £6.0 - £14.2 billion p.a. (a reduction of 8% compared with the baseline).

### **The Strategy's Current Objectives and Proposed Changes**

16. The consultation document seeks stakeholders' views on existing and proposed changes to the Strategy's objectives, in particular:

- improved protection for our Sites of Special Scientific Interest and other designated sites by strengthening the application of the current ecosystem and vegetation objectives for those sites;
- an option for a new, more cost effective, policy framework and new provisional objectives for controlling particulate matter (in particular fine particles known as PM<sub>2.5</sub>). This framework is designed to deliver further cost effective improvement in areas that are already below existing objectives for particulate matter.

### **Improving Understanding and Impacts of Air Pollutants**

17. The review also sets an agenda for longer term actions to improve our understanding of air pollutants and their impact on human health and the environment. This includes further development of our ability to quantify exposure, link sources to impacts, assess policy options and understand how to influence behaviour.

### **Long Term Vision – Air Quality in 2050**

18. Finally the consultation document attempts to assess the potential for further air quality improvements in the very long term. It discusses what may be the air quality consequences of "putting the UK on a path to a 60% reduction in its carbon dioxide emissions by 2050", as mentioned in the Prime Minister's foreword to the last Energy White Paper. An assessment of potential future air pollution levels at two locations in central London suggests that large reductions (about 50% for particulate matter) are feasible between now and 2050, with consequently similar improvements in public health impacts from air pollution. Using recent scientific studies demonstrating the intercontinental transport of ozone and its precursors, it also concludes more international co-operation – on a hemispheric or even global scale – will be required if we are to reduce levels of ozone in the UK and Europe in the longer term.

### **Technical Annex and Regulatory Impact Assessments**

19. The Technical Annexes and the Regulatory Impact Assessment, published in Volume 2 of the consultation document, set out the scientific and economic underpinning for the assessment carried out. For an in depth



What do you think the role of the devolved administrations and local authorities should be under this new framework?
Do you agree that the exposure reduction approach should be pursued at a UK level first and that the possibility of moving to a devolved administration level should be considered at a later stage?
What are your views on moving the policy framework to include PM <sub>2.5</sub> as well as PM <sub>10</sub> ?
Should the UK Government and the devolved administrations wait until a European exposure reduction objective is finally agreed in Europe before adopting a new national objective for particles?, or Should the UK Government and the devolved administrations adopt new exposure reduction and concentration cap objectives for PM <sub>2.5</sub> now and review them after final agreement has been reached in Europe?
If the UK Government and the devolved administrations proceed now with the proposals for a new long term particle objectives (in Chapter 4) do you consider that the proposed values of a 15% exposure reduction objective and a 25µg. m <sup>-3</sup> concentration cap objective (12µg.m <sup>-3</sup> for Scotland) are reasonable?
Do you agree with the policy position on critical loads set out in Chapter 4? In particular, should the UK Government and the devolved administrations adopt a numerical target for the reduction of critical load exceedences for acidity and nitrogen nutrient in addition to the long term goal of removing exceedences of critical loads?
Do you agree with the policy position set out in section 4.5.2 of Chapter 4? In particular, do you consider the critical level of 8µg.m <sup>-3</sup> for ammonia measured as an annual mean, to be useful in protecting Natura 2000 sites, and is it appropriate for use in the setting of conditions for permits under Pollution Prevention Control?
Should the UK Government and the devolved administrations adopt an air quality objective for gaseous ammonia?
Do you agree that the better regulation and simplification proposals will result in reductions in burdens for businesses?
What other better regulation and simplification measures should be considered?

### Chapter 5:

How should Defra and the devolved administrations take forward their evidence and innovation needs?
Are all the key areas where evidence is required covered?
What are the priorities for further work?

### Chapter 6:

Do you agree that the UK Government and the devolved administrations should design policies to ensure the optimal improvements for both air quality and greenhouse gases (climate change)?
Do you agree that the geographical scope for air quality policies should expand beyond the UK and the rest of Europe?

**Links to Defra webpage for copies of consultation paper and supporting documents:**

<http://www.defra.gov.uk/corporate/consult/airqualstrat-review/index.htm>

**Responses to consultation should be sent to the following:**

**For consultees in England:**

Eko Deinne  
Air and Environment Quality Division  
Zone 7D/13  
Ashdown House  
123 Victoria Street  
London SW1E 6DE  
Or email to: [air.quality@defra.gsi.gov.uk](mailto:air.quality@defra.gsi.gov.uk)  
Enquiries on 020 7082 8397

**For consultees in Scotland:**

Andrew Taylor  
Scottish Executive  
Climate Change and Air Division  
1-G (North) Victoria Quay  
Edinburgh EH6 6QQ  
Or email to: [Andrew.taylor2@scotland.gsi.gov.uk](mailto:Andrew.taylor2@scotland.gsi.gov.uk)  
Enquiries on 0131 224 7813

**For consultees in Wales:**

Russell Lang  
Air and Environment Branch  
Welsh Assembly Government  
Cathays Park  
Cardiff CF1 3NQ  
Or by email to: [environmental.protection.division@wales.gsi.gov.uk](mailto:environmental.protection.division@wales.gsi.gov.uk)  
Enquiries on 029 2082 1588

**For consultees in Northern Ireland**

Dan Kennedy  
Environmental Policy Division  
Department of the Environment for Northern Ireland  
22 – 24 Donegall Street  
Belfast BT1 2GP  
Or by email to: [Dan.Kennedy@doeni.gov.uk](mailto:Dan.Kennedy@doeni.gov.uk)  
Enquiries on 02890 544518