

**Informal questionnaire for the members of the
Stakeholder Expert Group on the Review of the EU Air Policy**

**on the Air Quality Directive 2008/50/EC and the Fourth Daughter Directive
2004/107/EC**

June, 2011

The questionnaire below is aimed at collecting views and experiences relating to the Air Quality Directive 2008/50/EC and the Fourth Daughter Directive 2004/107/EC. One of the main objectives is to identify areas for improvement. This consultation is one of the first steps of a broad consultation process in the review of the EU Thematic Strategy on Air Pollution. For more details on the review process, please refer to:

http://ec.europa.eu/environment/air/review_air_policy.htm

This questionnaire is one of three questionnaires, which are aimed at three target groups: interested citizens, professionals in the field of air quality and the members of the Stakeholder Expert Group on the Review of the EU Air Policy. These questionnaires are related but differ in the level of detail. The questionnaire below is intended for the members of the Stakeholder Expert Group on the Review of the EU Air Policy.

The questionnaire addresses the following themes:

- The Thematic Strategy on Air Pollution;
- The approach of the air quality directives;
- Standards;
- Assessment;
- Air quality management in Member States;
- Public information and dissemination;
- Governance;
- Scientific and technological innovation;
- The most important issues for review;
- Your involvement in the review process.

Information for completing the questionnaire:

Each theme is briefly introduced, indicating issues that you are particularly invited to address.

- ✓ *You do not need to give comments on all issues or reply to all themes/sections of the questionnaire.*

When analysing the replies, the Commission intends to identify *strengths* and *weaknesses* of the directives, as well as *opportunities* for improvement and possible *threats* that could affect their effectiveness.

- ✓ *You are therefore invited to address these “SWOT” aspects where appropriate.*

The questionnaire aims at getting feedback from the members of the Stakeholder Expert Group in their capacity representing the respective countries or organisations.

- ✓ *Please complete ONE questionnaire per Member State/country or organisation.*
- ✓ *If this is not possible, please contact us.*

The work on this informal questionnaire will be carried out in English and resources for translation could not be foreseen.

- ✓ *Preferably we would kindly ask you to reply in English.*
- ✓ *However, replies in German and/or French will also be accepted.*
- ✓ *If you are only able to ensure a reply to this informal questionnaire in time in another language than those specified above, please contact us in advance to discuss.*

Please email the completed questionnaire by 15 September 2011

- ✓ to aqdsurvey@tno.nl and
- ✓ in copy to env-air@ec.europa.eu

➤ **Please use the white cells of the tables for filling in your replies.**
Note, you do NOT need to reply to all sections or give comments on all issues mentioned in the introduction of each section.

1. Respondent (for internal use only)	
Country / Organisation (Member of Stakeholder Expert Group)	United Kingdom / Department for the Environment, Food & Rural Affairs
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2. The Thematic Strategy on Air Pollution
<p>The Thematic Strategy on Air Pollution has been established under the Sixth Environmental Action Plan. Several strands of legislation are in place in order to protect health and the environment from harmful effects of air pollution, in particular the air quality directives, the national emission ceilings directive and directives that address sectoral emissions. Together, these directives have been major drivers towards clean air in Europe. However, air pollution legislation may have synergic or antagonistic relations, also with other legislation.</p> <p>You are kindly requested to present your views on the place of the air quality directives in the Thematic Strategy on Air Pollution and relationships with other EU legislation. Please also provide any additional information that you consider helpful for the review or for substantiating your views.</p> <p>You may consider addressing in your reply in particular (note you do not have to reply to every issue):</p> <ol style="list-style-type: none"> 1. the adequacy of the air quality legislation in relation to the objectives of the Sixth Environmental Action Plan; 2. the coherence and synergy of the EU air pollution policy tools, in particular the air quality directives, the national emission ceilings directive and the sectoral directives; 3. the coherence and synergy of the air quality standards with emission standards and ceilings; 4. the coherence and synergy of EU air pollution policies with other environmental policies, such as policies on climate change, noise, biodiversity; 5. the coherence and synergy of EU air pollution policies with sectoral policies, in particular regarding transport, energy and agriculture; 6. the coherence and synergy of EU air pollution policies with international policies; 7. any other issue. <ul style="list-style-type: none"> • Looking to 2025 or 2030 we support further EU ambition to reduce the health and environmental impacts of air pollution, taking full account of what is agreed through the UNECE Gothenburg Protocol revision, and recognising the

reductions in emissions of most pollutants that EU climate change targets are expected to deliver. The UK has a legal framework which has introduced binding, consecutive five year carbon budgets, with the first three covering 2008-22 set in 2009, and the fourth budget covering 2023-2027 set in legislation earlier this year. In relation to revision of the UNECE Gothenburg Protocol revision the UK position is for ceilings for 2020 based on what current and planned commitments are expected to deliver. Further ambition would need to reflect wider environmental and economic goals to promote sustainable economic growth, such as in the area of transport infrastructure investment where we agree with the views expressed in the recent EU Transport White Paper. The contribution that air quality controls can make to climate change goals could usefully be considered in ensuring coherence between policy objectives.

- National emission ceilings legislation for air pollutants can provide an important backstop, recognising that emission reductions are driven by factors such as technology change, implementation of good practice and EU legislation on specific sectors such as industry (the Industrial Emissions Directive) and transport (Euro standards).
- The Commission's proposals should aim for coherence between the attainment dates for ambient air quality/emission ceilings, the EU control measures that will drive reductions in emissions, and key climate change targets. They should also recognise in supporting analysis the potential risks to local air quality from other policies, including those on renewable energy generation, the increase in decentralised power generation and biomass burning in urban areas. In relation to emission ceilings, coherence with climate change targets is important. Deadlines for attainment must reflect both the availability of measures and the affordability of implementation relative to the benefits. The process of setting emission ceilings must take into account the uncertainties in emission inventory projections and incorporate flexibilities or tolerance levels to allow for continuous inventory improvement.
- We support further EU initiatives via CAP in relation to nitrogen management. Achieving further ammonia emissions reductions will be challenging and integrated policy approaches will be needed. Any new initiatives will need to take account of the synergies and trade-offs between current and future policies targeting GHG reductions, improved water quality, soil management and biodiversity as well as potentially conflicting policy objectives on food security and supply.
- In relation to future modelling, the baseline scenario needs to be consistent and reflect as far as possible MS projections recognising the assumptions within these.
- We need a more compelling narrative around ecosystem benefits of reduced air pollution and co-ordinated economic work to improve valuation of benefits, in line with other international agreements such as the Convention on

Biological Diversity's new Strategic Plan for Biodiversity 2011-2020.

- We would welcome the opportunity to discuss with the Commission the CAFÉ methodology for valuing air quality changes with a view to ensuring it is based on the most up to date evidence and expert opinion. The UK would be keen to discuss the differences in the CAFÉ and UK approaches and the evidence underpinning this.

Please provide any additional information (e.g. links or references to internet pages, reports, studies):

UK Interdepartmental Group on Costs and Benefits – Air Quality (IGCB(A)):
<http://archive.defra.gov.uk/environment/quality/air/airquality/panels/igcb/>

Convention on Biological Diversity's Strategic Plan for Biodiversity 2011-2020:
<http://www.cbd.int/sp/>

3. The approach of the air quality directives

Directives 2008/50/EC and 2004/107/EC set standards for the air quality of specified substances in order to ensure a minimum level of protection to citizens and the environment. There are several types of standards, such as limit values and target values. The directives require Member States to assess air quality in zones and agglomerations and to inform the Commission and the public about the results. Member States must take action when standards are exceeded or at risk to be exceeded. Under special conditions certain derogations are possible.

You are kindly requested to present your views on the general approach of the directives. Please also provide any additional information that you consider helpful for the review or for substantiating your views.

You may consider addressing in your reply in particular (note you do not have to reply to every issue):

1. the overall conceptual approach of the air quality directives and the level of complexity of it;
2. the definition of a minimum level of protection for all citizens;
3. the concept of limit values for health that apply almost everywhere;
4. the role of real exposure in relation to limit values;
5. assessment through mandatory monitoring and voluntary modelling;
6. the focus of limit values on hotspots in relation to the protection of the population at large;
7. the effectiveness of target values to protect health;
8. possibilities for special protection of sensitive populations;
9. the effectiveness of the directives in triggering effective measures to protect health and the environment;
10. the effectiveness of the derogations and flexibility provided in the directives;
11. the possibility of including protection levels for additional pollutants in the air quality directives;
12. the concept to base compliance checking limit values on single years;
13. any other issue.

- We recognise the importance of the regime providing a minimum level of protection to all citizens. This approach is designed to offer everyone the protection needed for the most vulnerable. We would support more emphasis in the reporting of compliance being placed on relevant exposure (e.g. it may not be appropriate to report against annual means measured at the kerbside on road bridges).
- The time extension provisions in the current directive, though useful, have not addressed the fundamental reasons behind why these have been necessary and have highlighted the administrative burdens associated with the air quality plans provisions. Where the main reason for non-compliance is underperformance of EU measures or transboundary pollution, scope for Member State action is very limited. There is discussion within the UNECE Gothenburg Protocol revision, in relation to national emission ceilings, regarding the development and use of inventory adjustment measures to ensure that changes in scientific knowledge and the real world performance of

intervention measures can be taken into account in compliance assessment. This discussion should extend to the areas of EU emissions ceiling controls and ambient concentrations and limits.

- The EU is the very smallest geographical level at which controls of ozone precursors might be expected to have any great impact on ozone concentrations. We query the value of the requirements in the air quality directive for mitigating measures to be taken in relation to ozone as this effectively duplicates the provisions of the NECD.
- Scope for simplification should be explored so we focus on those standards which drive action where the greatest health benefits are to be gained. For example, consideration should be given to reducing the number of standards for PM₁₀ and PM_{2.5}. Differing compliance deadlines for key pollutants risks driving action on a pollutant by pollutant basis, at the expense of a more coherent approach to air quality and wider policy objectives e.g. on climate change mitigation, transport and sustainable economic growth. Where appropriate, links between this review and Commission initiatives should be made to ensure a more coherent environmental framework.

Please provide any additional information (e.g. links or references to internet pages, reports, studies):

4. Standards (1): the air quality standards set in Directives 2008/50/EC and 2004/107/EC

The air quality directives set a number of limit and target values (standards) to trigger action with the aim to protect human health and the environment. These standards were based on latest scientific evidence at the time (e.g. WHO guidelines) and considerations on the attainability. For PM_{2.5} an Exposure Concentration Obligation and National Exposure Reduction Target was provided for as complementary objectives to the standards. To assess compliance with the standards, additional elements were included such as the margin of tolerance, the possibility for time extensions and the possibility to discount for certain sources such as natural sources and winter sanding.

You are kindly requested to present your views on the individual objectives and standards as well as the other elements to assess compliance. Please also provide any additional information that you consider helpful for the review or for substantiating your views.

You may consider addressing in your reply in particular (note you do not have to reply to every issue):

1. the differences of setting limit values, target values or other objectives (and whether to apply these individually or in combination as for PM_{2.5});
2. the effectiveness of the derogations and flexibility provided in the directives;
3. the limit values for PM₁₀ and the objectives for PM_{2.5} and how they could be reviewed in order to make them more effective;
4. the effectiveness of the target values for heavy metals (including the provisions for mercury) and PAHs and its potential link to PM;
5. the effectiveness of the limit values for NO₂;
6. the effectiveness of the target values for ozone;
7. the effectiveness of the limit values set to protect the environment;
8. any other issue.

- The type of standard (limit value, target value, exposure reduction), assessment criteria and attainment deadlines should reflect the health evidence, the sources of pollution and scope for control. Both PM₁₀ and PM_{2.5} contain a large secondary component which is controlled via the limits on emission sources such as Euro standards and the Industrial Emissions Directive. Another large portion (of PM₁₀ at least) comes from tyre and brake wear, for which the control options are minimal at best. Limit values seem most appropriate where there is a key threshold for effect, or to complement an effective exposure reduction approach.
- We would welcome a study of wider international comparisons and their implications for the EU policy framework, especially in relation to NO₂. For example, the USEPA review on NO₂ concluded that the evidence justified an hourly limit set at 203µg/m³ (measured as the 98th percentile) combined with the existing annual average of 107µg/m³. This is compared to the existing EU framework of an hourly limit of 200µg/m³ (measured as the 99.8th percentile) and a much more stringent annual average of 40µg/m³.
- We support the **exposure reduction approach** for PM_{2.5} as the most cost

effective means of achieving the significant health benefits available but the % reduction possibilities will need to be reviewed against the range and uncertainty in measurement methodologies and outputs. We are continuing to gather information on these. On the basis of current evidence, in relation to both measurement and available measures, it would be premature to make the current national exposure reduction target an absolute target.

- Critical levels for environment protection have been useful in land use planning issues.
- In relation to the 4th Daughter Directive pollutants, target values are effective in enabling controls in line with best available techniques and avoiding disproportionate costs. We would not support a move to limit values for these pollutants.

Please provide any additional information (e.g. links or references to internet pages, reports, studies):

USEPA Review on NO₂:

<http://www.epa.gov/air/nitrogenoxides/actions.html#jan10>

4. Standards (2): other national air quality standards

Please list any additional air quality objectives or standards set at national level other than those set in Directives 2008/50/EC and 2005/107/EC that you recommend for consideration in the review.

If appropriate, please clarify these and provide a link or reference to a full description.

Please give your reply here...

Please provide any additional information (e.g. links or references to internet pages, reports, studies):

Please give your reply here...

5. Assessment (1)

The main objective of the assessment is to cost-effectively obtain robust information of air pollution levels and sources throughout the territory of Member States. Assessment under the directives is based on mandatory measurements and voluntary model computations. Station density requirements depend on the air quality levels, population and area in zones and there are provisions regarding the type of stations. In relation to ozone, also measurements of precursors need to be done. The directives give provisions on measurement techniques. They also leave a

considerable freedom in designing the network and in combining the measurement results with model calculations.

You are kindly requested to present your views on the provisions on assessment in the directives.

Please also provide any additional information that you consider helpful for the review or for substantiating your views.

You may consider addressing in your reply in particular (note you do not have to reply to every issue):

1. the cost-efficiency of the general approach for assessment;
2. the provisions on station density;
3. needs to update provisions on measurement techniques;
4. the provisions on assessment by modelling;
5. possibilities to improve the assessment of air pollution levels and deposition under Directive 2004/107/EC;
6. the differences between the assessment methodologies in Member States and resulting differences in the need to take action;
7. a possible role for satellite data;
8. any other issue.

- The EU legal framework must retain flexibility for Member States but be robust against differences in assessment approaches across Member States. A consistent approach is important to enable comparison of air quality at a European level. This applies to emission inventory compilation as well as ambient air quality assessment. It must also be robust in recognising the limitations in assessment regimes, especially at a very local level.
- The current framework is very prescriptive and consideration could be given to simplifying this and making greater use of guidance in future. Areas that could be covered in guidance include the approaches to calculation of the number of stations required and how to site them, as set out in Annex III and V of the Directive.
- We appreciate the value of the zonal approach in assessing and reporting on air quality. However, it fails to differentiate between very localised exceedences and large scale non-compliance. A move to reporting based on defining the actual area of exceedence using a model based approach could be considered. In our opinion this could significantly assist with public communications on air quality.
- We support further encouragement and use of modelling as an assessment tool, to allow greater geographical coverage, although we must recognise the significant uncertainties associated with modelling and the issue of within and between Member State consistency. However, the vastly higher spatial coverage allowed by the use of modelling underlines its value in identifying areas of poor air quality.
- Consideration should be given to compliance assessment reporting (at least for annual averages) on the basis of a 3 year rolling average in order to reduce

fluctuations due to weather conditions. This approach is extensively used by the USEPA, and is being used for the Average Exposure Indicator (AEI) for PM_{2.5}. For some pollutants, such as carbon monoxide and lead, it may be possible to move to less frequent reporting or reporting by exception.

- As recently demonstrated in the context of the European Pollutant Release and Transfer Register, satellite data can provide a means of checking emissions inventories, diffuse emission sources and shipping. Further development of such tools is to be encouraged, although there should be no question making their use mandatory.
- There are numerous CEN standards which have been or are in the process of being updated. These should be brought into the revised Directive when they are completed. At the same time it must be recognised that Member States will have invested heavily in techniques in line with the old standards and will need to be given suitable provisions and time to adapt to any changes, ensuring there is no disproportionate financial burden.
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Please provide any additional information (e.g. links or references to internet pages, reports, studies):

US Environmental Protection Agency – Air and Radiation:
<http://www.epa.gov/air/>

5. Assessment (2)

Please provide estimates of annual costs for a monitoring station (marginal costs of one additional station in an existing network, including personal costs and five year depreciation of investment costs).

a. Annual marginal costs of an urban background station for PM (automatic method):

Set up

Capital	£
Housing	6500
PM10	10000
Site prep/plinth/power/telemetry	2000
Commissioning and installation	3000
Site selection	15000
	36500

Annual

Programme	£
Quality Assurance / Quality Control and audits	5000
Site management	5000
Data gathering and ratification	7000
Maintenance by Equipment Support Unit	3000
Site Visits by Local Site Operators	3000

Consumables

1000

24000

b. Annual marginal costs of a remote background station for heavy metals and PAH:

The costs of measuring metals including mercury and PAHs in air and rain at the background sites in the UK average £49,000 (€56,000) which consists of approximately £5,500 (€6,500) for depreciation of the equipment costs over five years and £43,500 (€50,000) for the running costs including analysis and deposition monitoring. These costs include metals and PAHs not listed in the directive but the marginal cost for the extra compounds is small.

Mercury speciation monitoring (continuous Hg vapour, Reactive Gaseous Mercury and particulate Hg) is an additional £49,000 (€56,000). This consists of £22,000 (€25,000) on depreciation for the equipment as above and a running cost of £27,000 (€31,000) as recommended in the current directive.

6. Air quality management in Member States

The Air Quality Directive 2008/50/EC requires Member States to take action when standards are exceeded or at risk to be exceeded. Provisions for two type of actions are given: air quality plans and short term action plans. Given these provisions, it is up to Member States and the regional and local authorities to choose the appropriate and effective combination of measures.

You are kindly requested to present your views on the provisions on air quality management in the directives. Please also provide any additional information that you consider helpful for the review or for substantiating your views.

You may consider addressing in your reply in particular (note you do not have to reply to every issue):

1. the effectiveness of the provisions on air quality plans;
2. the effectiveness of provisions in relation to contributions by transboundary air pollution;
3. synergies/antagonisms in air quality plans with climate change policies;
4. the effectiveness of provisions for short term action plans (note: only relevant for third countries and organisations, for EU Member States, a specific project is underway in parallel);
5. any other issue.

- Given the overriding obligations on Member States to meet the standards prescribed in the Directives, and compliance reporting arrangements, MS should have flexibility to approach air quality planning in a way that is most appropriate for their local and regional administrative arrangements, and for addressing the particular pollutant issues of concern. This may not always merit a zonal approach. Whilst reporting arrangements around air quality plans need to provide assurances to the Commission that appropriate arrangements are in place at MS level, the requirements must be proportionate and administrative burdens minimised. .

- For agglomeration zones additional time to meet the NO₂ limits should be based on a common understanding of available and proportionate measures. This would be best achieved through a more regular process of workshops/informal exchanges as opposed to prescriptive requirements within air quality plans.
- Where short term exceedences are due to transboundary pollution episodes, the focus for action should be on public information given the limited scope for action. Where exceedences are caused by industrial point sources, particularly those regulated under IPPC, there may be scope for short term action. However, in towns and cities where there are more diffuse sources there is no evidence to demonstrate that short term plans can be effective. In these cases, longer term local measures can be important. We have responded to the separate Commission questionnaire on short term action plans.
- Air quality plan provisions should recognise the limitations of assessment regimes and challenges in quantifying impacts of very local measures, e.g. actions promoting greater cycling or use of public transport.

Please provide any additional information (e.g. links or references to internet pages, reports, studies):

Please give your reply here...

7. Public information and dissemination

The directives require Member States to provide air quality data, information on health risks and air quality plans to the public. In several Member States, regions and cities an Air Quality Index is being used for informing the public in a very simple way about the quality of the air of the current and next few days. The index encompasses health relevant pollutants and is usually divided in ranges with colour codes or symbols. Each range is associated with a standard health advice to the public.

You are kindly requested to present your views on the provisions on public information and dissemination in the directives. Please also provide any additional information that you consider helpful for the review or for substantiating your views.

You may consider addressing in your reply in particular (note you do not have to reply to every issue):

1. the effectiveness of the provisions for public information;
2. further harmonisation of public information, e.g. introducing a common Air Quality Index;
3. any other issue.

- Public information and dissemination provisions are important. Some scope for simplification and consolidation between what is done at EEA and MS level. This also highlights the limitations of the “Zones in Exceedence” approach as

a communication tool.

- The UK uses an Air Quality Index (AQI) to communicate information to the public about real-time and forecast levels of outdoor air pollution. Air quality information is reported in terms of the AQI and provides warning of potentially health-damaging air pollution events. The UK would prefer to use its own AQI rather than a common EU AQI. The UK is currently considering revising its AQI, based on a report by the Committee on the Medical Effects of Air Pollution (COMEAP). This in turn drew on research into the perceptions and needs of members of the public around air quality messaging.

Please provide any additional information (e.g. links or references to internet pages, reports, studies):

Review of the UK Air Quality Index (COMEAP, 2011):

<http://www.comeap.org.uk/documents/130-review-of-the-uk-air-quality-index.html>

UK-AIR: Air Information Resource:

<http://uk-air.defra.gov.uk/>

Air Pollution in the UK report:

<http://uk-air.defra.gov.uk/library/annualreport/>

8. Governance

The air quality directives constitute a common policy framework for EU Member States to reduce harmful effects of air pollution. It aims to establish a level playing field by setting uniform air quality standards while leaving flexibility at the national level in choosing appropriate measures where needed.

You are kindly requested to present your views on the provisions on governance related issues in the directives. Please also provide any additional information that you consider helpful for the review or for substantiating your views.

You may consider addressing in your reply in particular (note you do not have to reply to every issue):

1. any barriers to fully implement effective measures;
2. the role of the public in setting up air quality plans;
3. the administrative burden within Member States in relation to the protection provided by the directives:
 - a. for air quality monitoring and assessment;
 - b. for reporting;
 - c. for developing air quality plans;
 - d. for implementing air quality plans.
4. the distribution of obligations under EU legislation and national (and where appropriate regional and local) responsibilities (subsidiarity);
5. any other issue.

- It is important that the EU legal framework respects principles of subsidiarity, focusing on where action at EU level is most appropriate and adds most value in terms of environmental and health outcomes. Transboundary air pollution must be addressed at EU and wider international levels.

Please provide any additional information (e.g. links or references to internet pages, reports, studies):

9. Scientific and technological innovations

New scientific and technological developments may open possibilities for improving legislation on air quality. These developments may occur in various fields, e.g. better measurement techniques and modelling methods, new insight in harmful effects to health and environment, new technologies in air pollution abatement, better prognoses of air pollution.

You are kindly requested to present your views on scientific and technological developments relevant for the review of the directives and your ideas on how they could be taken into account. Please also provide any additional information that you consider helpful for the review or for substantiating your views.

You may consider addressing in your reply in particular (note you do not have to reply for every field):

1. air quality assessment technology (measurement, modelling);
2. health impacts of air pollution;
3. harmful effects of air pollution on vegetation and ecosystems;
4. innovation potential of abatement measures for air pollution sources;
5. expected trends in future air pollution;
6. any other field.

- In a highly prescriptive system, there is little incentive for scientific and technical innovation. For example, our monitoring techniques are prescribed and deviation from those incurs a great deal of research and assessment simply to validate their use. However, existing instrumentation is generally appropriate for use in assessing compliance with Directives with proven equipment better able to meet the data capture and data quality objectives.
- A coordinated approach to semi established research monitoring for policy support applications through data sharing, workshops, conferences etc could be useful. There are other areas separate to compliance assessment which are worth exploring to provide useful data in a research capacity. This could include other measurable particle-related parameters. Remote sensing data, useful for measuring on road emissions and for defining vehicle fleet and personal exposure monitoring, is a fast developing area with a very different approach.
- There have been several advances emerging in vehicle retrofit technologies, especially for NO_x retrofit and how this could combine with PM control

devices. There is still more development to come in this area to achieve practical and effective solutions with acceptable fuel/secondary pollutant penalties. The JRC should be encouraged to pull this together and take a coordinating role at the EU level, particularly for NO₂ and NO_x in combination with PM₁₀.

- Defra is currently running a modelling intercomparison exercise for atmospheric dispersion models looking at three modelling areas; urban, regional transboundary (ozone) and deposition modelling. The exercise provides access to model capability and innovation and enables Defra to collect details on the range and limits of model performance. The exercise has created an ongoing forum for modellers to discuss and evaluate models within a technical community. Participants range from researchers, practitioners and consultants. The exercise is an inclusive process, open to all, not just Defra contractors. Defra would be interested in the results of the Air Quality Model Evaluation International Initiative (AQMEII) supported by JRC.

Please provide any additional information (e.g. links or references to internet pages, reports, studies):

Phase One of the modelling intercomparison exercise is now complete and the reports have been published and can be viewed here:

Urban - http://uk-air.defra.gov.uk/library/reports?report_id=654

Transboundary - http://uk-air.defra.gov.uk/library/reports?report_id=653

Deposition - http://uk-air.defra.gov.uk/library/reports?report_id=652

10. Your most important issues

Article 32 of 2008/50/EC and Article 8 of 2004/107/EC give a minimum list of issues for the Commission to consider in the review of these directives. Other issues may also be important for the review.

You are kindly requested to present your views – based on your views expressed above or other considerations – on the most important issues for the review of the directives.

- It is important that the Review explores **further scope for reducing negative health and environmental impacts** of air pollution in the context of sustainable development, taking account of the costs and feasibility of additional actions. There have been significant improvements in air quality in recent years, and we expect further emission reductions in the future from action to meet climate change targets and implementation of key directives such as the Industrial Emissions Directive. Where EU standards are set, they must be supported by well targeted measures and Member States should only be held responsible for matters that they are able to control.

- It is important to reduce ambient levels of NO₂ and we are pursuing all practical and effective means of achieving full compliance. Our current assessment is that this may not be reached until after 2020 in London and other major cities. This is in common with many other Member States, a key reason being that EU road vehicle exhaust emission standards are underperforming in terms of reducing emissions of oxides of nitrogen under real world driving conditions. It is important that resources are targeted on those health standards driving the most significant health outcomes. For example, in the UK we are exploring the feasibility of low emissions zones as one of the most cost effective means of reducing ambient concentrations of NO₂ in our major cities and towns. However, based on the existing evidence on the social cost of air pollution our modelling suggests this proposal could impose a net social cost in the region of £180 million. Given this and the compliance challenges being faced, we think the time is right to **look again at the interpretation of health evidence for NO₂ into the legal framework and the approach to controlling this pollutant**, taking into account other international standards and frameworks (e.g. USEPA).
- **Opportunities for simplification and reduction of cost and administrative burdens need to be investigated** in line with the Commission's communication on smart regulation. Where there are standards in the directives which are now largely met or which do not drive action (for example, the limit value for carbon monoxide), provisions associated with assessment and reporting could be minimised. In relation to standards we would like to explore scope for consolidation. For example, the evidence around particulate matter suggests that the greatest public health impact results from long term exposure (as reflected in annual average values and exposure reduction targets). Evidence around NO₂ impacts is stronger for short term than long term effects (i.e. reflected by the hourly limit value). There may also be opportunities for simplification around the air quality plans provisions.

Please provide any additional information (e.g. links or references to internet pages, reports, studies):

- Impact Assessment: A Low Emissions Zone framework for inclusion in air quality plans for compliance with the EU limit value for NO₂

<http://www.archive.defra.gov.uk/environment/quality/air/airquality/docs/ia-no2.pdf>

The quantifiable health benefits are in the region of £100m, while the implementation costs are £280m.

- COMEAP mortality report, 2010

<http://www.comeap.org.uk/documents/reports/128-the-mortality-effects-of-long-term-exposure-to-particulate-air-pollution-in-the-uk.html>

The Committee on the Medical Effects of Air Pollutants (COMEAP) published in 2010 its assessment of the effects on mortality of long-term exposure to particulate air pollution in the UK.

- COMEAP asthma statement, 2010

<http://comeap.org.uk/component/content/article/28-page-linking/118-asthma-statement.html>

The Committee on the Medical Effects of Air Pollutants (COMEAP) published in 2010 a statement 'Does outdoor air pollution cause asthma?'

- NO₂ health evidence workshop report, 2011

<http://www.hpa.org.uk/Publications/Radiation/CRCEScientificAndTechnicalReportSeries/HPACRCE026/>

The workshop, commissioned by the Department of Health, brought together a group of experts including air quality scientists and policy makers to discuss the evidence for potential adverse health effects of NO₂. The difficult questions posed were not answered with certainty. However, a number of important conclusions were reached and a series of recommendations for research have been made. This report, published by the Health Protection Agency, provides detail of the workshop including a note of key discussion points and research recommendations.

- Trends in NO_x and NO₂ emissions and ambient measurements in the UK, 2011

http://uk-air.defra.gov.uk/library/reports?report_id=673

The report summarises the main findings from a research project to investigate why recent concentrations of NO_x and NO₂ in the UK have not decreased as anticipated. The report analysed ambient measurement and road transport emission estimates, including those gained from vehicle remote sensing data, in order to draw a number of important conclusions about the real world performance of a number vehicle types. Most significantly, the report concluded that for diesel cars/vans the data suggested there had been little change in total NO_x emissions over the past 15 years or so despite the implementation of successive Euro standards and that selective catalytic reduction (SCR) used on HGVs is shown to be ineffective under urban-type (slow speed, low engine temperature) conditions.

- The Air Quality Expert Group (AQEG) reports

<http://www.defra.gov.uk/environment/quality/air/air-quality/committees/aqeg/publish/>

AQEG is currently working on a report on the pollutant PM_{2.5}, due to be published at the end of 2011. The report discusses the evidence base for PM_{2.5} in the UK. It particularly looks and asks the questions about the robustness of that evidence base for making future policy decisions in respect of PM_{2.5} in the UK context. It analyses the evidence base in respect of the key aspects of PM_{2.5} such as PM_{2.5} measurement, the composition and current concentrations of PM_{2.5} across the UK as well as the sources

emissions and receptor modelling for PM_{2.5}. Finally, the report looks at the modelling of PM_{2.5} and what we can say about future predictions of the fine particulate phase. The report concludes with an assessment of the key uncertainties and gaps in the evidence base that require action.

- The Review of Transboundary Air Pollution (RoTAP)

The Review of Transboundary Air Pollution is being carried out by the Centre for Ecology and Hydrology on behalf of Defra and seeks to provide a scientific review of the available evidence on emissions, concentrations, deposition and effects of transboundary air pollutants in the UK. It is expected to be published later in 2011.

- ClearfLo

<http://www.clearflo.ac.uk/>

The ClearfLo (Clean Air for London) Project is a collaborative scientific project involving [several academic institutions](#) in the UK, to set up air pollution monitoring sites alongside meteorological measurements to investigate boundary layer pollution across London. The ambition of ClearfLo is to provide long-term integrated measurements of the meteorology, composition and particulate loading of London's urban atmosphere, made at street level and at elevated sites, complemented by modelling to improve predictive capability for air quality.

- Feasibility study into technical issues relating to retrofitting of NOx abatement equipment onto heavy goods vehicles, 2011

http://uk-air.defra.gov.uk/reports/cat09/1107211124_Draft_for_Comment_LEZ_Feasibility_Study_July_2011.pdf

A draft report has recently been published setting out the current evidence position with regards to technologies for NOx retrofit for HDVs and their likely effectiveness and costs, and the options for enforcement and administration of a national certification scheme for low emission zones. The key evidence gaps are identified, many of which are barriers to progress in this area in the UK and for other Member States.

11. Your own involvement in the review process

For an effective review of the air quality directives intensive stakeholder involvement is indispensable. The Commission has established the *Stakeholder Expert Group on the Review of the EU Air Policy* to provide direct support in the review process. Your country / organisation has been invited to become a member of this group.

You are kindly requested to present any further views on the possible involvement of your country / organisation in the review of the directives or any ideas on how you or others could contribute to the review process.

The UK would be interested in working with the Commission and participating in or hosting seminars on particular topics and issues identified in this response to explore

current evidence and policy options for improving the legal framework for air quality and protecting human health and the environment. Of particular interest are:

1. The exposure reduction approach for PM_{2.5}: the current provisions are giving rise to a number of implementation challenges. These need to be explored to help build confidence in the concept and address the questions raised in Article 32 of the Directive. Issues range from obtaining the necessary data capture rates and the level of uncertainty in measurement versus the absolute concentration change needed, through to the practical aspects of implementation including availability of measures and the role of national, regional and local measures.
2. NO₂ provisions: there would be value in an in depth analysis of how well the current provisions reflect the health evidence and what adjustments may be appropriate to take account of this and the various factors contributing to the compliance challenges facing many MS especially in urban areas. .

Please provide any additional information (e.g. links or references to internet pages, reports, studies):

Please give your reply here...