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**TNO report**

**TNO-060-UT-2012-00716**

# Survey of views of stakeholders, experts and citizens on the review of the EU Air Policy Part II: Detailed results

| | |
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# Contents

# 1 Introduction

This document is the second part of the report on the survey of views of stakeholders, experts and citizens on the review of the EU Air Policy. The first part gives a description of the survey and the analysis of the replies and presents the main results. Part II gives more detailed results of the analysis for each of the three questionnaires used in the survey.

# 2 Comments of the Stakeholder Expert Group on the EU Air Policy Review

## 2.1 Introduction

This chapter gives a detailed overview of the replies given by members of the Stakeholders Expert Group on the Air Policy Review to the questionnaire on the Air Policy Review.

The tables in this report give summaries of the comments by stakeholders, arranged according to the clustering in issues presented in Part I of the report. The columns at the right hand side show the number of respondents that contributed to the issue or comment listed in the left column, distinguishing the following (sub)groups:

- All: All respondents (40 respondents),
- MS: Member States (13 respondents),
- BA: Business Associations (13 respondents),
- NGO: Environmental NGOs (5 respondents),
- OS: Other Stakeholders (9 respondents).

See Annex B of Part I of this report for a description of the methodology by which the tables were drawn up.

Replies to Question 1 about the identity of the respondent are not described below; Annex A of Part I of this report gives a list of the respondents.

Annex A explains the abbreviations and acronyms used in this chapter.

## 2.2 Text of the questionnaire for the SEG

### 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) | |
| **Contact Name** (in case of questions) | |
| **Telephone** | |
| **Email address** | |

**2. The Thematic Strategy on Air Pollution**

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.

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.

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

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…

**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.

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…

**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 $PM_{10}$ 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 $NO_2$;
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.

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…

**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.

| |
|---|
| 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 (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): |
| Please give your reply here… |
| b. Annual marginal costs of a remote background station for heavy metals and PAH: |
| Please give your reply here… |

| **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.<br><br>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.<br><br>You may consider addressing in your reply in particular (note you do not have to reply to every issue):<br>1. the effectiveness of the provisions on air quality plans;<br>2. the effectiveness of provisions in relation to contributions by transboundary air pollution;<br>3. synergies/antagonisms in air quality plans with climate change policies;<br>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);<br>5. any other issue. |
| 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… |

| **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.<br><br>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.<br><br>You may consider addressing in your reply in particular (note you do not have to reply to every issue):<br>1. the effectiveness of the provisions for public information;<br>2. further harmonisation of public information, e.g. introducing a common Air Quality Index;<br>3. any other issue. |
| 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… |

| **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.<br><br>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.<br><br>You may consider addressing in your reply in particular (note you do not have to reply to every issue):<br>1. any barriers to fully implement effective measures;<br>2. the role of the public in setting up air quality plans;<br>3. the administrative burden within Member States in relation to the protection provided by the directives:<br>a. for air quality monitoring and assessment;<br>b. for reporting;<br>c. for developing air quality plans;<br>d. for implementing air quality plans.<br>4. the distribution of obligations under EU legislation and national (and where appropriate regional and local) responsibilities (subsidiarity);<br>5. any other issue. |
| 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… |

| **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.<br><br>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.<br>You may consider addressing in your reply in particular (note you do not have to reply for every field):<br>1. air quality assessment technology (measurement, modelling);<br>2. health impacts of air pollution;<br>3. harmful effects of air pollution on vegetation and ecosystems;<br>4. innovation potential of abatement measures for air pollution sources;<br>5. expected trends in future air pollution;<br>6. any other field. |
| 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… |

| **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.<br><br>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. |
| For the Air Quality Directive 2008/50/EC: |
| Please give your reply here… |
| For the Fourth Daughter Directive 2004/107/EC: |
| 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… |

| **11. Your own involvement in the review process** |
|---|
| For an effective review of the air quality directives intensive stakeholder involvement is indispensible. 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.<br><br>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. |
| 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… |

## 2.3 Replies to the questionnaire for the SEG

### *2.3.1 Question 2: The Thematic Strategy on Air Pollution*

**Question 2. The Thematic Strategy on Air Pollution**

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.

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.

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

8. the adequacy of the air quality legislation in relation to the objectives of the Sixth Environmental Action Plan;
9. 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;
10. the coherence and synergy of the air quality standards with emission standards and ceilings;
11. the coherence and synergy of EU air pollution policies with other environmental policies, such as policies on climate change, noise, biodiversity;
12. the coherence and synergy of EU air pollution policies with sectoral policies, in particular regarding transport, energy and agriculture;
13. the coherence and synergy of EU air pollution policies with international policies;
14. any other issue.

| Issues regarding the Thematic Strategy on Air Pollution | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| **1. More coherence of EU emission reductions and air quality standards is needed (see also Issue 2).** | 27 | 10 | 7 | 5 | 5 |
| Meeting AQ standards depends on EU emission reductions. | 1 | | | | 1 |
| More coherence of emission reductions and AQD deadlines is needed. | 1 | 1 | | | |
| Harmonise the timelines of sectoral directives and AQ target years. | 3 | 2 | | | 1 |
| Improve the coherence of emission and AQ standards: regulate the same species for PM and NO2. | 1 | 1 | | | |
| Make the revision fully consistent with provisions in the IED and CLTRAP. | 1 | | 1 | | |
| Coherence of AQD, NECD and sectoral directives is essential for the TSAP. | 1 | | | 1 | |
| Sectoral standards are essential to achieve ceilings. | 1 | | | | 1 |
| Take the implementation time for emission standards into account in timetable of AQ standards. | 1 | | | | 1 |
| Shift the key focus of AQ policy to emission measures; local/regional action can only be restrictive. | 1 | | | | 1 |
| Postponement of NECD revision leaves a gap in achieving the targets. | 2 | 2 | | | |
| The 6th Environmental Action Plan has poorly delivered through the NECD, resulting in | 1 | 1 | | | |

| Issues regarding the Thematic Strategy on Air Pollution | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| too much transboundary pollution. | | | | | |
| The postponement of the NECD revision contradicts the 6th Environmental Action Plan and has severe health consequences. | 1 | | | 1 | |
| The NECD delay is problematic, background concentrations should be reduced. | 2 | | | | 2 |
| The main weakness is uncoordinated implementation of emission and AQ standards. | 1 | 1 | | | |
| Particle traps have increased NO2 emissions by vehicles. | 1 | | | | 1 |
| AQ standards cannot be achieved with current sector emission standards. | 1 | | | | 1 |
| The NECD ceilings are insufficient for meeting AQ standards. | 1 | 1 | | | |
| The mismatch between EU AQ standards and EU emission standards is growing. | 1 | 1 | | | |
| The coherence with the NECD is insufficient. | 1 | | 1 | | |
| It is unacceptable that the NECD doesn't regulate PM2.5, this contradicts local responsibilities. | 3 | | | 3 | |
| The timing of sectoral directives is too late to achieve the AQ standards. | 1 | 1 | | | |
| Particle filters became too late mandatory for meeting the PM standard. | 1 | 1 | | | |
| NOx diesel emissions decrease too late. | 1 | 1 | | | |
| Consider setting standards for NO2 by road transport. | 1 | | | | 1 |
| Set standards for NO2 by road transport. | 2 | | | | 2 |
| To improve synergy, focus on sectoral emissions with strongest impact on AQ and exposure. | 1 | 1 | | | |
| EURO standards need to be strengthened and reflect real world emissions | 2 | | | 2 | |
| Assessment of changes brought by real-world emissions of vehicles is useful. | 1 | | 1 | | |
| AQ standards need to take the effectiveness of vehicle emission standards into account. | 1 | | | | 1 |
| Take the inconsistency between emission and AQ standards and uncertainties into account. | 1 | 1 | | | |
| The coherence of AQ and emission standards is not good because RAINS/GAINS is not good at determining reductions needed to meet LVs. | 2 | | 2 | | |
| Improve the coherence with emission standards, considering real world emissions. | 1 | 1 | | | |
| Real world emissions deviate from EURO standards, ensure that new standards are realistic. | 5 | 1 | | 2 | 2 |
| Real world emissions are much higher than the EURO standards. | 1 | | | | 1 |
| Make road vehicle emission tests/ test cycles realistic. | 4 | | | 2 | 2 |
| Improve the synergy of policy tools, in particular of AQD and NECD. | 1 | 1 | | | |
| Find possibilities for better coherence and synergy between AQ and emission standards. | 1 | 1 | | | |
| The AQD and the 6th Environmental Action Plan don't relate to the economic depression. | 1 | 1 | | | |
| If projections on which AQ standards were based are incorrect, the standards or the exceedance assessment need adaption. | 1 | 1 | | | |
| Compliance with AQ standards strongly depends on success of sectoral directives, so fining/infringement is questionable. | 1 | 1 | | | |
| Compliance assessment should take transboundary air pollution into account. | 1 | | | | 1 |
| The ceilings setting should reflect the uncertainties. | 1 | 1 | | | |
| Flexibility in emission ceilings is needed to account for incorrect assumptions. | 1 | | 1 | | |
| Develop alternative scenarios for the case of failure of climate change policies. | 1 | | 1 | | |
| Sensitivity studies regarding uncertainties in energy scenarios are needed in EU AQ | 1 | 1 | | | |

| Issues regarding the Thematic Strategy on Air Pollution | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| projections. | | | | | |
| Test policies for uncertainties and robustness under various economic scenarios. | 1 | | 1 | | |
| | | | | | |
| **2. Coherence of EU legislation is important (see also Issue 1).** | 20 | 6 | 5 | 2 | 7 |
| Avoid inconsistent legislation, e.g. Emission Trading conflicts with AQ standards, this adds uncertainty. | 1 | | 1 | | |
| New market-based instruments, like Emission Trading Scheme, are disproportionate, add complexity and regulatory uncertainty. | 2 | | 2 | | |
| Take related legislation into account in the Air Policy Review. | 1 | | | | 1 |
| Enhance sector integration. | 1 | 1 | | | |
| Consultation with experts on sectoral and product policies is needed. | 1 | 1 | | | |
| Introduce policy tools in unison and harmonise implementation schedules. | 1 | 1 | | | |
| Ceilings can provide important backstop in relation to other emission measures. | 1 | 1 | | | |
| Energy or climate change provisions should not conflict with the implementation of the IED. | 1 | | 1 | | |
| Avoid the administrative and other burdens caused by overlapping policies. | 1 | | 1 | | |
| Compatibility with existing and upcoming emission requirements is essential (examples are given) . | 1 | | 1 | | |
| Adding potential incompatible requirements will increase the burden. | 1 | | 1 | | |
| Make binding that permits take AQ standards and NECD ceilings into account. | 1 | | | 1 | |
| Insufficient coherence of legislation increases the burden (admin, monitoring, permitting, reporting) | 1 | | | | 1 |
| The NECD should include critical loads/levels as the AQD does. | 1 | | | | 1 |
| Harmonise with biodiversity/eutrophication objectives. | 1 | 1 | | | |
| There is insufficient integration with other policies, e.g. transport, Thematic Strategy on Urban Environment, biodiversity. | 1 | 1 | | | |
| Tighten the links between AQ, climate change and energy policies. | 1 | 1 | | | |
| Strengthen the links between AQ and climate change policy. | 1 | 1 | | | |
| Improve the coherence of attainment dates of AQ, emission and climate change control measures. | 1 | 1 | | | |
| Link noise and outdoor AQ policy. | 1 | | | 1 | |
| Link noise and AQ policy, focusing on sustainable transport policy. | 1 | | | 1 | |
| The potential for synergy with noise policy is very high, especially regarding traffic reduction. | 1 | | | | 1 |
| Consider integrating noise and AQ action plans to reduce the admin burden. | 1 | | | | 1 |
| It is vital that AQ policy is consistent with other fields: energy, climate change, resource-efficiency, transport, low-carbon. | 1 | | 1 | | |
| Coherence with water policies is urgently needed because of conflicts in permits. | 1 | | 1 | | |
| Coherence with other areas is important, notably climate change, noise, mobility, road safety. | 1 | | | | 1 |
| Relate transport policy to the NECD, e.g. consider transit traffic. | 1 | | | | 1 |
| Involve all sectors in the achievement of new targets including transport, agriculture and households. | 1 | | 1 | | |
| The TSAP needs to be updated to other EU strategies (including economic) and clean vehicle legislation. | 1 | 1 | | | |

| Issues regarding the Thematic Strategy on Air Pollution | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| Consider e.g. time limits, (transitional) derogations, flexibility clauses/mechanisms in IED when setting NECD ceilings. | 1 | | 1 | | |
| Link indoor and outdoor AQ policy. | 1 | | | 1 | |
| The Commission should clarify the relative importance of policy drivers, e.g. climate change being the main driver with AQ co-benefitting. | 1 | | 1 | | |
| The White Paper on Transport identifies measures that are positive in multiple environmental areas. | 1 | | | | 1 |
| A stronger commitment of sectors, especially transport, is needed to achieve AQ goals. | 2 | | | | 2 |
| Transport policies are very important for AQ. | 1 | | | | 1 |
| | | | | | |
| **3. Trade-offs with climate change policy must be taken into account.** | 19 | 5 | 5 | 3 | 6 |
| Climate change may cause particles to become more harmful. | 1 | | | 1 | |
| Measures such as end-of-pipe measures require more energy. | 1 | 1 | | | |
| More holistic development of environmental measures is needed, new AQ measures on internal combustion engines don't take higher energy consumption into account. | 1 | | 1 | | |
| Wider use of biofuel can have a negative impact on AQ. | 1 | | | | 1 |
| Wider use of biofuel can have a negative impact on AQ and also climate change by BC emissions, so consider a BC emission standard. | 1 | | | | 1 |
| Wider use of biofuel may increase PM and NOx emissions. | 1 | | | | 1 |
| Biomass burning may cause an increase of emissions. | 1 | 1 | | | |
| Reduced radiative cooling by aerosols may be a trade-off with climate change. | 1 | 1 | | | |
| Trade-off with climate change is important, e.g. maritime SO2 reduction may on balance be detrimental. | 1 | | 1 | | |
| Investigate trade-offs with climate change. | 9 | 2 | 3 | 2 | 2 |
| Climate change reduction may adversely affect air quality. | 1 | | | | 1 |
| Recognise risks to AQ of other policies, e.g. small-scale power and biomass burning. | 1 | 1 | | | |
| Investigate and optimise trade-offs with climate change. | 2 | | | 2 | |
| Address trade-offs (Carbon Capture and Storage and small-scale bio-energy). | 2 | | | 2 | |
| Climate change measures to limit vehicle fleet CO2 emission tend to increase emissions of NOx and PM. | 1 | | | | 1 |
| Promotion of diesels increases NOx and PM emissions. | 1 | | | | 1 |
| Promotion of diesels increases PM emissions. | 1 | | | | 1 |
| Increasing land use efficiency for climate change may unfavourably affect the dispersion of air pollution. | 1 | | | | 1 |
| Small scale energy production and biomass burning can cause more air pollution. | 5 | 2 | 1 | | 2 |
| Small scale energy production and biomass burning can cause more air pollution and may increase climate forcing by black carbon. | 1 | | | | 1 |
| | | | | | |
| **4. Synergies with other policies are important, particularly regarding climate change.** | 19 | 7 | 2 | 5 | 5 |
| Consider/explore synergies with climate change to share costs. | 12 | 4 | 1 | 5 | 2 |
| Give more emphasis on synergetic measures (energy saving, solar/wind/water/ground energy). | 2 | 2 | | | |
| Energy saving is important for AQ. | 1 | 1 | | | |

| Issues regarding the Thematic Strategy on Air Pollution | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| Many AQ measures reduce greenhouse gasses as well (e.g. speed reduction). | 1 | 1 | | | |
| Climate change policy is in general in synergy with AQ policy. | 4 | 1 | | | 3 |
| Consider AQ policy contributions to climate change policy. | 1 | 1 | | | |
| Important synergies with climate change are energy saving, wind/solar/geothermal energy. | 3 | | | 2 | 1 |
| Important synergies with climate change are energy saving, wind/solar/geothermal energy, hydropower, decentral energy production, district heating. | 1 | | | | 1 |
| More ambitious climate change policy will bring massive health benefits due to cleaner air. | 1 | | | 1 | |
| Focus on short-lived climate forcers with health impact: BC, O3. | 2 | 1 | | 1 | |
| Reduction of short-lived climate forcers helps climate change mitigation. | 1 | 1 | | | |
| Priority should be given to BC reduction. | 1 | 1 | | | |
| The EU could consider giving priority to BC reduction because of the synergy with climate change. | 1 | | | | 1 |
| Give priority to BC and NOx (as O3 precursor) and take climate change benefits into account. | 1 | | | 1 | |
| Mitigation of short-lived climate forcers (BC, NOx, NMVOC, CH4 and CO) helps climate change policy. | 2 | | | | 2 |
| Reducing BC may be synergetic with climate change policy. | 1 | | | | 1 |
| Stimulate that local AQ plans take noise and other environmental areas into account. | 2 | | | 2 | |
| There are considerable synergies with energy policies, particularly energy efficiency. | 1 | 1 | | | |
| If applying the precautionary principle, take non-regret initiatives. | 1 | | 1 | | |
| Synergies with international developments are important. | 1 | | | | 1 |
| Structural changes in EU transport policies are needed, particularly for long distance goods transport. | 1 | 1 | | | |
| | | | | | |
| **5. Specific sources and sectors need to be addressed.** | 17 | 7 | 1 | 5 | 4 |
| Develop EU legislation for sectors not yet covered, particularly agriculture. | 1 | 1 | | | |
| A stronger commitment of sectors, especially agriculture, is needed to achieve the AQ goals. | 2 | | | | 2 |
| High attention for technical and structural changes in NH3 emissions in the CAP is needed. | 1 | 1 | | | |
| A LV for NH3 is desirable. | 2 | 2 | | | |
| To control N/NH3, policies integrated with CAP and broader policy fields are needed. | 1 | 1 | | | |
| Agricultural emissions of NH3 need further control. | 1 | | 1 | | |
| Strictly limit agricultural NH3 emissions. | 2 | | | 2 | |
| Strict emission standards for biomass burning in small units may be needed to prevent deterioration of AQ. | 1 | 1 | | | |
| Trade-offs in renewable energy, particularly biomass burning in households, should be considered. | 1 | 1 | | | |
| Better regulation of non-road mobile machinery is urgently needed; align this with standards for heavy duty vehicles. | 3 | | | 3 | |
| Align non-road mobile machinery standards with heavy duty vehicle standards. | 1 | | | | 1 |
| Promote retrofitting of existing non-road mobile machinery. | 1 | | | 1 | |
| Do not weaken emission standards for non-road mobile machinery. | 1 | | | | 1 |

| Issues regarding the Thematic Strategy on Air Pollution | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| For shipping, stricter standards and inclusion of all sea areas around Europe and NOx are needed. | 3 | | | 3 | |
| Fully transpose Annex VI of the MARPOL convention. | 1 | | | 1 | |
| Urgently consider an emission charge for maritime shipping. | 1 | | | 1 | |
| Take a pro-active role in developing reduction policies for black carbon by shipping. | 1 | | | 1 | |
| Better regulation of domestic burning is urgently needed. | 2 | | | 2 | |
| Develop EU legislation for sectors not yet covered, particularly small combustion. | 1 | 1 | | | |
| Small combustion installations may need more emphasis. | 1 | 1 | | | |
| Small scale combustion is the main reason of exceedances in the responding Member State. | 1 | 1 | | | |
| Consider regulating air pollution from hydraulic fracturing. | 1 | | | 1 | |
| Non-tailpipe emissions are harmful. | 1 | | | 1 | |
| Assess the health effects of biomass burning | 1 | | | 1 | |
| | | | | | |
| **6. The review and the integrated assessment should be thorough.** | 16 | 7 | 6 | 1 | 2 |
| There is no questioning of the AQD as long as it based on solid scientific data, but there are concerns (listed elsewhere). | 1 | | 1 | | |
| To judge synergy with climate change, more data are needed. | 1 | 1 | | | |
| Research is needed on interactions between the use of resources, climate change, biodiversity, food production. | 1 | | 1 | | |
| The scientific basis of policies is vital. | 2 | | | 1 | 1 |
| If product standards are assumed in IA scenarios, they should be set at EU level. | 1 | 1 | | | |
| Simulations of emissions and concentrations in the development of sectoral directives and AQ standards need to be carried out. | 1 | 1 | | | |
| Data on the steel industry used for the NECD were incorrect. | 1 | | 1 | | |
| Integrate the modelling of cost-effectiveness of climate change and AQ. | 1 | 1 | | | |
| The baseline coordination with climate change is good. | 1 | 1 | | | |
| Analyse the linking of the ambition levels of AQ with climate change policies. | 1 | 1 | | | |
| Reconcile EU scenarios with national projections and involve the industry. | 1 | | 1 | | |
| Aim to reflect national projections and underlying assumptions in baseline scenario. | 1 | 1 | | | |
| Compelling valuation of benefits is needed, in line with other policies such as biodiversity. | 1 | 1 | | | |
| The responding MS would like to discuss improving valuation methodologies. | 1 | 1 | | | |
| Cost-benefit analysis is feasible for health, but not suitable for ecological impacts. | 2 | | 2 | | |
| Differentiate the impact to exposure of source types better in integrated assessment modelling. | 1 | | 1 | | |
| For shadow prices and benefit estimates, use up-to-date and realistic data. | 1 | | 1 | | |
| An integrated approach towards the N cycle is still missing. | 1 | | | | 1 |
| An integrated view on the use and emission of nitrogen could be helpful. | 1 | 1 | | | |
| The indirect effects of changing maritime fuel standards are important and should be taken into account. | 2 | | 2 | | |
| Take non-EU contributions better into account when setting AQ standards. | 1 | | 1 | | |
| Conduct a comprehensive analysis of data before asking opinions about revision. | 1 | 1 | | | |
| Base 2020 ceilings on the current baseline; further ambition should reflect wider | 1 | 1 | | | |

| Issues regarding the Thematic Strategy on Air Pollution | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| sustainability goals. | | | | | |
| | | | | | |
| **7. Further ambition is needed (see also Issues 9, 10, 11).** | 14 | 5 | 0 | 4 | 5 |
| Strive at more extensive ratification of the CLTRAP protocol. | 1 | 1 | | | |
| The EU must act on international fora (e.g. IMO, CLTRAP). | 2 | | | 2 | |
| The EU must ensure consistency of ambition in the revised CLTRAP protocol with EU emission legislation. | 2 | | | 2 | |
| Play a leading role in the revision of the CLTRAP protocol ensuring ambitious ceilings also for PM2.5. | 1 | | | 1 | |
| Focus on timely conclusion of the revision of the CLTRAP protocol, aiming at more ambition and broadening participation. | 3 | | | | 3 |
| More stringent CLTRAP ceilings could complement NECD ceilings. | 1 | | | | 1 |
| Ambitious updates are needed. | 1 | 1 | | | |
| Though all standards are (nearly) met, important impacts remain for health, biodiversity, eutrophication, acidification. | 1 | 1 | | | |
| All components of the TSAP must be implemented a.s.a.p. | 1 | 1 | | | |
| Support is given to further ambition. | 1 | 1 | | | |
| Despite some modernisation of legislation, EAP6 is contradicted: delay of the NECD update, lack of initiative in EURO standards, non-road mobile machinery, domestic emissions, agriculture, shipping. | 2 | | | 2 | |
| Major problems remain regarding health and environment. | 2 | | | 2 | |
| The objectives of the 6th Environmental Action Plan have not been attained, further action is needed. | 2 | | | 2 | |
| NECD revision during the air policy review is desirable. | 1 | | | | 1 |
| Below the LVs important health effects occur. | 3 | | | 1 | 2 |
| Not all TSAP actions have been taken. | 2 | | | | 2 |
| Further improvements are needed. | 1 | | | | 1 |
| Further reduce the emission standards or involve more source types in the reduction. | 1 | 1 | | | |
| To meet the objectives of TSAP, stricter implementation of existing legislation and stricter standards is needed. | 2 | | | 2 | |
| Revision of the NECD is urgent, particularly regarding PM and BC. | 4 | | | 4 | |
| EU policies are needed to make the air clean and no longer associated with significant health effects. | 1 | | | 1 | |
| | | | | | |
| **8. Current air policy/legislation is appropriate.** | 14 | 5 | 5 | 0 | 4 |
| The air quality legislation is adequate for now. | 1 | 1 | | | |
| The TSAP is in accordance with the 6th Environmental Action Plan. | 1 | 1 | | | |
| The AQD fits in the 6th Environmental Action Plan. | 1 | 1 | | | |
| Substantial improvements have been achieved under EU AQ legislation. | 1 | | 1 | | |
| There has been significant progress in improving AQ. | 1 | | 1 | | |
| Support is given to the IPPC/IED with its integrated approach and BREF development. | 1 | | 1 | | |
| The TSAP has provided a coherent framework for the EU. | 2 | | | | 2 |
| The TSAP and AQ legislation have helped minimising health risks of air pollution. | 1 | | | | 1 |
| The TSAP and AQ legislation have supported national, regional, local policy makers. | 1 | | | | 1 |

| Issues regarding the Thematic Strategy on Air Pollution | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| The combination of AQ standards, emission ceilings and sectoral legislation is in principle adequate. | 1 | 1 | | | |
| There is good synergy between the AQD, the NECD and the IED. | 1 | 1 | | | |
| There is coherence between the AQD, the NECD and the sectoral directives. | 1 | 1 | | | |
| There is synergy between the AQ standards and emission standards and ceilings. | 1 | 1 | | | |
| Support is given to the 6th Environmental Action Plan and the TSAP. | 1 | | | | 1 |
| The AQD and the NECD have a recognised balance of costs and benefits. | 2 | | 2 | | |
| | | | | | |
| **9. A good balance with other societal needs and cost-effectiveness is important (see also Issues 7, 10, 11).** | 10 | 2 | 8 | 0 | 0 |
| Support is given to the aspirations of the TSAP, more action is needed, but a balance of benefits and costs is needed. | 2 | | 2 | | |
| Focus on the balance of economic impact and environmental benefits. | 1 | | 1 | | |
| The NECD implementation should be balanced with the need of growth. | 1 | | 1 | | |
| Agriculture should contribute to environmental protection, but should not be impeded to produce food. | 2 | 2 | | | |
| The balance with other priorities such as farming and food security is a key challenge. | 1 | | 1 | | |
| Spend time and resources on finding integrated cost-effective reduction strategies. | 1 | | 1 | | |
| Further restrictions endanger life in the society of the responding MS. | 1 | 1 | | | |
| Cost-effectiveness and disproportional costs need to be taken into account. | 1 | | 1 | | |
| Integration and consistency of environmental, health and economic policies is needed. | 1 | | 1 | | |
| Ensure also for co-benefits that costs are fully accounted for. | 1 | | 1 | | |
| Provisions are needed for assessing proportionality and cost-effectiveness of burden sharing of economic sectors. | 1 | | 1 | | |
| Reductions for sectors should be proportional to their emissions. | 1 | | 1 | | |
| | | | | | |
| **10. Promote a level playing field, within the EU by harmonising implementation, and internationally (see also Issues 7, 9, 11).** | 10 | 4 | 6 | 0 | 0 |
| The review should focus on ensuring effective implementation. | 1 | 1 | | | |
| A level playing field is important: strict emission standards and enforcement of Best Available Technology. | 1 | 1 | | | |
| Accompany measures with international steps to promote a level playing field. | 1 | 1 | | | |
| Set the targets in the context of CLTRAP in order to promote an international level playing field and cost-effectiveness. | 1 | | 1 | | |
| Shipping emissions should be regulated internationally. | 2 | | 2 | | |
| Shipping emissions reductions should be regulated internationally. | 1 | | 1 | | |
| International harmonisation is very important for the RICE manufacturing industry (a list of non-EU regulators is given). | 1 | | 1 | | |
| Overly ambitious EU-only policy could harm the competiveness of the EU industry. | 1 | | 1 | | |
| The ambition of international leadership of EU is harmful to economy, producers will go abroad. | 1 | 1 | | | |
| Unintended evasive effects on cruising should be avoided | 1 | | 1 | | |
| | | | | | |
| **11. Set realistic objectives and aim at regulatory stability (see also Issues 7, 9, 10).** | 7 | 3 | 4 | 0 | 0 |

| Issues regarding the Thematic Strategy on Air Pollution | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| Ensure up to date and achievable standards. | 1 | 1 | | | |
| The attainment deadlines should reflect the viability of measures. | 1 | 1 | | | |
| Achievability is fundamental for standards, the ambition should not go beyond BAT. | 1 | | 1 | | |
| Ensure that changes are technical feasible (examples are given). | 1 | | 1 | | |
| Set realistic timetables and ensure regulatory certainty, so that unexpected changes don't render investment decisions suboptimal. | 1 | | 1 | | |
| Do not make major changes, regulatory stability is needed. | 1 | | 1 | | |
| Focus on supporting the current standards, instead of new or tighter standards, causing higher costs and admin burden. | 1 | 1 | | | |
| | | | | | |
| **12. Room for subsidiary action is needed.** | 5 | 2 | 2 | 0 | 1 |
| Encourage voluntary reductions. | 1 | | 1 | | |
| Provide room for regional/national action (subsidiarity). | 1 | | 1 | | |
| Trade-offs AQ and energy policies should be addressed at the national level. | 1 | 1 | | | |
| Harmonisation of access restriction schemes should not hamper local actions to improve AQ. | 1 | | | | 1 |
| For energy security and competitiveness, MS have the right to choose their fuel mix. | 1 | 1 | | | |
| | | | | | |
| **13. Various other comments on the Thematic Strategy on Air Pollution** | 29 | 8 | 9 | 5 | 7 |
| Derogations and exemptions contradict the 6th Environmental Action Plan and TSAP. | 3 | | | 3 | |
| Focus the provisions more on the polluter. | 1 | | 1 | | |
| A regular review is needed. | 1 | 1 | | | |
| The AQD is very important. | 1 | 1 | | | |
| AQD does not meet objective the 6th Environmental Action Plan, but is good step towards it. | 1 | 1 | | | |
| The oil and car industry are successful in clean technologies. | 1 | | 1 | | |
| Focus on specific remaining AQ concerns. | 1 | | 1 | | |
| The responding country has updated its AQ management policy, which is similar to TSAP. | 1 | | | | 1 |
| Tightened EU emission standards have been adopted by many other countries. | 2 | | | | 2 |
| The TSAP requires complex management at different governmental levels. | 1 | | | | 1 |
| Emission reductions are too slow to achieve the health benefits aimed at. | 2 | | 2 | | |
| Streamline the update of the AQ policy with the EU Structural Funds policy. | 1 | 1 | | | |
| Synergy with state aid and EU research is important. | 1 | 1 | | | |
| Harmonisation of low emission zones at the EU level would be useful. | 1 | 1 | | | |
| Establish an EU norm on measuring low volume PM emissions. | 1 | 1 | | | |
| Do not focus entirely on the synergy AQ and climate change. | 1 | | 1 | | |
| Local traffic data obtained under the noise directive can be useful for AQ assessment. | 1 | | | | 1 |
| More public transport and walking/cycling is better than technologically reducing biofuel emissions. | 1 | | | | 1 |
| EU support for electric vehicles following Transport White Paper is desirable. | 1 | 1 | | | |
| The EU air policies are coherent with transport and energy policies. | 1 | 1 | | | |
| The reduction of SO2 and NOx is incoherent with the increasing need to fertilise soils. | 1 | 1 | | | |
| Agriculture has worked hard on reducing NH3 emissions. | 1 | | 1 | | |

| Issues regarding the Thematic Strategy on Air Pollution | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| Avoid inflexible short-term measures. | 1 | | 1 | | |
| Policy should define the framework, markets should decide on the investments. | 1 | | 1 | | |
| Reduce brake wear in type approval provisions. | 1 | | | | 1 |
| Support the development of longer wearing tyres, linking AQ to tyre labelling. | 1 | | | | 1 |
| A lower ambition in CLTRAP than in the EU is acceptable. | 1 | 1 | | | |
| The Commission should urge the IMO to bring forward its study on fuel availability. | 2 | | 2 | | |
| If endorsed, include the flexibility mechanisms of the Gothenburg protocol in NECD. | 1 | | 1 | | |
| International harmonisation will spread cleaner technology and improve access to the international market. | 1 | | 1 | | |
| Develop an (additional) health indicator to help choosing the most effective measure. | 1 | 1 | | | |
| Coal-fired power is an acceptable energy source. | 1 | 1 | | | |
| MSs should work on national compliance strategies and reasonable revisions. | 1 | 1 | | | |
| The contribution of metals industry has become a small fraction. | 1 | | 1 | | |
| There are difficulties in fine PM measurements and in source attribution. | 1 | | 1 | | |
| "Cross-media effects". | 1 | | 1 | | |
| The EU AQ standards are far less strict than in many MSs and other areas in the world. | 2 | | | 1 | 1 |
| The EU standards conflict with recent scientific findings. | 2 | | | 1 | 1 |
| Consider the 10 Principles for Clean Air of the European Respiratory Society as basis for the review. | 1 | | | 1 | |
| PM and O3 are the most serious pollutants. | 1 | | | 1 | |
| Promote harmonisation of NOx and PM retrofitting technology for cars. | 1 | | | 1 | |
| ICAO has established a task group on non-volatile PM emissions. | 1 | | | 1 | |
| The responding stakeholder aims to support the review with scientific expertise. | 1 | | | | 1 |
| Cities have improved AQ by many measures (a list is given). | 1 | | | | 1 |
| In the responding MS many national measures taken, so reduction of transboundary AP is the best further option. | 1 | 1 | | | |
| Small countries have compliance problems because of transboundary air pollution. | 1 | | 1 | | |
| EU should give support, also financial, in sectoral measures (transport, small scale heating) | 1 | 1 | | | |

### *2.3.2 Question 3: The approach of the air quality directives*

**Question 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):

14. the overall conceptual approach of the air quality directives and the level of complexity of it;
15. the definition of a minimum level of protection for all citizens;
16. the concept of limit values for health that apply almost everywhere;
17. the role of real exposure in relation to limit values;
18. assessment through mandatory monitoring and voluntary modelling;
19. the focus of limit values on hotspots in relation to the protection of the population at large;
20. the effectiveness of target values to protect health;
21. possibilities for special protection of sensitive populations;
22. the effectiveness of the directives in triggering effective measures to protect health and the environment;
23. the effectiveness of the derogations and flexibility provided in the directives;
24. the possibility of including protection levels for additional pollutants in the air quality directives;
25. the concept to base compliance checking limit values on single years;
26. any other issue.

| Issues regarding the approach of the air quality directives | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| **1. Concepts and provisions of the AQ directives are appropriate.** | 23 | 10 | 4 | 5 | 4 |
| Provisions on voluntary modelling and mandatory measurements are currently adequate. | 1 | 1 | | | |
| The concept of EU-wide binding LVs is effective and should be strengthened. | 3 | | | 3 | |
| LVs are precise and measurable, hence practical and enforceable. | 3 | | | 3 | |
| LVs have a legal direct effect' and thus can be relied upon in every MS. | 3 | | | 3 | |
| The binding nature of LVs really forces authorities to take action. | 3 | | | 3 | |
| Binding standards are very effective, provided that they are enforced by the Commission. | 3 | | | 3 | |
| Binding LVs are effective, ensuring the right to clean air for every citizen. | 1 | | | 1 | |
| There doesn't seem to be an alternative to the approach of providing a minimum protection level. | 1 | 1 | | | |
| The current provisions on providing a minimum protection level are adequate. | 1 | 1 | | | |
| Providing a minimum level of protection is important; the approach is designed to offer everyone the protection needed for the vulnerable. | 1 | 1 | | | |

| Issues regarding the approach of the air quality directives | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| The overall conceptual approach is satisfactory. | 6 | 4 | 1 | | 1 |
| The overall conceptual approach is highly appropriate and should not be changed. | 1 | 1 | | | |
| The complexity is appropriate. | 5 | 5 | | | |
| The risk-based approach for prioritising assessment and control is excellent if the assessment is representative. | 1 | | 1 | | |
| The current focus of the LVs on hotspots is appropriate. | 1 | 1 | | | |
| The focus of LVs on hotspots is appropriate because local action plans are primarily effective at hotspots. | 1 | 1 | | | |
| The focus of LVs should be on hotspots, but not exclusively. | 1 | | | | 1 |
| Derogation procedures are cumbersome but justified. | 1 | 1 | | | |
| Possibilities for special protection of sensitive populations generally do not exist. | 1 | 1 | | | |
| Current provisions for the protection of sensitive populations are sufficient. | 1 | 1 | | | |
| More than awareness and information may not be needed for the protection of sensitive populations. | 1 | 1 | | | |
| Incorporation of an exposure related assessment seems neither feasible nor useful. | 1 | 1 | | | |
| It is doubtful whether LVs for real exposure are practical. | 1 | | | | 1 |
| The exposure orientation of assessment could possibly be improved, but don't make it too complex. | 1 | 1 | | | |
| The directives have been effective for public health and environment, particularly in combination with EU emission legislation. | 1 | 1 | | | |
| The provisions for requiring AQ action plans are effective. | 1 | 1 | | | |
| The flexibility provided in the directives is adequate. | 1 | 1 | | | |
| Flexibility is very important. | 1 | 1 | | | |
| The introduction of ERTs was an important innovation. | 2 | | | 1 | 1 |
| ERTs are useful for public health. | 1 | | | | 1 |
| The AEI and NERT are more effective than LVs. | 1 | 1 | | | |
| Combining the LVs with targets for the AEI is a good way forward. | 2 | 2 | | | |
| The AEI is valuable for improving the protection of population at large. | 1 | 1 | | | |
| Do not reduce the ambition level of the current standards. | 1 | 1 | | | |
| Keep LVs based on single years, to avoid complexity. | 1 | 1 | | | |
| Keep LVs based on single years, to avoid effectively weakening the LVs ("unused" exceedances can be used in the next year). | 1 | | | | 1 |
| LVs are effective in stimulating measures. | 1 | | | | 1 |
| LVs for health protection is a good concept. | 2 | | 1 | | 1 |
| LVs should apply everywhere, not only in big cities. | 1 | 1 | | | |
| There doesn't seem to be an alternative to LVs applying everywhere. | 1 | 1 | | | |
| LVs applying everywhere are easy to understand. | 1 | 1 | | | |
| The approach of LVs applying everywhere is appropriate. | 3 | 2 | | | 1 |
| Keep the LV concept as is, possibly with exposure related criteria. | 1 | 1 | | | |
| LVs applying everywhere provide the same right to every citizen, this is very important. | 3 | | | 3 | |
| More complexity due to more flexibility or emphasis on exposure could be justified. | 1 | 1 | | | |
| Protection of sensitive populations s relevant but should be left to MSs and not addressed in AQD. | 1 | 1 | | | |

| Issues regarding the approach of the air quality directives | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| AQ standards are important for health protection. | 2 | | 2 | | |
| TVs are a good alternative if LVs can't be introduced due to unacceptable costs. | 1 | 1 | | | |
| TV may be less efficient but are needed because of attainment difficulties. | 2 | 2 | | | |
| The TV concept is adequate. | 1 | 1 | | | |
| The AQ directives are valuable, but flexibility is needed where compliance is impossible. | 1 | 1 | | | |
| | | | | | |
| **2. Relate standards/provisions more to population exposure.** | 17 | 8 | 5 | 0 | 4 |
| Consider if standards can be improved to better represent real exposure. | 1 | 1 | | | |
| The role of indoor exposure should be investigated, this may be important for the impact of changes | 1 | | 1 | | |
| Studies on real exposure would be useful. | 1 | | | | 1 |
| Revise the criteria for station siting near highways; there is no fixed habitation within 10m. | 1 | | 1 | | |
| Take into account that concentrating transport on axes creates hotspots but reduces total exposure. | 1 | | | | 1 |
| Consider introducing an AEI and ERT for NO2. | 1 | 1 | | | |
| Focus on citizens and densely populated areas. | 1 | | | | 1 |
| For hotspots, TVs are more appropriate standards. | 1 | | 1 | | |
| There should be more emphasis in compliance reporting on relevant exposure. | 1 | 1 | | | |
| Urban background levels are more suitable for the focus of LVs than hotspot levels. | 1 | 1 | | | |
| Exceedance assessment should take into account that hotspot exceedances are hardly representative for real exposure. | 1 | 1 | | | |
| The focus on hotspots is not appropriate as it doesn't protect the population. | 1 | 1 | | | |
| The focus on hotspots is not ideal, but be cautious to exclude hotspots. | 1 | 1 | | | |
| Hotspot levels are not representative for population exposure. | 1 | | | | 1 |
| Explore possibilities to exclude locations without relevant exposure. | 1 | 1 | | | |
| LVs should apply where there is public exposure over a relevant time period. | 2 | | 2 | | |
| LVs should apply everywhere except where people do not spend a long time. | 2 | | | | 2 |
| Limit values that apply everywhere may lead to measures that do not effectively reduce exposure. | 2 | 2 | | | |
| LVs applying everywhere prevent driving down levels in the (more relevant) urban background. | 1 | 1 | | | |
| | | | | | |
| **3. Standards can be difficult to attain/beyond control of local/regional/national authorities.** | 11 | 5 | 2 | 0 | 4 |
| Flexibility is reasonable in case of long range transport of air pollution. | 1 | 1 | | | |
| The main reason for non-compliance is non-delivery of EU abatement measures. | 1 | 1 | | | |
| Further EU measures are needed to ensure compliance with LVs PM and NO2. | 1 | | 1 | | |
| Real world emissions of transport and non-road mobile machinery are higher than expected. | 1 | | | | 1 |
| Real world emissions of transport are higher than expected. | 1 | | | | 1 |
| Improve the EURO standards for NO2/NOx and PM. | 1 | | | | 1 |
| O3 (LTR, NO reduction) is beyond control of (smaller) MSs; reconsider the policy | 1 | 1 | | | |

| Issues regarding the approach of the air quality directives | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| implications of exceedance. | | | | | |
| For O3 only EU level measures are suitable, in particular the NECD ceilings. | 1 | 1 | | | |
| The PM10 LV is unattainable in almost any urban area, so reconsider the unrealistic LV. | 1 | | 1 | | |
| Reconsider the daily PM LV in view of its health relevance and withdraw it or increase the level. | 1 | | 1 | | |
| Reduce the supra-regional and national pollution burden to improve rural and urban background AQ. | 1 | | | | 1 |
| Authorities have limited options because sectoral measures are beyond reach for them. | 1 | | | | 1 |
| The directives have been relatively effective for national measures, but these should be accompanied by EU measures. | 1 | 1 | | | |
| In case of high background levels, reduction is difficult; support or flexibility is then needed. | 1 | 1 | | | |
| Support to cities with difficulties to meet the LVs is needed. | 1 | | | | 1 |
| As in CLTRAP, consider taking (non-)delivery of EU abatement measures into account in compliance assessment. | 1 | 1 | | | |
| Flexibility is desirable in case the expected EU emission reductions do not occur. | 2 | 2 | | | |
| The NECD lacks flexibility regarding new sources and unforeseen developments of emission factors. | 1 | 1 | | | |
| The lack of local control of remote contributions to AQ needs to be considered when setting LVs. | 1 | | 1 | | |
| The current binding standards are not attainable everywhere. | 1 | 1 | | | |
| Reconsider unattainable LVs that paralyse economy, especially the daily PM10 LV. | 1 | | 1 | | |
| | | | | | |
| **4. Consider standards for averages over several years or derogations for dealing with “extreme weather” years.** | 11 | 8 | 1 | 0 | 2 |
| Introduce multi-year standards or derogation for extreme years. | 1 | 1 | | | |
| Consider an option for MSs to ascribe exceedance to unfavourable meteorology. | 1 | 1 | | | |
| Consider derogations for years with unfavourable long range transport. | 2 | 1 | | | 1 |
| Consider requiring action only if exceedance occurs in two years. | 1 | 1 | | | |
| It is unclear why the multiyear averaging as for ozone does not apply to PM standards. | 1 | 1 | | | |
| Consider introducing multiyear standards. | 5 | 2 | 1 | | 2 |
| Multiyear (sliding 3-year) LVs seem more suitable. | 1 | 1 | | | |
| Multiyear compliance checking could be useful. | 1 | 1 | | | |
| A provision or guidance on dealing with extreme meteorological years is desirable. | 1 | 1 | | | |
| | | | | | |
| **5. The air quality directive/set of air quality standards is very complicated/can be simplified.** | 9 | 6 | 1 | 0 | 2 |
| The AQD is complicated. | 1 | 1 | | | |
| Consider withdrawing unnecessary standards (redundant or far above current levels) | 1 | 1 | | | |
| Withdraw standards for pollutants with low levels (SO2, CO and benzene); specify how/where to stop assessing these. | 1 | 1 | | | |
| The AQ directives are difficult to understand for public and experts. | 1 | 1 | | | |

| Issues regarding the approach of the air quality directives | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| Focus on the most important pollutants and standards. | 1 | | | | 1 |
| The AQ directives are far too complex. | 1 | 1 | | | |
| The set of PM2.5 standards is complicated. | 1 | 1 | | | |
| Set only one standard per pollutant. | 1 | 1 | | | |
| Consider reducing the number of standards, e.g. for PM10 and PM2.5. | 1 | 1 | | | |
| Consider setting a single LV for PM10 and PM2.5. | 1 | 1 | | | |
| The AQ directives are too complex; simplify where possible (pollutants, types and number of standards). | 1 | 1 | | | |
| The complex set of standards is difficult to communicate to public and decision makers. | 2 | | | | 2 |
| The concept of a number of day/hours allowed above a level is complex for the public and misleading. | 1 | | | | 1 |
| Reconsider provisions for PM10 and PM2.5 in light of correlation between these two. | 1 | | 1 | | |
| | | | | | |
| **6. Better and more uniform implementation in Member States is needed.** | 9 | 3 | 2 | 3 | 1 |
| A more defined effective sanctioning system for dealing with non-compliance should be developed. | 1 | 1 | | | |
| The review should focus on strengthening the binding nature of LVs and exposure reductions. | 3 | | | 3 | |
| The main weakness is the differences in implementation between MSs, this needs to be improved. | 1 | 1 | | | |
| Better assessment provisions are needed to improve uniformity in the identification of LV exceedance. | 1 | 1 | | | |
| Better siting of monitoring stations would give better information on exposure. | 1 | | | | 1 |
| Siting criteria (macro, micro) should be improved. | 2 | 1 | | | 1 |
| Compare the siting methodologies of MSs. | 2 | 1 | 1 | | |
| The representativeness of measurement data needs to be confirmed. | 1 | | 1 | | |
| Harmonise the chemical speciation methods for PM2.5. | 1 | 1 | | | |
| To ensure consistent implementation in MSs, improvements are needed in the assessment methodology, including siting, modelling and the assessment regimes. | 1 | 1 | | | |
| | | | | | |
| **7. Relate health protection standards better to the harmful constituents.** | 8 | 3 | 4 | 0 | 1 |
| PM10 or PM2.5 is not the right PM fraction for triggering the most effective measures. | 1 | 1 | | | |
| Scrutinise PM10, because some fractions have no health impact. | 1 | | 1 | | |
| Take into account that some PM2.5 fractions have no health impact. | 1 | | 1 | | |
| The estimates on health benefits of further reduction of SOx/NOx contributions to PM are dubious. | 1 | | 1 | | |
| Regulate EC and/or BC. | 1 | 1 | | | |
| Consider including other PM fractions, perhaps initially require only monitoring. | 1 | 1 | | | |
| Consider regulating finer PM fractions, in particular UFP. | 1 | 1 | | | |
| Consider requiring the monitoring of size fractioned PM or UFP at super sites. | 1 | 1 | | | |
| Consider regulating BC/EC and PNC, starting with more monitoring and further research. | 1 | | | | 1 |
| For NO2, with little health impact and poor delivery by EURO standards, the LVs could be turned into TVs. | 1 | 1 | | | |

| Issues regarding the approach of the air quality directives | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| The LV for NO2 as surrogate for other pollutants is poor legislation. | 2 | | 2 | | |
| | | | | | |
| **8. Flexibility should be kept.** | 8 | 3 | 3 | 0 | 2 |
| Extension of the derogation timetable will be needed. | 2 | 1 | 1 | | |
| Derogation and flexibility should be integral part of the directives, with the condition that proportional measures have been taken. | 1 | 1 | | | |
| Derogations are needed, mainly because of non-delivery by EU abatement measures. | 1 | 1 | | | |
| When all measures are being taken in a basin, exemption in case of exceedance is needed. | 1 | | 1 | | |
| Derogations and other flexibility are important and should be kept. | 2 | | 2 | | |
| Derogations for years with extreme meteorological conditions should be possible. | 1 | | | | 1 |
| Because attainability for PM2.5 in '15 and '20 is uncertain, derogation option should remain. | 2 | | | | 2 |
| Derogations because of landform, location, extreme meteorological conditions should be possible. | 1 | | | | 1 |
| | | | | | |
| **9. Aim at coherence with other policy areas.** | 8 | 1 | 4 | 0 | 3 |
| Compliance deadlines should be timed coherently with EURO standards. | 1 | | 1 | | |
| Aim at coherence of e.g. compliance deadlines between pollutants and wider policy objectives. | 1 | 1 | | | |
| There is a possible lack of coherence with other policy areas (e.g. transport). | 1 | | 1 | | |
| LVs should balance protection and economic/political drawbacks. | 2 | | 2 | | |
| The increase in diesel use because of climate change has a negative effect on AQ. | 1 | | 1 | | |
| AQ policy has not fully delivered due to i.a. the growth of transport, this should be addressed in transport policy. | 1 | | | | 1 |
| Review/revise the effectiveness of emission standards of IPPC and VOC Solvent Emissions Directives. | 1 | | | | 1 |
| Eutrophication is not solved; NH3 emission should be addressed in the CAP. | 2 | | | | 2 |
| | | | | | |
| **10. Consider a more important role for modelling (see also Issues 13, 15).** | 7 | 5 | 0 | 0 | 2 |
| Mandatory modelling will be better. | 1 | 1 | | | |
| Consider more important role of modelling | 1 | 1 | | | |
| Modelling of national background levels could be mandatory, but should be combined with monitoring. | 1 | 1 | | | |
| A more important role for modelling in addition to measuring could be considered if accompanied by technical provisions, guidance and data. | 1 | 1 | | | |
| Consider if modelling (of sufficient quality) can supplement or replace measurements. | 1 | | | | 1 |
| Improve the combination of monitoring and modelling. | 1 | 1 | | | |
| Consider improving modelling in combination with measuring. | 1 | 1 | | | |
| Modelling for assessing the spatial extent of pollution and for planning is recommended. | 1 | 1 | | | |
| Modelling is useful for forecasting scenarios. | 1 | | | | 1 |
| Modelling allows better assessment of population exposure. | 1 | | | | 1 |
| | | | | | |
| **11. Target values are not very effective/reconsider target values.** | 7 | 5 | 0 | 0 | 2 |

| Issues regarding the approach of the air quality directives | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| The implication of TVs is uncertain and difficult to implement. | 1 | 1 | | | |
| The role of TVs should be redefined more precisely. | 1 | 1 | | | |
| TVs should be planned to be turned in to LVs later. | 1 | 1 | | | |
| TVs are in principle effective but may not effectively trigger measures. | 1 | | | | 1 |
| TVs are weak, but give policy guidance, especially when they are known to become LVs later. | 1 | | | | 1 |
| In the responding MS, levels are below TVs, so there is no incentive for improving AQ (particularly regarding BaP). | 1 | 1 | | | |
| Reconsider if the TVs for pollutants that also have LVs are needed. | 1 | 1 | | | |
| A review of the effectiveness of TVs is needed. | 1 | 1 | | | |
| Instead of TVs, ambitious LVs together with derogation options would be better. | 1 | 1 | | | |
| | | | | | |
| **12. Align air quality standards with the WHO guidelines.** | 7 | 0 | 0 | 4 | 3 |
| Increase the percentages of the NERT targets for levels above the WHO guidelines. | 1 | | | | 1 |
| LVs have a strong health basis and should be strengthened and aligned with WHO guidelines. | 3 | | | 3 | |
| LVs should reflect the WHO guidelines. | 1 | | | 1 | |
| There is a need to move LVs to WHO guidelines. | 1 | | | | 1 |
| Relate the ERT approach to updated WHO guidelines. | 1 | | | | 1 |
| | | | | | |
| **13. Modelling should remain voluntary/supplementary (see also Issues 10, 15).** | 6 | 4 | 0 | 0 | 2 |
| Compliance assessment should not rely solely on modelling. | 1 | 1 | | | |
| It should be up to MSs whether to use models for compliance assessment or planning. | 1 | 1 | | | |
| Modelling should remain voluntary. | 4 | 2 | | | 2 |
| The basis for assessment is measuring, modelling should be supplementary. | 3 | 1 | | | 2 |
| Modelling is too advanced for new MSs. | 1 | 1 | | | |
| The differences between models used are too large. | 1 | 1 | | | |
| | | | | | |
| **14. A thorough review is needed** | 5 | 2 | 2 | 0 | 1 |
| A balance of costs and benefits of measures is needed, including a practical timetable. | 1 | | 1 | | |
| Comprehensive assessment (incl. socio-economic impact) of further decisions is needed. | 1 | 1 | | | |
| Do not take premature decisions. | 1 | | 1 | | |
| Consider further impact assessment and discussion of reduction options for BaP. | 1 | | | | 1 |
| Review the effectiveness and appropriateness of derogations. | 1 | 1 | | | |
| Review derogations for winter sanding and salting in view of negative health effects. | 1 | 1 | | | |
| Review AQ standards to ensure maximum effectiveness and incentive. | 1 | 1 | | | |
| Periodic review of standards and of good possibilities to tighten them is needed. | 1 | 1 | | | |
| Review how to better relate standards to local emissions. | 1 | 1 | | | |
| Base standards on solid research, taking real exposure into account, and use validated data. | 1 | | 1 | | |
| Review of attainable levels is important. | 1 | 1 | | | |
| The review of LVs should take available and up-to-date information into account. | 1 | | | | 1 |

| Issues regarding the approach of the air quality directives | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| | | | | | |
| **15. Clarify the role of modelling in compliance assessment (see also Issues 10, 13)** | 5 | 4 | 1 | 0 | 0 |
| Clarify how to use models in the determination of exceedances, taking the inaccuracies of models into account. | | | | | |
| The role of modelling in compliance assessment is not clear enough | 1 | 1 | | | |
| The modelling provisions need clarification or modification. | 1 | 1 | | | |
| Modelling for identifying exceedance and the assessment regime should be harmonised. | 1 | 1 | | | |
| Inaccuracies of models should be taken into account; consider information from FAIRMODE and HARMO. | 1 | | 1 | | |
| Take the uncertainty of models into account in the definition of compliance. | 1 | 1 | | | |
| | | | | | |
| **16. Consider further provisions for sensitive populations or guidance on this** | 4 | 2 | 0 | 1 | 1 |
| Consider possibilities for special protection of sensitive populations. | 1 | 1 | | | |
| Provisions on sensitive populations are welcomed. | 1 | | | 1 | |
| Consider setting more stringent standards for areas with sensitive populations. | 1 | | | | 1 |
| The Commission is invited to give information on implementation and to encourage sharing of good practice regarding the protection of sensitive populations. | 1 | | | 1 | |
| All AQ standards should be low enough to protect also sensitive populations. | 1 | 1 | | | |
| | | | | | |
| **17. There is no need to include other pollutants in the air quality directives.** | 4 | 3 | 1 | 0 | 0 |
| There is no need to include other pollutants. | 2 | 2 | | | |
| Including other PM species, UFP or BC does not seem appropriate. | 1 | 1 | | | |
| Including other pollutants doesn't seem needed, for other pollutants source targeting approach is preferred. | 1 | 1 | | | |
| Including other pollutants is probably not needed due to side-benefits of the current emission treatment technologies. | 1 | | 1 | | |
| | | | | | |
| **18. The air quality directives are too demanding.** | 3 | 2 | 0 | 0 | 1 |
| Measures and measuring efforts are too expensive. Measures affect mobility bringing compliance with the standards. Derogation procedures are too complex. | | | | | |
| The directives require too much and cause too expensive scientific measuring efforts. | 1 | 1 | | | |
| The implementation schedule and time to achieve the objectives is too short, even unrealistic. | 1 | 1 | | | |
| Measures have been costly in many MSs. | 1 | | | | 1 |
| Mobility has been reduced in cities, but LVs are still being exceeded. | 1 | | | | 1 |
| Avoid the burden of derogation procedures by anticipating the time needed for compliance. | 1 | 1 | | | |
| Provisions and guidance on natural sources and sanding are not detailed enough and very complex and costly to carry out. | 1 | 1 | | | |
| Simplify the derogation procedure. | 1 | 1 | | | |
| | | | | | |
| **19. Minimum protection by limit values doesn't stimulate action where levels are lower.** | 2 | 1 | 0 | 0 | 1 |
| Defining a minimum protection level is difficult because of the strong variation of levels | 1 | | | | 1 |

| Issues regarding the approach of the air quality directives | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| in the EU. | | | | | |
| Consider ways of encouraging MSs to be more ambitious where the LV is already met. | 1 | | | | 1 |
| Some LVs are above safe levels and are no trigger to go to safe levels. | 1 | 1 | | | |
| | | | | | |
| **20. Various other comments on the approach of the air quality directives** | 18 | 8 | 4 | 1 | 5 |
| A clear definition of "exposed population" is needed. | 1 | 1 | | | |
| Several issues need to be clarified in the new “Implementing Provisions for Reporting” guideline. | 1 | 1 | | | |
| Streamline new multiyear standards with the 5-year period emission ceilings. | 1 | 1 | | | |
| Easy public access to and dissemination of understandable assessment results is needed. | 1 | 1 | | | |
| Improve the communication to the public to boost emission reduction actions. | 1 | | 1 | | |
| The ERT concept could be applied to other pollutants with low levels or no-threshold effects. | 1 | | | | 1 |
| Derogations may reduce the effectiveness of LVs. | 1 | 1 | | | |
| Establishing a WHO-CAFE working group would be useful. | 1 | 1 | | | |
| Ex post evaluation at the EU level on the effectiveness of measures is needed, to convince society. | 1 | 1 | | | |
| Some quantification of the health risk in case of exceedance would help decision makers. | 1 | | | | 1 |
| Include biological sources in the derogation for natural sources. | 1 | 1 | | | |
| Include the fourth daughter directive in the AQD. | 2 | 2 | | | |
| Include provisions for odour in the EU AQ legislation. | 1 | 1 | | | |
| The information threshold for ozone is effective. | 1 | 1 | | | |
| Consider introducing an information threshold for other pollutants, especially for PM. | 1 | 1 | | | |
| It is suggested to differentiate LV levels per area type, e.g. less strict in industry areas. | 1 | 1 | | | |
| ERTs should be made binding. | 2 | | | 1 | 1 |
| Throughout the (EU) territory the same standards should apply. | 1 | 1 | | | |
| Hotspots need to be monitored and treated like other locations. | 1 | | | | 1 |
| Integrated local policies can help reducing population exposure. | 1 | | | | 1 |
| The coverage of monitoring stations is limited. | 1 | 1 | | | |
| Use the FAIRMODE recommendations in the review. | 1 | 1 | | | |
| The minimum number of stations is too low; consider adding a "recommended number" in the provisions. | 1 | 1 | | | |
| Reconsider the concept of zones, it is not uniformly applied in the EU. | 1 | 1 | | | |
| The classification of monitoring sites is not the most suitable scheme. | 1 | 1 | | | |
| [A description of the implementation in the responding MS is given.] | 1 | 1 | | | |
| Harmonise further with EMEP measurement and modelling requirements and activities. | 1 | | | | 1 |
| In case of hotspot exceedances, careful assessment and planning is needed to ensure the health impact of measures. | 1 | | 1 | | |
| Guidance or EU support on how to relate actions to other societal interests is needed. | 1 | 1 | | | |
| A unified approach for monitoring NH3, H2S, formaldehyde etc. is important. | 1 | 1 | | | |

| Issues regarding the approach of the air quality directives | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| Revise the option to use fewer years for the O3 target value when data are lacking (Annex VII, B, footnote 3). | 1 | 1 | | | |
| Use a year for standards, no shorter periods. | 1 | 1 | | | |
| LVs are effectively stricter for MSs with large variability in annual meteorology. | 1 | 1 | | | |
| Health based standards instead of concentration based need to be considered, but will be impractical. | 1 | | 1 | | |
| Model inaccuracies have a negative effect on the coherence of emission and AQ standards. | 1 | | 1 | | |
| Because of the weak underpinning of the PM LVs, these LVs should become TVs. | 1 | | 1 | | |
| The relation between the daily and annual LV is incorrect, should be changed. | 1 | | 1 | | |
| Progress in the EU on agricultural NH3 could give an important signal to other CLTRAP parties. | 1 | | | | 1 |
| Transpose the 1% SO2 standard of MARPOL Annex VI a.s.a.p. in Directive 1999/32/EC. | 1 | | | | 1 |
| A review of the TV levels is needed. | 1 | 1 | | | |
| Guidance on station siting to represent exposure would be good. | 1 | 1 | | | |
| The station density requirements are too uniform across EU; for O3 in N-and S-Europe it can be different. | 1 | 1 | | | |
| The Commission could provide best practice for measures; perhaps even collectively implement best measures. | 1 | 1 | | | |
| LVs as measure at generic level tend to overrule more effective local risk-based approaches. | 1 | | 1 | | |

### 2.3.3 *Question 4(1): EU air quality standards*

**Question 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):

9. the differences of setting limit values, target values or other objectives (and whether to apply these individually or in combination as for $PM_{2.5}$);
10. the effectiveness of the derogations and flexibility provided in the directives;
11. the limit values for $PM_{10}$ and the objectives for $PM_{2.5}$ and how they could be reviewed in order to make them more effective;
12. the effectiveness of the target values for heavy metals (including the provisions for mercury) and PAHs and its potential link to PM;
13. the effectiveness of the limit values for $NO_2$;
14. the effectiveness of the target values for ozone;
15. the effectiveness of the limit values set to protect the environment;
16. any other issue.

| Issue regarding air quality standards | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| | | | | | |
| **1. Suggestions for good standard setting process are given.** | 19 | 4 | 7 | 4 | 4 |
| Include accountability research in the standard setting process. | 1 | | 1 | | |
| Evaluate abatement measures. | 1 | 1 | | | |
| More stakeholder input and transparency for WHO guidelines is important. | 1 | | 1 | | |
| Shift the focus to attainability in areas of improved AQ. | 1 | | | | 1 |
| Focus on attainability in city areas. | 1 | | 1 | | |
| Costs of going to a standard for the fine PM fraction should be balanced against benefits. | 1 | | | | 1 |
| Do not copy the WHO guidelines as standards. | 1 | | 1 | | |
| Changing the system requires resources. | 1 | | | | 1 |
| Consider the reduction potential and progress of community measures. | 1 | | 1 | | |
| Do not set standards without sufficient evidence. | 1 | | 1 | | |
| Be cautious about strengthening LVs or TVs in mid-term. | 1 | 1 | | | |
| More research on PM emission is needed before standards can be set. | 1 | | 1 | | |
| A thorough review of all scientific information is needed. | 6 | | 1 | 3 | 2 |
| Do not rely on too few studies. | 1 | | 1 | | |
| Base standards on solid scientific evidence. | 1 | | 1 | | |
| Base standards on latest scientific evidence. | 2 | | | 1 | 1 |

| Issue regarding air quality standards | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| Set up an expert group for choosing the health relevant PM fractions. | 1 | 1 | | | |
| More toxicological and epidemiological research on the harmful PM fraction is needed. | 1 | | 1 | | |
| Improve the benefit analysis of ecosystem protection in line with e.g. biodiversity. | 1 | 1 | | | |
| Discuss the benefit analysis methodology with UK. | 1 | 1 | | | |
| Take internationally agreed shipping measures into account in policy assessment. | 1 | | 1 | | |
| Targeting policy at non-ferrous industry is not very effective. | 1 | | 1 | | |
| A review of the effectiveness of LVs is needed. | 1 | 1 | | | |
| An update of the WHO guidelines is needed. | 0 | | | | |
| Reflect the precautionary approach. | 1 | | | 1 | |
| | | | | | |
| **2. Review the PM standards, consider addressing more harmful PM fractions, particularly black carbon, ultrafine particles.** | 18 | 5 | 5 | 5 | 3 |
| PM2.5 includes harmful and harmless fractions; focus the regulation on the harmful ones - traffic emissions. | 1 | | 1 | | |
| Consider other PM fractions, e.g. PNC, PM2.5-10, EC/BC. | 1 | | | 1 | 1 |
| Take the harmfulness of PM fractions better into account. | 1 | 1 | | | |
| More discussion on PM2.5 (responsible fraction, measurements) is needed. | 1 | | 1 | | |
| Use EC as indicator for health risks near traffic. | 1 | 1 | | | |
| Include a BC standard. | 1 | | | 1 | |
| Consider BC as possible standard. | 2 | | | 2 | |
| Respond to the growing health evidence on BC. | 2 | | 1 | | 1 |
| IMO has proposed work to reduce BC from international shipping. | 1 | | 1 | | |
| Move to BC. | 0 | | | | |
| Consider BC as indicator for traffic related air pollution. | 1 | 1 | | | |
| Encourage measuring BC. | 1 | 1 | | | |
| Consider EC and/or BC for LV, emission inventories and standards. | 1 | 1 | | | |
| Reducing BC is expected to be relevant for health and climate. | 1 | 1 | | | |
| Consider introducing PM1. | 1 | 1 | | | |
| Develop a standard for BC and/or UFP. | 2 | | | 2 | |
| Introduce standard for the fine fraction (e.g. BC, PM01, PM1). | 1 | 1 | | | |
| Strictly regulate the finest particles (PM2.5, UFP). | 1 | | | 1 | |
| Focus on PM2.5 and/or BC. | 1 | | 1 | | |
| Ask WHO and other scientific bodies for guidance on UFP and nanoparticles. | 2 | | | 2 | |
| Do not set standards for BC, but start with measuring it to prepare for future regulation. | 1 | 1 | | | |
| Develop a standard for UFP. | 1 | | | 1 | |
| Consider UFP as the standard. | 2 | | | 1 | 1 |
| Review the ECO. | 1 | | | 1 | |
| Make more distinction between chemical and biological PM. | 1 | | 1 | | |
| Consider the risks of engineered nanoparticles. | 1 | | | 1 | |
| Consider a standard for coarse PM. | 1 | 1 | | | |
| | | | | | |
| **3. Important contributions to poor air quality are beyond national/regional/local control.** | 15 | 6 | 4 | 3 | 2 |
| Consistency of the NO2 LV and EURO6 is needed. | 1 | 1 | | | |
| EURO6 NO2 standards should be adequate for meeting the NO2 LVs. | 1 | 1 | | | |
| The EURO standards do not address NO2. | 1 | | | | 1 |
| Real-life EURO5 emissions are much higher than expected. | 4 | 2 | 1 | | 1 |
| MSs have limited possibilities to address LV exceedance. | 2 | 1 | 1 | | |
| Problems in meeting LVs relate to underperformance of EU emission regulation. | 1 | 1 | | | |
| More consistency of AQ deadlines and other provisions with other EU policies is needed. | 1 | 1 | | | |

| Issue regarding air quality standards | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| Strengthen sectoral rules on emissions. | 1 | | | | 1 |
| Measures for cleaner cars and trucks are needed. | 1 | | 1 | | |
| Source policies are key in air quality policy. | 1 | | | | 1 |
| Meeting the NERT depends on international reduction policies. | 1 | 1 | | | |
| Consistency of the NERT and international emission requirements is needed. | 1 | 1 | | | |
| The NERT cannot be met in the long term due to long-range transport. | 1 | 1 | | | |
| The O3 TVs are beyond reach of national measures. | 5 | 4 | | | 1 |
| O3 is not very important for cities; for some cities regional O3 policies are needed. | 1 | | | | 1 |
| Cities have limited possibilities to reduce air pollution levels. | 1 | | | | 1 |
| International negotiations on the hemispheric background are needed. | 3 | 3 | | | |
| Review how to tackle transboundary O3 internationally. | 1 | 1 | | | |
| Consider a LV for the local increment to the background level. | 1 | | | | 1 |
| Consider a NERT for the local increment to the background level. | 1 | 1 | | | |
| Explore options for taking unforeseen real-life emissions into account in compliance assessment. | 2 | 2 | | | |
| | | | | | |
| **4. Specific suggestions on tightening standards are given (see also Issue 12).** | 9 | 2 | 0 | 5 | 2 |
| WHO guidelines should be the minimum. | 1 | | | 1 | |
| Add the WHO guideline levels as long term objectives. | 1 | | | | 1 |
| Tighten the PM2.5 standards. | 1 | 1 | | | |
| Aligning PM2.5 standard with WHO guidelines will bring a health benefit of 31.5 billion €/yr. | 2 | | | 2 | |
| Align the standards better with WHO guidelines. | 4 | | | 4 | |
| Aim at a PM10 LV of 20 ug/m3 annual mean (WHO guideline). | 3 | | | 3 | |
| Set a tighter longer term (e.g. 2020) objective for PM10. | 1 | 1 | | | |
| Aim at a PM2.5 LV of 10 ug/m3 (WHO guideline). | 3 | | | 3 | |
| The PM standard must be equal to the WHO guideline. | 1 | | | 1 | |
| Unclear why PM standards are not equal to WHO guidelines (as NO2 LVs are). | 1 | | | | 1 |
| Add a daily PM2.5 LV of 25 ug/m3. | 1 | | | 1 | |
| The 35 days of the daily PM10 LV may be too lenient regarding infant mortality. | 2 | | | 2 | |
| Make the AEI binding. | 1 | | | 1 | |
| Aim at an O3 LV of 100 ug/m3 (8-hr) (WHO guideline). | 3 | | | 3 | |
| Consider tightening O3 standards, but address the transboundary aspect. | 1 | 1 | | | |
| Tighten the HM and BaP TVs, consider making these LVs. | 1 | 1 | | | |
| The SO2 LV should be set to 10 ug/m3 to protect ecosystems incl. lichens. | 1 | 1 | | | |
| Aim at 20 ug/m3 (24 hr) for the SO2 LV (WHO guideline). | 3 | | | 3 | |
| | | | | | |
| **5. Simplify the set of air quality standards.** | 9 | 7 | 0 | 0 | 2 |
| Simplify the set of standards. | 1 | 1 | | | |
| A single standard per pollutant would be better. | 2 | 2 | | | |
| Focus on the most health relevant standards. | 1 | 1 | | | |
| Reduce the number of LVs, make these attainable. | 1 | 1 | | | |
| Simplify the set of PM standards. | 3 | 3 | | | |
| The uncertainty in the PM10 daily percentile is larger than in the annual mean. | 1 | 1 | | | |
| Replace the daily PM10 LV by a daily IT and/or AT. | 1 | 1 | | | |
| The usefulness of the daily PM10 LV is questionable (weather dependent, difficult to manage on the short term). | 1 | 1 | | | |
| Perhaps drop the PM10 LVs in the long run. | 1 | | | | 1 |
| The set of PM2.5 standards is complex. | 3 | 2 | | | 1 |
| Focus on PM2.5. | 1 | 1 | | | |
| Consider reducing the number of standards, particularly for PM. | 1 | 1 | | | |
| Keep only one of the two PM10 LVs. | 2 | 2 | | | |
| In the responding third country only one PM2.5 standards was set; the set is too | 1 | | | | 1 |

| Issue regarding air quality standards | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| complex. | | | | | |
| Withdraw LVs for pollutants with very low levels: SO2, CO, benzene. | 1 | 1 | | | |
| Withdraw LVs for pollutants with very low levels: CO, lead, some TVs for HMs. | 1 | 1 | | | |
| The hourly NO2 LV may be unnecessary. | 1 | | | | 1 |
| | | | | | |
| **6. Air quality standards are appropriate.** | 9 | 7 | 1 | 0 | 1 |
| LVs are effective. | 1 | 1 | | | |
| The differentiated approach of LVs and TVs is favoured. | 2 | 2 | | | |
| NERT concept in combination with LV is adequate. | 1 | 1 | | | |
| Support for additional concepts as MOT, time extension and derogation for natural sources. | 1 | | 1 | | |
| Support for the LVs and TVs of PM10, PM2.5, ozone, NO2, SO2 and CO. | 1 | | 1 | | |
| The focus on PM2.5 is appropriate. | 1 | | | | 1 |
| Keep the annual NO2 LV until a better marker has been found. | 1 | 1 | | | |
| Keep the hourly NO2 LV. | 1 | 1 | | | |
| Keep the NO2 LVs. | 1 | 1 | | | |
| The NO2 LVs are effective and manageable. | 1 | 1 | | | |
| The NOx LV for ecosystems is sufficient. | 1 | 1 | | | |
| The combination of TV and LV for PM2.5 is appropriate. | 1 | | | | 1 |
| Reporting on HM TV exceedances creates already sufficient pressure. | 1 | 1 | | | |
| The TVs for HM are sufficient. | 2 | 2 | | | |
| | | | | | |
| **7. Focusing on exposure is important.** | 6 | 4 | 1 | 1 | 0 |
| Keep the AEI, it is valuable. | 3 | 1 | 1 | 1 | |
| An exposure index is more effective than a LV. | 1 | 1 | | | |
| Focus more on exposure (also with measurements). | 1 | | | 1 | |
| Protect people near sources and vulnerable people. | 1 | | | 1 | |
| Include population weighting in the assessment. | 1 | 1 | | | |
| Give more emphasis to relevant exposure. | 1 | 1 | | | |
| | | | | | |
| **8. Reconsider the limit values of NO2.** | 6 | 3 | 1 | 1 | 1 |
| NO2 is a proxy for traffic related air pollution, but not a good one. | 1 | 1 | | | |
| NO2 is a poor proxy for traffic related air pollution, reconsider the LV. | 1 | | | | 1 |
| It is difficult to communicate that NO2 requires more abatement than PM. | 1 | 1 | | | |
| Focus on PM, not on NO2. | 1 | | | | 1 |
| NOx may be a good replacement for NO2 as traffic marker. | 1 | 1 | | | |
| The NO2 standard in the USA is much less strict. | 1 | | 1 | | |
| The NO2 LV is too much based on indoor studies; re-evaluate it. | 1 | | | 1 | |
| | | | | | |
| **9. The protection by the air quality standards is limited.** | 6 | 2 | 0 | 3 | 1 |
| For most pollutants no no-effect threshold exists. | 1 | 1 | | | |
| For PM no no-effect threshold exists. | 3 | 1 | | 2 | |
| The current PM standards protect health to a limited degree. | 0 | | | | |
| PM standards protect health to a limited degree. | 1 | | | 1 | |
| | | | | | |
| **10. Derogations and flexibility are effective (see also Issue 13).** | 5 | 3 | 0 | 0 | 2 |
| Derogations are effective. | 1 | | | | 1 |
| Flexibility is needed. | 1 | 1 | | | |
| Flexibility is the major asset of the directives. | 1 | 1 | | | |
| Possibly extend time extensions longer. | 1 | 1 | | | |
| Allow exceptions for extreme weather conditions. | 1 | | | | 1 |
| If the LV is lowered, flexibility is needed (possibly also regarding local dispersion conditions). | 1 | 1 | | | |

| Issue regarding air quality standards | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| Further time extension is most probably needed because of slow fleet change. | 1 | | | | 1 |
| Set stricter standards with structural but restrictive derogation possibility. | 1 | 1 | | | |
| Prolong derogation options regarding PM. | 1 | 1 | | | |
| Include a NO2 derogation option beyond 2015. | 3 | 2 | | | 1 |
| | | | | | |
| **11. Target values are not binding and therefore not effective.** | 5 | 3 | 0 | 1 | 1 |
| TVs are not enforceable. | 1 | 1 | | | |
| TVs are too weak incentives, move to LVs. | 2 | 1 | | | 1 |
| Non-binding targets are not effective. | 1 | | | 1 | |
| The O3 TV is not very "actual" for northern states. | 1 | 1 | | | |
| | | | | | |
| **12. Specific suggestions on relaxing standards are given (see also Issue 4).** | 5 | 3 | 2 | 0 | 0 |
| A binding NERT and ECO are not realistic. | 1 | | 1 | | |
| A binding NERT is not recommended because of the slow decrease and uncertainty of measurement. | 1 | 1 | | | |
| The PM and BaP standards are too difficult to meet in time. | 1 | 1 | | | |
| The O3 LTO is unrealistic, O3 reduction is difficult and slow. | 1 | 1 | | | |
| Set a binding PM2.5 LV for 2020. | 1 | 1 | | | |
| 2015 is too ambitious for a PM2.5 LV. | 1 | | 1 | | |
| | | | | | |
| **13. Do not allow derogations (see also Issue 10).** | 4 | 0 | 0 | 4 | 0 |
| Derogations are unacceptable from health view and contradict EAP6. | 3 | | | 3 | |
| Do not discount natural dust. | 1 | | | 1 | |
| | | | | | |
| **14. Suggestions regarding assessment of heavy metals and PAH are given.** | 4 | 4 | 0 | 0 | 0 |
| Consider resignation of regular HM assessment. | 1 | 1 | | | |
| For Hg not many rural stations are needed; local Hg monitoring should fit under industrial policy. | 1 | 1 | | | |
| Harmonise with EMEP to optimise the rural Hg network. | 1 | 1 | | | |
| A TV for Hg and depositions will be beneficial for the assessment. | 1 | 1 | | | |
| Consider dropping/relaxing assessment requirements for HM and PAH (being clearly below the TVs). | 1 | 1 | | | |
| | | | | | |
| **15. Reconsider the PAH/BaP provisions.** | 3 | 3 | 0 | 0 | 0 |
| Consider separate regulation of BaP in view of growing wood burning. | 1 | 1 | | | |
| BaP reduction requires changing heating methods in households, is very costly, complex and slow | 1 | 1 | | | |
| BaP cannot be reduced in the time frame of the current directive. | 1 | 1 | | | |
| Add a standard for dibenzopyrenes to better represent PAH. | 1 | 1 | | | |
| Review particularly BaP. | 1 | 1 | | | |
| | | | | | |
| **16. There are important uncertainties relating to the AEI.** | 2 | 2 | 0 | 0 | 0 |
| There are important uncertainties around the AEI. | 1 | 1 | | | |
| Ask MSs about experiences in measuring the AEI. | 1 | 1 | | | |
| The uncertainty in the AEI is large compared to the required reduction % in the NERT. | 1 | 1 | | | |
| Consider the AQUILA conclusions on the measurement uncertainty for the AEI. | 1 | 1 | | | |
| | | | | | |
| **17. Consider regulating additional metrics (other than for particulate matter).** | 2 | 2 | 0 | 0 | 0 |
| Add a provision for assessment of deposition of S and N. | 1 | 1 | | | |
| Consider an additional TV for NH3. | 1 | 1 | | | |
| Consider gradually starting measuring NH3. | 1 | 1 | | | |
| | | | | | |

| Issue regarding air quality standards | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| **18. Various other comments on air quality standards** | 17 | 7 | 4 | 3 | 3 |
| The standards and range of attainment dates of the AEI is complex for transposition and implementation. | 1 | 1 | | | |
| A short-cut approach for the AEI will facilitate implementation. | 1 | 1 | | | |
| Criteria for time extension are not clear enough. | 1 | 1 | | | |
| The binding nature of the critical level is unclear. | 1 | | | | 1 |
| Corrections for natural/sanding contributions are very complex and cumbersome. | 1 | 1 | | | |
| Take biological contributions (pollen) into account in the derogation for natural contributions. | 1 | 1 | | | |
| For ecosystems, LVs are less effective than the CLTRAP protocol and NECD. | 1 | 1 | | | |
| Harmonise the compliance years of pollutants. | 1 | 1 | | | |
| Ecosystem and health protection should be equally important. | 2 | | | | 2 |
| Most PM emissions of agriculture (fairly coarse and biological) are less harmful to health. | 1 | | 1 | | |
| Focus on attaining current PM standards instead of lowering these. | 2 | 2 | | | |
| The difference between LV and TV is unimportant, unify these. | 1 | 1 | | | |
| Consider AOT60 or SOM35 as complement for the O3 TV for health. | 1 | 1 | | | |
| The MOT concept has not been very effective. | 1 | 1 | | | |
| Non-ferrous industry contributes only a small fraction. | 1 | | 1 | | |
| The share of diesel vehicles higher than expected. | 2 | 1 | 1 | | |
| Reduce the number of diesel vehicles by energy taxation directive. | 1 | 1 | | | |
| Question was misunderstood, the reply is given elsewhere. | 1 | 1 | | | |
| Emission standards and emission zones need to be controlled and enforced. | 1 | | 1 | | |
| The WHO review should be in time. | 1 | | | 1 | |
| The WHO 2005 guidelines have been largely confirmed since then. | 2 | | | 2 | |
| Extremely low standards are difficult for the non-ferrous industry (due to background and diffuse emissions). | 1 | | 1 | | |
| Abatement of PM2.5 very difficult for non-ferrous industry. | 1 | | 1 | | |

### 2.3.4 *Question 4(2): Other national standards*

| **Question 4(2) Standard: 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.<br><br>If appropriate, please clarify these and provide a link or reference to a full description. |

Six Member States (Belgium, France, Germany, Lithuania, Netherlands, Sweden), two third countries (Norway, Switzerland) and one Business Association (EUROMOT) provided information on national standards.

***Belgium***

The three Belgian regions have introduced an *alert* threshold for PM10 (and for the Brussels Capital Region, also for NO2). The threshold for PM10 was set at 70 µg/m3 (as a daily mean concentration) for two consecutive days (spatial mean in the Flemish and the Walloon Region and in at least two measuring stations in the Brussels Capital Region).
The Belgian alert threshold for PM10 (70 µg/m³) was established based on:
- an analysis of the number of exceedances of this threshold in the period 2000-2005
- the fact that daily mortality increases with 5% when the daily mean PM10 concentration exceeds 70 µg/m³ (compared to an average daily mean of around 30 µg/m³).
Although the short term impact of particulate matter on human health is well documented, no information or alert threshold for PM10 is foreseen in the current air quality directive. Some other Member States did also introduce alert thresholds for PM10, but these thresholds are different from one Member State to another. A common European information and/or alert threshold could be considered

There are standards for acid deposition in Belgium (Flemish Region) for three different kinds of vegetation and soil characteristics. In the current air quality directive, only standards for concentrations (NOx, SO2) and AOT40 for ozone are available to protect the vegetation against the harmful effects of air pollution. The introduction of standards for acid and nitrogen deposition could be considered to better protect vegetation.

NH3 doesn't only play a role in acidification processes, but is also an important precursor for secondary inorganic particulate matter (ammonium salts). Establishing limit or target values for NH3 in ambient air could be taken into consideration.

Complaints of nuisance by dust cannot be objectively measured by monitoring fine dust. Therefore the introduction of a monitoring method and related guide values should be taken in consideration.

In 2001 the European commission adopted a Community Strategy for dioxins, furans and PCB's. This strategy stresses the importance of environmental monitoring. Deposition measurements are a good tool to monitor the levels of dioxins and PCBs in the environment. Unknown sources and fugitive emissions can be tracked down. Moreover, these type of measurements allow to meet the

European obligation to examine the role of the environment, when action limits for feed or food are exceeded. Ultimately, deposition measurements can contribute to the final goal to lower the levels of dioxins and PCBs in the human body. In Belgium (the Flemish Region) target values for the deposition of dioxins, furans and PCB's did enter into force. This enables us to assess the environmental levels and to decide which areas in Flanders require a more stringent follow-up.

In Belgium (Flanders) there is a limit value for Pb in deposition and a target value for Pb and Cd in deposition. The limit value for Pb was set at 3000 µg/m².day, the target values were set at 250 µg/m².day for Pb and 20 µg/m².day for Cd.

*References:*
Interregional coordination protocol between the Belgian Interregional Environment Agency and the three Belgian Regions:
http://deus.irceline.be/~celinair/documents/smogprotocol/smog_protocol_NL.pdf
(Dutch)
http://deus.irceline.be/~celinair/documents/smogprotocol/smog_protocole_FR.pdf
(French)

Link to the Brussels short term smog action plan: http://www.picdepollution.be

Link to the Walloon short term smog action plan:
http://193.190.182.213/WebAirQuality/PicPollutionPoussieres.aspx

Nawrot TS, Torfs R, Fierens F, De Henauw S, Hoet PH, Van Kersschaever G, De Backer G, Nemery B. Stronger associations between daily mortality and fine particulate air pollution in summer than in winter: evidence from a heavily polluted region in western Europe. Journal Epidemiology Community Health.
2007;61:146-9

Lefebvre W., Fierens F., Trimpeneers E., Janssen S., Van de Vel K., Deutsch F., Viaene P., Vankerkom J., Dumont G., Vanpoucke C., Mensink C., Peelaerts W., Vliegen J., Modeling the effects of a speed limit reduction on traffic-related elemental carbon (EC) concentrations and population exposure to EC, Atmospheric Environment, Volume 45, Issue 1, January 2011, Pages 197-207.

### *France*

[Translated from original text in French:]

- Information and alert thresholds for $PM_{10}$

  In addition to the air quality objectives and other standard set by the air quality directives, France introduced information and alert thresholds for PM10. The thresholds are as follows:
  - information threshold - recommendation: 50 µg/$m^3$ as daily mean,
  - alert threshold: 80 µg/$m^3$ as daily mean.

- Concept of sensitive zones

  In the framework of integrated climate/air/energy policies, France also introduced the concept of <sensitive zones> in relation to deterioration of air quality. For each French region, these sensitive zones, where the guidelines for preventing or reducing air pollution will be strengthened, are mapped.

If a choice needs to be made between objectives for greenhouse gas mitigation and for air pollutants, weighting criteria will be applied depending on the sensitivity of the area to air pollution. A national methodology for the delimitation of these sensitive areas could be developed and adapted to the local context where appropriate.

*References:*

- Seuils d'information et d'alerte pour les $PM_{10}$ : Code de l'environnement, article R.221-1, (http://www.legifrance.gouv.fr/affichCode.do?idArticle=LEGIARTI000022964539&idSectionTA=LEGISCTA000022964541&cidTexte=LEGITEXT000006074220&dateTexte=20110810)
  The regulation specifying the entry in force of the information and alert thresholds is being drafted.

i. Zones sensibles : décret du 16 juin 2011 relatif aux schémas régionaux du climat, de l'air et de l'énergie (http://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000024198133&fastPos=2&fastReqId=121158458&categorieLien=cid&oldAction=rechTexte), Méthodologie de définition des zones sensibles : http://www.lcsqa.org/rapport/2010/ineris/methodologie-definition-zones-sensibles.

- Synthèse des éléments sanitaires en vue d'un appui à l'élaboration de seuils d'information et d'alerte du public pour les particules dans l'air ambiant : Rapport d'expertise de l'AFSSET, « Pollution par les particules dans l'air ambiant », mars 2009 : consultable au lien suivant : http://www.afsset.fr/index.php?pageid=2292&parentid=424

### *Germany*

**First General Administrative Regulation Pertaining the Federal Immission Control Act (Technical Instructions on Air Quality Control – TA Luft)**

*The provisions of these Technical Instructions shall be observed when examining applications for a permit to construct and operate a new installation as well as to alter the location, nature or operation of an existing installation.*

**Immission Value[1] for the Protection against Significant Nuisances or Significant Disadvantages due to Dust Deposition *(TA Luft, 4.3.1)***

Dust deposition (nonhazardous dust): 0.35 g/($m^2$*d), averaging period**:** 1 year.

**Immission Value[1] for Hydrogen Fluoride (Protection against Significant Disadvantages, in particular Protection of the Vegetation and of Ecosystems, *TA Luft, 4.4.2*)**

Hydrogen fluorides and inorganic, gaseous compounds of fluorine, to be indicated as fluorine: 0.4 µg/$m^3$, averaging period**:** 1 year.

**Immission Values[1] for Pollutant Deposition (Protection against Harmful Effects, *TA Luft, 4.5.1* )**

[1] "Immisson values" are concentrations or deposition values which shall not be exceeded by the total load within the assessment area relating to the installation in question.

Arsenic and its inorganic compounds, to be indicated as arsenic: 4 µg/($m^2$*d), averaging period**:** 1 year.
Lead and its inorganic compounds, to be indicated as lead: 100 µg/($m^2$*d), averaging period**:** 1 year.
Cadmium and its inorganic compounds, to be indicated as cadmium: 2 µg/($m^2$*d), averaging period**:** 1 year.
Nickel and its inorganic compounds, to be indicated as nickel: 15 µg/($m^2$*d), averaging period**:** 1 year.
Mercury and its inorganic compounds to be indicated as mercury: 1 µg/($m^2$*d), averaging period**:** 1 year.
Thallium and its inorganic compounds, to be indicated as thallium: 2 µg/($m^2$*d), averaging period**:** 1 year.

*References:*
TA Luft (English):
http://www.bmu.de/english/air_pollution_control/ta_luft/doc/36958.php

### *Lithuania*

National limit values in Lithuania have been set for many pollutants not listed in the AQD. The list of ambient air pollutants, regulated in accordance with national criteria has been approved by order of Minister of Environment of Lithuanian Republic. It lists 363 substances, for which 30-minutes and/or 24-hours limit values have been set. Link to the above mentioned document:
http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=299863&p_query=&p_tr2=
However we are sometimes faced with many challenges in order to measure the concentration of some pollutants.

### *The Netherlands*

The Netherlands currently follows the EU air quality standards. There is one addition: when a limit value is exceeded at a certain location, within 300 m from a highway or 50 m from other primary roads, it is not allowed under Dutch law to construct or expand at that location buildings where sensitive groups are housed (e.g. kindergartens, schools, nursing homes). This applies also to zones where a time extension has been granted.
Note that this decree will become obsolete after the time extensions have expired, since the limit values should then be met at all locations.

*References*
Besluit gevoelige bestemmingen (luchtkwaliteitseisen) (*Dutch decree on sensitive groups (air quality)*) http://wetten.overheid.nl/BWBR0025181

### *Sweden*

The following additional and/or stricter limit and target values have been implemented in Sweden:

*2 additional $NO_2$ limit values for the protection of human health*

Hourly mean of 90 µg/$m^3$ not to be exceeded more than 175 times per calendar year (provided that 200 µg/$m^3$ is not exceeded more than 18 times).

Daily mean of 60 µg/$m^3$ not to be exceeded more than 7 times per calendar year.

These standards were to be met by 2006.

*Stricter hourly and daily mean $SO_2$ limit values for the protection of human health*

Hourly mean of 200 µg/m$^3$ not to be exceeded more than 175 times per calendar year (provided that 350 µg/m$^3$ is not exceeded more than 24 times).

Daily mean of 100 µg/m$^3$ not to be exceeded more than 7 times during a calendar year (provided that 125 µg/m$^3$ is not exceeded more than 3 times).

These standards were to be met by 1998.

*Stricter maximum daily eight hour mean ozone target value for the protection of human health*

The directive's long-term objective of 120 µg/m$^3$ as a maximum eight hour mean during a day has been implemented as a target value to be met by 2010.

*Target value for lead was to be complied with at an earlier date*

The target value for lead is set at the same level as the directive, but was to be met by 1998.

Recommendations regarding these limit & target values

$NO_2$ - The daily mean limit value had been previously implemented in Sweden prior to the framework directive 1996/62/EC and was kept as an additional limit value when the directive was implemented into Swedish legislation. With regard to the additional hourly mean, it was considered at the time that trends were more positive than they have proved to be. It was thus decided to have a higher ambition level and implement stricter limit values, to be met at a much sooner date, than the directive. However, due to the established problems with reducing $NO_2$ concentrations it has not been possible to meet these stricter target values. In a small number of congested urban areas it has even proved difficult to achieve the directive's annual mean limit value. The daily mean has proved particularly challenging to meet and is currently exceeded in a number of urban centres across Sweden. **Due to the established difficulties associated with the $NO_2$ limit values, we do not consider it appropriate to recommend these stricter limit values be considered for inclusion in the directive at this point.**

$SO_2$ – the directive's limit values for $SO_2$ are very high in comparison to assessed concentrations in Sweden, and there is general compliance with these standards throughout the EU. They are also long from the WHO guideline values. They can therefore not be seen to be effective at reducing concentrations of this pollutant to provide the maximum practicable level of protection. Concentrations are even well below the more stringent Swedish limit values. **It is therefore recommended that the review consider the implementation of more stringent limit values for $SO_2$, which are more in line with the WHO guidelines.**

Ozone – As discussed in section 4(1) point 6, concentrations of ozone in Sweden are generally low, and generally exceed only the directives long-term objective. In order to improve the effectiveness of the directive's provisions for ozone it would be **appropriate to consider more stringent values or even making the long-term objective a limit value to be achieved at a later date (e.g. 2020)**. This would increase the incentive to implement effective measures to reduce ozone concentrations across Europe, but must also be complemented with effective provisions to tackle issues caused by long-range/transboundaty air pollution.

Lead – the stricter date for compliance set in Sweden is now obsolete since the deadline for compliance in the directive has now also passed.

*References*
The Swedish Envrionmental Quality Standards for air quality are set out in the Air Quality Ordinance, available in English here:

http://swedishepa.com/upload/english/04_legislation_and_other_policy_instruments/env_quality_stand/SFS_2010_477_eng.pdf

See sections 10 ($NO_2$ limit values), 12 ($SO_2$ limit values) and 15 (ozone target value).

### *EUROMOT*

- Revision of German TA Luft, ongoing
- Recently revised US CI NSPS (liquid fired stationary RICE)
- US SI NSPS (gas fired stationary RICE of lean burn type)
- IFC EHS Guidelines

*References*
- German TA Luft (English translation) : http://www.bmu.de/english/air_pollution_control/ta_luft/doc/36958.php
- US CI NSPS: http://www.epa.gov./ttn/atw/nsps/sinsps/fr28jn11.pdf
- US SI NSPS: http://www.epa.gov/ttn/atw/area/fr18ja08.pdf
- IFC EHS Guidelines : http://www.ifc.org/ifcext/sustainability.nsf/Content/EHSGuidelines

### *Switzerland*

The Swiss Ordinance on Air Pollution Control has defined the following air quality standards for PM10, which are consistent with WHO air quality guidelines:

- 20 µg/$m^3$ as annual mean
- 50 µg/$m^3$ as daily mean

*References*
Swiss Ordinance on Air Pollution Control: www.admin.ch/ch/d/sr/c814_318_142_1.html

### *Norway*

Norway has set national objectives for ambient concentrations of $PM_{10}$, $NO_2$, $SO_2$ and benzene, to be reached and sustained by 2010. These targets were mostly based on the limit values in an earlier draft of 1$^{st}$ daughter directive. The Norwegian targets are as follows:

- $PM_{10}$: Daily (24 hrs) limit value of 50 µg/m3 (max. 7 exceedances)
- $NO_2$: 1 hour limit value of 150 µg/m3 (max. 8 exceedances)
- $SO_2$: Daily (24 hrs) limit value of 90 µg/m3 (no allowed exceedances)
- Benzene: Annual limit value of 2 µg/m3 (urban background) (no allowed exceedances)

The national targets will be reviewed in 2012.

### 2.3.5 *Question 5(1): Air quality assessment*

**Question 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):

9. the cost-efficiency of the general approach for assessment;
10. the provisions on station density;
11. needs to update provisions on measurement techniques;
12. the provisions on assessment by modelling;
13. possibilities to improve the assessment of air pollution levels and deposition under Directive 2004/107/EC;
14. the differences between the assessment methodologies in Member States and resulting differences in the need to take action;
15. a possible role for satellite data;
16. any other issue.

| **Issues regarding air quality assessment** | **All** | **MS** | **BA** | **NGO** | **OS** |
|---|---|---|---|---|---|
| | | | | | |
| **1. Further harmonisation of air quality assessment is needed (see also Issue 16)**. | 10 | 3 | 2 | 3 | 2 |
| Assessment is incomplete in some zones, not covering hotspots with LV exceedances. | 2 | | | 2 | |
| The different monitoring approaches for roadside stations in different MSs lead to different results. | 1 | | | | 1 |
| The differences in assessment approaches between MSs, especially regarding hotspots, are a problem. | 1 | 1 | | | |
| Better guidance would improve cost-efficiency in the decentralised assessment system. | 1 | 1 | | | |
| A common approach for establishing the need to assess HM is desirable. | 1 | | 1 | | |
| Enforcement of proper implementation of assessment by Commission is needed. | 1 | 1 | | | |
| Differences in assessment between MSs should not lead to differences in action. | 1 | | | | 1 |
| General support of improved and more reliable AQ assessment is expressed. | 1 | | 1 | | |
| Monitoring networks require harmonisation. Provisions on macro-scale siting criteria in Annex III are partly unclear. | 3 | | | 3 | |
| There are differences in station classification between MSs. | 1 | 1 | | | |
| Harmonisation of assessment by more guidance and exchange of best-practice is needed. | 1 | 1 | | | |
| Mandatory reports on the assessment strategy by MSs would be beneficial for EU-wide harmonisation. | 1 | 1 | | | |

| Issues regarding air quality assessment | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| | | | | | |
| **2. Extend the use of models and improve the quality of models (see also Issue 15).** | 9 | 6 | 0 | 1 | 2 |
| More detailed specifications and guidance on modelling is needed. | 1 | 1 | | | |
| Share modelling methods, results and experiences. | 1 | 1 | | | |
| Increase model use for exposure assessment. | 1 | 1 | | | |
| Modelling has limitations but should be extended. | 1 | 1 | | | |
| Guidance on modelling and especially on objective estimation is required. | 1 | 1 | | | |
| Increase the use of models for AQ assessment. | 1 | 1 | | | |
| Increase the use of models for AQ assessment and AQ management. | 1 | 1 | | | |
| Modelling is essential to get AQ information throughout the country, and to assess the impact of measures. | 1 | 1 | | | |
| Modelling allows more precise identification of exceedance areas. | 1 | 1 | | | |
| Increase the use of modelling for AQ assessment, assessment of representativeness; more guidance would be useful. | 1 | 1 | | | |
| Station density could be reduced if modelling is extended. | 1 | 1 | | | |
| Model quality (for NO2) is insufficient. More model validation against measurement is needed. | 1 | | | 1 | |
| Modelling with improved QA/QC and lower uncertainty is necessary, harmonisation by FAIRMODE welcomed. | 1 | 1 | | | |
| AQ models are not very reliable at present, but could be efficient. | 1 | | | | 1 |
| Improvements of model will make the use of models for policy making effective. | 1 | | | | 1 |
| Mandatory modelling would be beneficial for Europe-wide harmonisation of assessment. | 1 | 1 | | | |
| Monitoring is not sufficient to provide AQ information throughout the country, modelling is essential. | 1 | 1 | | | |
| | | | | | |
| **3. Comments regarding PM measurement methods are given (see also Issue 5).** | 7 | 5 | 0 | 0 | 2 |
| Standardise methods for "new pollutants" such as black carbon or elemental carbon. | 1 | 1 | | | |
| A continuous reference method for PM is requested (gravimetric is expensive). | 1 | 1 | | | |
| Equivalent PM measurement methods are not sufficiently reliable. | 1 | 1 | | | |
| There is no reference method for EC/OC. | 1 | 1 | | | |
| Type approval for TEOM is not sure, new equivalent monitors are expensive. But the PM10 reference method gives no near-real time information. | 1 | | | | 1 |
| The reference method for PM10 gives no near real time information for informing the public. | 5 | 3 | | | 2 |
| | | | | | |
| **4. The station density requirements can be improved (see also Issue 7).** | 7 | 4 | 0 | 0 | 3 |
| Clarify the number of PM10/PM2.5 stations required between the upper and lower assessment threshold. | 1 | 1 | | | |
| Monitoring of rural background per 100.000km² is a problem for a small country. | 1 | | | | 1 |
| The station density per zone is insufficient for exposure assessment. | 1 | 1 | | | |
| More stations than the current minimum required can be better. | 1 | | | | 1 |
| The minimum number of station per zone does not relate to size, topography of zones. | 1 | 1 | | | |
| Station density requirements should be reviewed because the size of zones varies strongly in the EU. | 1 | | | | 1 |
| More flexibility in station number and station siting is needed, more guidance than legal requirements. | 1 | 1 | | | |
| Reduce the number of ozone monitoring sites in northern Europe (little local ozone formation, mainly transboundary). | 1 | 1 | | | |
| | | | | | |
| **5. Improve the equivalence of PM monitors.** | 5 | 3 | 1 | 0 | 1 |

| Issues regarding air quality assessment | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| PM correction factors need to be harmonised | 1 | | | | 1 |
| Equivalent PM measurement methods are not sufficiently reliable. | 1 | 1 | | | |
| PM correction factors for TEOM need to be harmonised | 1 | | 1 | | |
| Harmonisation in equivalence testing for PM monitors is required | 1 | 1 | | | |
| Harmonisation of automatic PM monitoring devices is needed | 1 | 1 | | | |
| | | | | | |
| **6. Harmonise assessment methods with EMEP.** | 4 | 3 | 0 | 0 | 1 |
| Harmonisation between EC and EMEP requirements is needed. | 1 | 1 | | | |
| Harmonisation between EU and EMEP monitoring requirements is needed, especially for PM compounds. | 1 | 1 | | | |
| Stronger interaction between Commission and CLRTAP is needed (e.g. emphasise importance of EMEP network). | 1 | 1 | | | |
| Harmonisation with EMEP monitoring obligations (not fully achieved at background stations) is very important to avoid parties terminating of long-term EMEP data series. | 1 | | | | 1 |
| Resolve differences with EMEP regarding size fraction of chemical species of PM. | 1 | | | | 1 |
| Resolve differences with EMEP regarding time resolution for chemical species of PM. | 1 | | | | 1 |
| VOC stations are more appropriate at rural background sites, also for the objectives of the AQD. | 1 | | | | 1 |
| EMEP has focus for SO2 and NOx monitoring on manual methods. | 1 | | | | 1 |
| For deposition of HMs, the EMEP reference method can be used for DD4. | 1 | | | | 1 |
| | | | | | |
| **7. The station density requirements are appropriate (see also Issue 4).** | 4 | 3 | 0 | 0 | 1 |
| The density of monitoring stations is appropriate. | 1 | 1 | | | |
| Station density requirements should not be reduced, even if model use increases. | 1 | 1 | | | |
| Monitoring of rural background per 100.000km² shared with other countries is adequate. | 1 | | | | 1 |
| The station density is appropriate. | 1 | 1 | | | |
| Station density depending on concentration levels (upper/lower assessment threshold) is adequate. | 1 | | | | 1 |
| Station density requirements are adequate. | 1 | 1 | | | |
| | | | | | |
| **8. Air quality assessment is cost-effective (see also Issue 12).** | 4 | 2 | 0 | 0 | 2 |
| The general approach of assessment is considered cost-effective in relation to health costs. | 1 | | | | 1 |
| Costs of assessment are appropriate related to abatement costs, but could be optimised. | 1 | 1 | | | |
| The general approach is considered cost-effective. | 1 | | | | 1 |
| The general approach is considered expensive but cost-effective. | 1 | 1 | | | |
| | | | | | |
| **9. Satellite data can be useful (see also Issue 10).** | 4 | 3 | 0 | 0 | 1 |
| Satellite data can be used for cost-effective assessment, applications should be promoted. | 1 | 1 | | | |
| The use of satellite data e.g. for PM10 episodes increases and the usefulness is increasing. | 1 | | | | 1 |
| Satellite data are already used, the use is supported. | 1 | 1 | | | |
| Use satellite data for verification of emission data. | 1 | 1 | | | |
| | | | | | |
| **10. Satellite data are of insufficient quality (see also Issue 9).** | 4 | 2 | 0 | 0 | 2 |
| The spatial resolution and accuracy of satellite data is insufficient for model applications. | 1 | | | | 1 |
| Satellite data may be used for modelling, but is insufficient for compliance checking. | 1 | 1 | | | |

| Issues regarding air quality assessment | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| Satellite data are not very useful in the short term, except for scientific applications. | 1 | 1 | | | |
| The spatial resolution and accuracy of satellite data is insufficient for local applications. | 1 | | | | 1 |
| | | | | | |
| **11. Station siting requirements can be improved.** | 3 | 2 | 1 | 0 | 0 |
| Guidance on the siting of stations is required | 1 | 1 | | | |
| Better specifications in macro-scale siting criteria for traffic and industrial stations are needed. | 1 | 1 | | | |
| The minimum representative area of industrial sites should be larger than 250m x 250m. | 1 | | 1 | | |
| Rooftop stations for urban background monitoring are strongly supported. | 1 | 1 | | | |
| | | | | | |
| **12. Monitoring is expensive; consider possibilities for optimising or relaxing (see also Issue 8).** | 3 | 3 | 0 | 0 | 0 |
| Costs for monitoring are high, despite the minimum number of sites in operation. | 1 | 1 | | | |
| The review should focus on improving the cost-efficiency of the assessment | 1 | 1 | | | |
| Measurement of VOCs, Hg is questionable: no environmental objectives, very expensive equipment. | 1 | 1 | | | |
| | | | | | |
| **13. There are problems with the reference method for PAH.** | 2 | 2 | 0 | 0 | 0 |
| There are problems with the reference method for PAH sampling and analysis. | 1 | 1 | | | |
| A reference method for PAH is required. | 1 | 1 | | | |
| | | | | | |
| **14. Merge the Fourth Daughter Directive with the AQD.** | 2 | 1 | 1 | 0 | 0 |
| Merge the fourth daughter directive with the AQD | 1 | 1 | | | |
| Integrate the fourth daughter directive into the framework of the CAFE directive | 1 | | 1 | | |
| | | | | | |
| **15. Modelling should not be mandatory (see also Issue 2).** | 2 | 2 | 0 | 0 | 0 |
| Modelling should continue to be voluntary | 1 | 1 | | | |
| Modelling is useful for additional information, but is not accurate so should not be mandatory | 1 | 1 | | | |
| | | | | | |
| **16. No further harmonisation of assessment is needed (see also Issue 1).** | 1 | 1 | 0 | 0 | 0 |
| Differences in assessment between MS cannot be avoided; no additional regulation is necessary. | 1 | 1 | | | |
| | | | | | |
| **17. Various other comments on air quality assessment** | 13 | 6 | 3 | 2 | 2 |
| There is no clear objective for HM and PAH deposition in rural background, the provision could be deleted | 1 | 1 | | | |
| Hot-spot locations should not be used for compliance assessment with long-term LV | 1 | | 1 | | |
| The effectiveness of the LVs of NO2 and PM are questionable | 1 | 1 | | | |
| Data quality objectives can be made more stringent | 2 | | | 2 | |
| O3 modelling by e.g. EEA would be helpful | 1 | 1 | | | |
| Include TVs for additional PAHs, especially dibenzopyrenes. | 1 | 1 | | | |
| An alert value for PM10 could be useful | 1 | 1 | | | |
| Investigate the impact of ambient AQ on indoor AQ | 1 | | | | 1 |
| Emission assessment should be on local case-by-case basis | 1 | | 1 | | |
| The accuracy of diffuse dust emission data is questionable | 1 | | 1 | | |
| Replace annual mean LVs or TVs by 3-year-running averages, smoothing meteorologically induced variations | 1 | 1 | | | |
| Revise CEN standards, but provide a long transition period for existing equipment | 1 | 1 | | | |
| Reduce data quality objective for data capture from 90% to 80-85% | 1 | 1 | | | |

| Issues regarding air quality assessment | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| Consider short-lived climate forcers in regard of climate change policies. | 1 | | | | 1 |
| Reduce the number of LVs to reduce monitoring requirements | 1 | 1 | | | |
| A reference method for HM is needed | 1 | | 1 | | |
| Assessment relating to zones (attributing exceedances to zones) and frequent changes of zones is problematic | 1 | 1 | | | |
| Analyse the station density | 1 | 1 | | | |
| Specify "total deposition" either as "bulk" or "wet-only" | 1 | 1 | | | |

### *2.3.6 Question 5(2): Estimates of annual costs for a monitoring station*

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

Costs of PM monitoring and monitoring under the Fourth Daughter Directive were provided by 11 Member States, one Business Association and three Other Stakeholders.

.

The answers give, alternatively (a) annual operation costs (in these cases it is not always clear if annual depreciation of equipment is considered), (b) annual operation costs and annual depreciation of equipment, or (c) costs of equipment.

The numbers have therefore to be interpreted and compared with caution. “Equipment” in some cases comprises only the sampler itself, in other cases the whole monitoring station (including housing and air conditioning).

The following replies were given.

## Belgium

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

2 BAM monitors (PM10, PM2.5), 1 MAAP (BC): 70.000,- euro. The use of TEOM-FDMS's might increase the costs.

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

(Flanders): heavy metals: 35.000,-
(Flanders): PAH: 35.000,-

## Czech republic

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

The total annual cost of one automatic PM station can be estimated about 8 000 EUR.

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

The total annual cost of one HM station including laboratory analyses can be estimated about 13 000 EUR.
The total annual cost of one PAH station including laboratory analyses can be estimated about 17 000 EUR.

## Germany

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

Annual marginal costs of one monitoring station depend on the structure and size of
the network and on parameters such as the distance of the station from the service units.
The following costs refer to a typical German monitoring network. They refer to an additional station in an existing network.

| | |
|---|---|
| Pos. 1: investment costs (five year depreciation): PM monitor, container, air conditioning, data storage and transfer | 17.000,00 € |
| Pos. 2: personal costs (maintenance, quality control and assurance, validation with the reference method, data handling) | 15.000,00 € (per annum) |
| Pos. 3: spare parts | 500,00 € |
| Pos. 4:electricity | 1.000,00 € |
| Pos. 5: telecommunication (e.g. data transfer) | 500,00 € |
| Pos. 6: articles of consumption (e.g. filters) | 1.000,00 € |
| | Σ 35.000,00 € |

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

| | |
|---|---|
| Pos. 1: sampling:<br>- investment costs (five year depreciation): two samplers (1 for grav. Ref. method, 1 for analyses), balance<br>- personal costs<br>- other costs (travel, articles of consumption, spare parts, electricity, telecommunication, calibration) | 10.000,00 €<br>10.000,00 €<br>4.000,00 € |
| Pos. 2: analysis of heavy metals:<br>- investment costs (five year depreciation): ICP-MS, divided by 30 stations<br>- personal costs<br>- other costs (articles of consumption, spare parts, external maintenance, electricity) | 1.000,00 €<br>3.500,00 €<br>200,00 € |
| Pos. 3: analysis of PAH:<br>- investment costs (five year depreciation): HPLC, divided by 25 stations<br>- personal costs (120 samples) [alternative 12 monthly samples]<br>- other costs (articles of consumption, spare parts, external maintenance, electricity) | 800,00 €<br>2.000,00 €<br>[600,00 €]<br>500,00 € |
| Pos. 1-3: | Σ 32.000,00 €<br>(per annum) |

| | |
|---|---|
| Pos. 4: additional monitoring of metal and PAH deposition:<br>- investment costs (five year depreciation): two samplers<br>- personal costs (sampling, analysis)<br>- other costs (travel, articles of consumption, spare part, analyser ty, telecommunication) | 8000,00 €<br>10.000,00 €<br>1.000,00 € |
| Pos. 4: | Σ 19.000,00 €<br>(per annum) |

| | |
|---|---|
| Pos. 5: additional monitoring of mercury (air, particles, deposition):<br>- investment costs (five year depreciation): nalyser for TGM, analyser for TPM/RGM, sampler for deposition, analyser for Hg in deposition<br>- personal costs (sampling, maintenance, analysis)<br>- other costs (travel, articles of consumption, spare parts, external maintenance, electricity, telecommunication, calibration) | 50.000,00 €<br>10.000,00 €<br>2.000,00 € |
| Pos 5: | Σ 62.000,00 €<br>(per annum) |

The costs for chemical analysis for heavy metals, PAH and mercury depend on the overall number of samples in the network. The marginal costs of concentration, deposition and mercury monitoring amount to 113.000 € per annum.

## Denmark

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

The Danish air quality programme is financed by the Ministry of the Environment in a single contract with an independent university. Previously some major urban municipalities had separate measurement programmes. However, these have been abolished due to problems with maintaining data quality in 'small units'.

Total budget for the air monitoring programme is 24 million Dkr. Annually divided on about 14 million Dkr. For the measurements under the air quality directive and about 10 million Dkr. For supplementary measurements (EMEP and evaluation of national plans for reducing N-deposition). These amounts cover all costs concerning air quality monitoring including maintaining databases, reporting data to relevant bodies, updating internet with up-to-date data and assessment by modelling of a number of pollutants.

The annual marginal cost for a single PM measurement station is roughly 250 000 Dkr. (~33k€).

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

HM: about. 125.000 Dkr. – additional cost for analysis provided filter samples are already made.
PAH: about 250 000 Dkr. – this is more costly as additional high volume sampling is needed.

## France

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

The amounts include all taxes.
- For a PM automatic urban background site: between 75 and 110 k€, depending on the equipment purchased and the difficulties in placing the cabin. For operation, 10 to 20 k€ per year, costs which can partially be optimised with other possible pollutants measured at the station.

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

ii. For a rural site for PAH and heavy metals: between 80 and 110 k€ for the two samplers and the cabin (depending on the difficulties in placing the cabin and electrical connection). For operation, between 35 and 45 k€ including chemical analyses and depending on the duration of shifts of technicians.

Note (for point a and b) that this information is based on a quick evaluation and does not represent a French average cost.

## Lithuania

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

Estimated annual marginal costs of an urban background station for PM automatic measurements is 6500 Euro + station hardware ( ollutan, shelter, data logger, modem and etc, which cost around 25000 Euro).

3. There is the great need to establish automatic reference method for the $PM_{10}$ and $PM_{2.5}$ measurements in the ambient air because today approach based on reference type gravimetrical method with complicate and expensive equivalence demonstration requirement for all existing automatic monitoring equipment which should be made by all EU MS is totally cost ineffective approach.

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

Estimated annual marginal costs of a remote background station for heavy metals and PAH is 10000 Euro + station hardware (PM sequential sampler, shelter, data logger, modem and etc., which cost around 30000 Euro).

## Netherlands

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

The costs for any new station are 65 000 euro (housing, placement, connection to energy and data networks, personnel). With a depreciation period of 5 years, this amounts to **13 000 euro** per year.

The annual costs of operation are for any station **3 000 euro** per year (energy, data, airco, maintenance).

For an automatic PM monitor, investment costs are 35 000 euro. This amounts to **7 000 euro** per year.

Per automated PM monitor, annual costs are:

- maintenance: 2 500 euro
- validation: 1 500 euro
- calibration: 3 500 euro

**annual costs 7 500 euro + 7 000 euro depreciation = 14 500 euro**

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

In addition to the annual costs for a new station as described under 5(a), investment costs for heavy metal and PAH monitoring are 17 000 euro, or **3 400 euro** per year. This does however not include deposition monitoring for these substances.

The annual costs of operation for heavy metal and PAH monitoring are:

- maintenance/logistics: 4 500 euro
- chemical analysis PAH: 10 000 euro
- chemical analysis HM: 11 000 euro
- Validation: 1 500 euro

**annual costs: 27 000 euro + 3 400 euro depreciation = 30 400 euro**

## Poland

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

The annual costs of obtaining verified annual series of PM10 dust and PM2.5 dust from one monitoring station, including personal and annual depreciation costs (assuming a five-year-long depreciation period) are on average PLN 145,000, which is the equivalent of EURO 36,760.

*(the exchange rate of PLN to EUR – 3.839, according to the resolution of the President of the Council of Ministers of 23 December 2009 on the average PLN/EUR exchange rate, constituting the basis for converting the value of public procurement)*

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

The annual costs of obtaining verified annual series of heavy metals (Pb, As, Ni, Cd) and Ahs 7 determined in the directive 2004/107/EC from one PM10 dust monitoring station, including personal and annual depreciation costs (assuming a five-year-long depreciation period) are on average PLN 310,000 which is the equivalent of EURO 80,494.

*(the exchange rate of PLN to EUR – 3.839, according to the resolution of the President of the Council of Ministers of 23 December 2009 on the average PLN/EUR exchange rate, constituting the basis for converting the value of public procurement)*

## Romania

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

Annual marginal costs of an urban background station for PM (including personal costs and five year depreciation of investment costs) are about 15 000 Euro.

## Sweden

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

We have received information from a municipality in Sweden that estimated annual marginal costs with an automatic method at approximately €30,000.

The Swedish Environmental Institute (IVL) also provided information for monitoring with a filter method that they have developed. IVL carry out PM monitoring with this method on behalf of a large number of municipalities within Sweden. It is a “semi-automatic” method that has yet to be approved as equivalent with the reference method, but has shown good agreement with the reference method in previous co-location tests. The annual marginal costs for an urban background station using this method is estimated at around €13,500.

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

IVLs filter method can also be used for monitoring of heavy metals and PAH. Annual marginal costs for heavy metal and PAH monitoring are therefore in addition to the estimated €13,500 required for the PM monitor, are cover also costs for the extra work involved in analysing the filters.

Additional costs for heavy metals are €2,200 with PAH an extra €4,400. The total annual marginal costs for a site monitoring both heavy metals and PAH is therefore approximately €20,000.

## United Kingdom

**19. 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.

## CEFIC

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

In our experience, investment costs for a monitoring station are about 150,000 €. Annual operating costs (labour, energy, …) are around 50,000 – 80,000 €.

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

Depending on the background, on the pollutant measured, high variations in investment and operating costs exist for these substances.

Compared to the parameters described under a.), the cost for monitoring these parameters (HM + PAH) is substantially higher.

## Montenegro

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

According to our estimation, ollutants cost for one monitoring station is around 22'000 euro. Monitoring devices price of course vary, as well as combination of the ollutants monitored at the same station.

As an example, one UB station where NO2 and PM10/PM 2.5 are monitored, costs around 60'000 euro plus maintenance costs. If SO2 is monitored as well at the same monitoring station the equipment costs are around 70,000 euro plus maintenance costs. Costs estimation does not include personal costs and five year depreciation.

## Norway

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

Ca. 45.000 Euros/year (for a new station, not already established for measurement of other components).

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

Ca. 49.000 Euros/year (for a new station, not already established for measurement of other components. For measurement of PAH: 1 sample per month for 4 months per year. For measurement of heavy metals: 4 samples per month for 6 months per year.

## EUROCITIES

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

The estimated annual cost is around €30,000.

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

The estimated annual cost is around €30,000.

### *Conclusions*

***Annual marginal costs of an urban background station for PM (automatic method)***

Replies regarding an urban background station were provided from 11 Member States, one Business Association and three Other Stakeholders.

- Annual operation costs cover a range from 6,500€ to 80,000€, in most cases about 30,000€.
- Annual depreciation and operation costs are between 15,000€ and 37,000€.

- The equipment itself ranges from 35,000€ (one monitor) to 150.000€ (PM10 and PM2.5 monitors, data logger, data transmission, housing, air conditioning).

The Other Stakeholders and the Business Association do not particularly stand out in their replies, compared to the replies of the Member States.

***Annual marginal costs of a remote background station for heavy metals and PAH (Fourth Daughter Directive)***

Replies were provided from 9 Member States, one Business Association and two Other Stakeholders.

The information provided is rather heterogeneous.

- Annual costs for heavy metals in PM10 (sampling and analysis) are in the range from 13,000€ (CZ) to 16,500€ (DK).
- Annual costs for PAH in PM10 (sampling and analysis) are in the range from 17,000€ (CZ) to 33,000€ (DK).
- For HM and PAH deposition a value of 19,000€ is given only by DE.Costs for the sum of HM and PAH in PM10 (including annual depreciation) range from 32,000€ (DE) to 56,000€ (UK).
- Total costs for the sum of HM and PAH in PM10 and their deposition (incl. annual depreciation) cover a very wide range from 10,000€ (LT) to 45,000€ (FR).
- A number of 80,500€ is given in one Member State (PL), in this case it is not clear if this only refers to HM and PAH in PM10, or also includes deposition.
- For the equipment for HM and PAH the costs cover a range from 17,000€ (NL) to 110,000€ (FR), the latter number comprises the whole station including housing.
- Monitoring of Hg (gas phase, particulate, deposition; incl. annual depreciation) is in the range of 56,000€ (UK) to 62,000€ (DE).

Although the number of replies is relatively small, one rough conclusion is that monitoring equipment and operation are cheaper in eastern Europe compared to western Europe.

It has to be noted that the replies may constitute a “best guess” only and may not be based on detailed calculations. Therefore, they are intended for providing a general picture only and not at providing detailed information on costs of air quality monitoring in Europe.

### *2.3.7 Question 6: Air quality management in Member States*

**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):

6. the effectiveness of the provisions on air quality plans;
7. the effectiveness of provisions in relation to contributions by transboundary air pollution;
8. synergies/antagonisms in air quality plans with climate change policies;
9. 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);
10. any other issue.

| Issues regarding air quality management in Member States | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| **1. There are possibilities for improvement of AQ plans (see also Issue 7).** | 14 | 4 | 3 | 4 | 3 |
| Quantification of (local) measures is difficult, this is to be considered in AQ plan provisions. | 1 | 1 | | | |
| Requirements on AQ plans must be proportionate and administrative burdens minimised. | 1 | 1 | | | |
| The forms for reporting air quality plans are very complicated. | 2 | | | | 2 |
| Addressing only sources in the vicinity of monitoring sites should be avoided. | 1 | 1 | | | |
| The focus on monitoring sites only has to be avoided. | 1 | 1 | | | |
| The focus of AQ plans should be on long term measures. | 1 | | | | 1 |
| The provisions on AQ plans are effective, but assessment of synergies with climate change and environmental noise objectives should be required. | 1 | 1 | | | |
| AQ plans should clearly demonstrate contributions to other environmental objectives. | 3 | | | 3 | |
| The requirements for modelling are ambiguous (about monitoring for compliance checking but modelling is more necessary for source analysis). | 1 | 1 | | | |
| Strict criteria for the definition of action plans are needed. | 4 | | | 4 | |
| Regarding AQ plans a consistent approach across the EU is necessary. | 2 | | 2 | | |
| The Commission needs to scrutinize the AQ plans. | 3 | | | 3 | |
| There should be a standardised way to project future compliance with limit values. | 2 | | | 2 | |
| AQ plans should take into account technological developments and the timeframe for structural changes. | 1 | | 1 | | |
| A zonal approach is not always useful for AQ planning. | 1 | 1 | | | |
| Shorten the time period for assessment and drawing up AQ plans. | 2 | | | 2 | |
| | | | | | |
| **2. Consider synergies and antagonisms with other policy fields, particularly climate change policy.** | 11 | 7 | 2 | 0 | 2 |

| Issues regarding air quality management in Member States | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| CC policy focuses more on long term measures, but CC policy is mostly positive. | 1 | 1 | | | |
| CC policies should consider co-benefits and possible negative effects. | 1 | | | | 1 |
| Recommendations and references to co-benefits should be given to the MSs in order to prevent implementing antagonistic measures. | 1 | | | | 1 |
| Climate change is too much prioritised in comparison to air protection, which has direct link to health impact. | 1 | 1 | | | |
| CC policy should be considered in the review. | 1 | | | | 1 |
| New regulations for EC/BC should be considered. | 1 | 1 | | | |
| Encourage the investigation, development and implementation of actions at the EU level that provide co-benefits for air quality and climate change. | 1 | 1 | | | |
| Careful considerations, also trade-offs should be included in scenarios and projections. | 1 | 1 | | | |
| Antagonisms with biomass should be addressed by the directives on renewable energy and on eco design and the IED. Close links are important. | 1 | 1 | | | |
| Synergies/trade-offs are important; trade-offs with biomass have to be addressed properly. | 2 | 1 | | | 1 |
| Increased land use efficiency (densification of built environment) worsens air pollution dispersion conditions. | 1 | | | | 1 |
| Measures to increase the energy efficiency in combustion processes may entail increases in Nox emission and the other way around. | 1 | | 1 | | |
| Consider the long term consequences of measures that might imbalance gasoline and diesel demands due to the focus on GHG targets. | 1 | | 1 | | |
| | | | | | |
| **3. Action at EU or international level is more effective than local action; transboundary air pollution cannot be addressed locally.** | 10 | 6 | 2 | 0 | 2 |
| Commission should be involved more intensively regarding transboundary air pollution. | 1 | 1 | | | |
| Regular analysis of transboundary air pollution by EEA is important. | 1 | 1 | | | |
| Guidelines for determining transboundary air pollution and winter sanding should be simplified. | 1 | 1 | | | |
| The current provisions regarding transboundary air pollution are not useful. It would be helpful to know if the provisions could be utilised effectively in other MSs. | 1 | 1 | | | |
| Best practice examples on dealing with transboundary air pollution might be helpful. | 1 | 1 | | | |
| Provisions are not very effective regarding transboundary pollution; EU-level actions and international cooperation are needed to tackle this. | 1 | | | | 1 |
| Transboundary pollution will be more important in future; it requires EU level action and international cooperation. | 1 | | | | 1 |
| European and national measures are more effective than local. | 3 | 1 | 1 | | 1 |
| Local efforts are often not effective. | 2 | | 1 | | 1 |
| Exemption from infringement under certain conditions of transboundary transport should be possible. | 1 | 1 | | | |
| The provisions on transboundary pollution are not very effective, should be made more effective. | 1 | 1 | | | |
| | | | | | |
| **4. Guidance and information exchange on air quality plans and measures is helpful.** | 7 | 3 | 0 | 4 | 0 |
| Guidance and best practice examples could be appropriate. | 1 | 1 | | | |

| Issues regarding air quality management in Member States | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| Clarification regarding the adoption of AQ plans is needed. | 2 | | | 2 | |
| Guidelines (on the contribution of local sources, exposed population) would be helpful. | 1 | 1 | | | |
| A common understanding of available and proportionate measures for NO2 (workshops etc.) is important. | 1 | 1 | | | |
| Promotion of successful abatement measures is important. | 3 | | | 3 | |
| Information on measures and good practice examples is available and should be disseminated to and implemented in MSs. | 4 | | | 4 | |
| Guidance on how AQ action plans link to Dir. 2001/42/EC (SUP) on Strategic Environmental Assessment is desirable. | 1 | 1 | | | |
| | | | | | |
| **5. Short term action plans are not very effective.** | 6 | 4 | 1 | 0 | 1 |
| AQ is better addressed on the regional and European level; short term action not (cost) effective. | 1 | 1 | | | |
| During transboundary pollution episode emphasis should be on public information given the limited scope for action. | 1 | 1 | | | |
| Focus on medium to long term measures, short term are often not cost effective. | 1 | 1 | | | |
| Long term measures are often more effective than short term measures. | 1 | 1 | | | |
| Short-term action should relate to alert thresholds only. | 1 | 1 | | | |
| Reduce the admin burden related to short term actions. | 1 | | 1 | | |
| The estimation of cost/effectiveness of short term action is time consuming. | 1 | | | | 1 |
| | | | | | |
| **6. Public information and stakeholder consultation is important.** | 6 | 0 | 2 | 4 | 0 |
| Consultation with all stakeholders is necessary in the development of AQ plans. | 1 | | 1 | | |
| Consultation with industry is necessary in the development of AQ plans. | 1 | | 1 | | |
| Public participation in the development of AQ plans should be strengthened. | 1 | | | 1 | |
| The cost-effectiveness and positive outcomes expected from measures should be communicated to the public. | 3 | | | 3 | |
| Awareness raising campaigns about air pollution and how to tackle it should be emphasised. | 3 | | | 3 | |
| | | | | | |
| **7. The provisions on air quality plans are appropriate.** | 5 | 3 | 0 | 0 | 2 |
| The AQ plan is a useful instrument to tackle local sources. | 1 | 1 | | | |
| The provisions on AQ plans are appropriate. | 2 | 1 | | | 1 |
| The concept of AQ plans is fine. | 1 | 1 | | | |
| Air quality plans are efficient as instrument. | 1 | | | | 1 |
| | | | | | |
| **8. Various other comments on air quality management in Member States** | 9 | 5 | 2 | 0 | 2 |
| The effects of measures are difficult to show. | 1 | 1 | | | |
| The provisions of Art. 30 (Penalties) should be reviewed. | 1 | 1 | | | |
| MSs in central Europe are discriminated against those on the edge of Europe. | 1 | | 1 | | |
| AQ plans might also be a useful instrument to tackle NH3. | 1 | | | | 1 |
| Short term action plan needs to be well assessed, can complement an AQ plan as an element in a coherent local AQ policy. | 1 | | | | 1 |
| A description of the AQ management approach in the responding MS is given. | 1 | 1 | | | |
| A definition of the risk of exceedance is missing; this might lead to different approaches in EU. | 1 | 1 | | | |

| Issues regarding air quality management in Member States | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| The need in MSs of emission inventories should be appropriately addressed in the AQD. | 1 | 1 | | | |
| Cross media effects of short term measures should be taken into account. | 1 | | 1 | | |

### *2.3.8 Question 7: Public information and dissemination*

**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):
4. the effectiveness of the provisions for public information;
5. further harmonisation of public information, e.g. introducing a common Air Quality Index;
6. any other issue.

| **Issues regarding public information and dissemination** | **All** | **MS** | **BA** | **NGO** | **OS** |
|---|---|---|---|---|---|
| **1. Improve public information with respect to specific aspects.** | 11 | 5 | 2 | 0 | 4 |
| Consider a requirement to inform citizens on how they can help to improve AQ during high pollution episodes. | 1 | 1 | | | |
| Inform the public more about critical components. | 1 | 1 | | | |
| Information on an hourly basis is the most useful provision. | 1 | 1 | | | |
| Giving best practice examples could be highly beneficial. | 1 | 1 | | | |
| Provide information such as trend lines. | 2 | | 1 | | 1 |
| Provide information on emissions coming from different sources. | 1 | | 1 | | |
| Include information on the impact of actions in public information. | 1 | 1 | | | |
| Public information may not be effective on all levels and should be reviewed. | 1 | 1 | | | |
| Guidance is required on adequate and timely provision of information. | 1 | 1 | | | |
| Define near-real-time in the AQD before requiring it in the implementing provisions. | 1 | 1 | | | |
| Collect and present information on best-practice measures in different MSs. | 1 | 1 | | | |
| A common “scale” of health effects at various pollution levels would be helpful. | 1 | | | | 1 |
| Include in public information some information on allergens. | 1 | | | | 1 |
| Give the public clear messages and support local decisions with wide information efforts, explaining the sources of the pollution. | 1 | | | | 1 |
| Educational aspects should be considered: increase the understanding of long-term exposure. | 1 | | | | 1 |
| | | | | | |
| **2. A common air quality index is recommended (see also Issue 5).** | 11 | 9 | 0 | 0 | 2 |
| An AQ index would facilitate and improve the public information process. | 1 | 1 | | | |
| An AQ index is promising. | 1 | | | | 1 |
| We support the introduction of a common European AQ index. | 1 | 1 | | | |
| AQ indices should be streamlined. | 1 | 1 | | | |
| A common AQ index would be a very useful communication tool. | 1 | 1 | | | |

| Issues regarding public information and dissemination | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| An AQ index is supported, including prognoses. | 1 | 1 | | | |
| An AQ index or the possibility to use satellite data would be very useful. | 1 | 1 | | | |
| A common AQ index could be positive | 1 | | | | 1 |
| An AQ index for all MSs seems worth supporting. | 1 | 1 | | | |
| The responding MS is interested in taking part in the harmonisation of AQ indices. | 1 | 1 | | | |
| A common AQ index might be beneficial. | 1 | 1 | | | |
| | | | | | |
| **3. The provisions on public information are useful and appropriate.** | 8 | 4 | 1 | 0 | 3 |
| The EU provisions for public information are sufficient. | 1 | 1 | | | |
| The provisions on public information are by and large considered appropriate. | 1 | 1 | | | |
| The provisions on public information are fine. | 1 | 1 | | | |
| The current provisions for public information are appropriate. | 1 | 1 | | | |
| The provisions on public information are adequate. | 1 | | | | 1 |
| The provisions for public information are clearer than in earlier directives. | 1 | | | | 1 |
| The provisions for public information have served well. | 1 | | | | 1 |
| We consider the access of the public to information and data as sufficient. | 1 | | 1 | | |
| | | | | | |
| **4. Better access to information for the public is important.** | 8 | 3 | 2 | 3 | 0 |
| The information on EIONET is sometimes incomplete or hard to access for the general public. | 3 | | | 3 | |
| It is important that information is freely available to the public. | 2 | | 2 | | |
| There is scope for simplification and consolidation of the provisions for public information. | 1 | 1 | | | |
| Major public information efforts are still needed. | 1 | 1 | | | |
| Public information can be improved by creating at European level one easily accessible website for AQ data. | 1 | 1 | | | |
| | | | | | |
| **5. A common air quality index is not recommended (see also Issue 2).** | 7 | 2 | 1 | 0 | 4 |
| We prefer to use own AQ index rather than a common EU AQ index. | 1 | 1 | | | |
| A common AQ index is not considered suitable. | 1 | 1 | | | |
| An air quality index is not favoured. | 1 | | | | 1 |
| Any further harmonisation of public information is deemed unnecessary. | 1 | | | | 1 |
| Air quality indices could reduce the quality of the information for the public. | 1 | | | | 1 |
| The use of a common air quality index should not be mandatory. | 1 | | | | 1 |
| An AQ index should not be regulated. | 1 | | 1 | | |
| | | | | | |
| **6. Inform the public also about non-compliance.** | 4 | 0 | 0 | 4 | 0 |
| Reporting exceedances nine months after the end of the calendar year is very late. | 2 | | | 2 | |
| Better inform the public about air quality implementation, breaches, and enforcement. | 3 | | | 3 | |
| Make documents on infringement procedures available to the public. | 1 | | | 1 | |
| Publicise exceedances of limit values as soon as they occur. | 1 | | | 1 | |
| | | | | | |
| **7. Complexity in the legislation makes communication difficult.** | 4 | 4 | 0 | 0 | 0 |
| Public information on daily PM values is difficult. | 1 | 1 | | | |
| There are problems with the requirement to update PM10 levels on at least daily basis. | 1 | 1 | | | |
| Some limit and target values are difficult to communicate to the public. | 1 | 1 | | | |

| Issues regarding public information and dissemination | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| Simplification of AQ legislation would allow for better public information. | 1 | 1 | | | |
| | | | | | |
| **8. Various other comments on public information and dissemination** | 5 | 3 | 1 | 0 | 1 |
| For public information mandatory modelling could be requested. | 1 | 1 | | | |
| Additional public information should be a matter of MS competence. | 1 | 1 | | | |
| Public information could cause unnecessary alarm. | 1 | | 1 | | |
| An information threshold and/or an alert threshold for PM10 could be useful. | 1 | 1 | | | |
| Cross-references must be made between directive 2003/98/EC (reuse of public sector information) and the revised AQD. | 1 | | | | 1 |

### *2.3.9 Question 8: Governance*

**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):

6. any barriers to fully implement effective measures;
7. the role of the public in setting up air quality plans;
8. 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.
9. the distribution of obligations under EU legislation and national (and where appropriate regional and local) responsibilities (subsidiarity);
10. any other issue.

| Issues regarding governance | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| | | | | | |
| **1. Important influences are beyond control of the stakeholders.** | 9 | 6 | 1 | 0 | 2 |
| Transboundary PM pollution is a barrier for implementation. | 1 | 1 | | | |
| Transboundary pollution is a barrier for implementation. | 1 | | | | 1 |
| The impact of meteorology can be a barrier for implementation. | 1 | 1 | | | |
| The directive needs to be clearer on how to take account of large variations in concentrations due to severe meteorological conditions. | 1 | 1 | | | |
| European legislation related to transport should be strengthened (EURO standards, energy taxation). | 1 | 1 | | | |
| EURO VI emission standards and EURO6 for LDVs are too late to contribute in improving NO2 air quality. | 1 | 1 | | | |
| The failure of the vehicle emissions standards to deliver the expected reductions in emissions is an important barrier. | 1 | 1 | | | |
| Stricter and more accurate vehicle emissions standards (EURO standards) are needed. | 1 | | | | 1 |
| EURO-standards for transport have not led to the presupposed emission reductions. | 1 | 1 | | | |
| Either adapt the relevant standards, or take the deviations from real emissions into account in the evaluation of exceedances. | 1 | 1 | | | |
| The Commission should take timely measures to support MSs to comply with AQ standards. | 1 | 1 | | | |
| Consider addressing sources such as small combustion installations at Community level. | 1 | 1 | | | |
| EU-wide issues (transboundary pollution assessment, joint air quality plans) should be guided by European Commission. | 1 | 1 | | | |
| The EU legal framework should focus on where action is most appropriate at the EU level, e.g. transboundary air pollution. | 1 | 1 | | | |
| There can be “system-lock-in”-type barriers to further progress (e.g. transport infrastructure). | 1 | | 1 | | |
| | | | | | |
| **2. Coherence with other policies/legislation is important.** | 9 | 1 | 0 | 3 | 5 |
| Opportunities for tackling air pollution and other environmental problems simultaneously should be used, particularly through measures in AQ plans. | 3 | | | 3 | |
| Reduce the administrative burden through better coherence between directives. | 1 | | | | 1 |
| A barrier for implementation is difficult cooperation with the transport, industry and regional development departments. | 1 | 1 | | | |
| There are cases of national legislation preventing local authorities taking additional or stricter measures. | 1 | | | | 1 |
| Policies such as the Trans-European Transport Networks or the liberalisation of rail networks should integrate health and environmental objectives. | 1 | | | 1 | |
| Streamline the air protection policy with transport, energy and regional development policies also at the European level. | 1 | 1 | | | |
| Internationally binding emission limits based on BAT for the most relevant source categories are important. | 2 | | | | 2 |
| AQ policy should shift to an emission approach, e.g. tackling air pollution at the source. | 1 | | | | 1 |
| | | | | | |
| **3. Reduce the burden for Member States regarding assessment, reporting, development of air quality plans.** | 8 | 6 | 0 | 0 | 2 |
| Streamline the reporting of AQ to the Commission and the EEA. | 1 | 1 | | | |

| Issues regarding governance | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| A simplification of AQ reporting is suggested (regarding data handling for Airbase and the reporting questionnaire). | 1 | 1 | | | |
| Streamline air quality monitoring and assessment (assessment thresholds; emphasis on PM2.5). | 1 | 1 | | | |
| It is vital to review the assessment provisions and to reduce costs and improve cost-efficiency. | 1 | 1 | | | |
| AQ assessment poses a financial and organisational burden. | 1 | 1 | | | |
| Avoid that new requirements increase the administrative burden. | 1 | 1 | | | |
| The burden for assessment and reporting is large for MSs with compliance issues and lack of resources and specialists. | 1 | 1 | | | |
| The forms for reporting AQ plans to the Commission are very complicated and tedious and do not serve implementation at local level. | 2 | | | | 2 |
| Reporting concentrations and air quality plans requires filling in extensive Excel sheets. | 1 | 1 | | | |
| | | | | | |
| **4. The costs of measures are problematic.** | 8 | 4 | 2 | 0 | 2 |
| Tight financial resources are barriers for implementation. | 1 | 1 | | | |
| Tight financial resources and large investments needed are a burden. | 1 | 1 | | | |
| A barrier for implementation is that measures become increasingly expensive or have an influence on daily life. | 1 | 1 | | | |
| Since in most MSs local authorities have to pay for AQ measures, the costs are a major barrier. | 1 | | | | 1 |
| A burden is the lack of financial means for realising actions in the budgets of local self-governments. | 1 | 1 | | | |
| The costs of measures can be a barrier for implementation. | 1 | | | | 1 |
| Additional AQ measures required from industries may not be cost-effective. | 1 | | 1 | | |
| The cost and complexity of a measure can prevent it from being fully implemented. | 1 | | 1 | | |
| Some measures (e.g. low emission zones) require a relatively large setup. | 1 | 1 | | | |
| A barrier for implementation is that the persons or organizations that bearing the costs of measures are usually not (only) those who benefit from it. | 1 | 1 | | | |
| | | | | | |
| **5. Public engagement is important.** | 8 | 3 | 0 | 4 | 1 |
| The role of the public in setting up AQ plans should be highlighted. | 1 | 1 | | | |
| The role of the public in setting up AQ plans is important for the acceptance. | 1 | 1 | | | |
| Participation of the public is very important because the public is affected by measures such as changes in heating systems. | 1 | 1 | | | |
| It is necessary to put public awareness and engagement at the heart of AQ policies. | 3 | | | 3 | |
| Put public awareness and engagement central to AQ policies. | 1 | | | 1 | |
| Better information of the public in case of breaches, and greater transparency in infringement procedures is needed. | 1 | | | 1 | |
| Awareness-raising campaigns and the development of incentives are useful tools. | 1 | | | | 1 |
| | | | | | |
| **6. More guidance/best practice is useful.** | 7 | 1 | 0 | 4 | 2 |
| More guidance on how to implement provisions in MSs' legislation, with best practice examples, could be important. | 1 | 1 | | | |
| It is necessary to promote best practice measures at EU level and to help cooperation among MSs. | 3 | | | 3 | |
| Facilitate the exchange of good practice between EU MSs and provide guidance on implementation at the EU level. | 1 | | | 1 | |
| Try to harmonise access restriction schemes in Europe. | 1 | | | | 1 |

| Issues regarding governance | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| Practical guidance for simplifying data from the AQ questionnaire for informing the public might be useful. | 1 | | | | 1 |
| | | | | | |
| **7. The acceptance for air quality measures can be low.** | 5 | 1 | 0 | 0 | 4 |
| Because AQ measures can be expensive and may also affect public life, e.g. by traffic restrictions, resistance against measures can be heavy and may weaken the AQ plans. | | | | | |
| There is very little public and political acceptance for implementing hard measures. | 1 | 1 | | | |
| Traffic restrictions are difficult because of differences in public opinion and political pressures. | 1 | | | | 1 |
| A barrier can be the lack of appreciation of the role of air pollution as health determinant by a part of authorities, policy making and the public. | 1 | | | | 1 |
| Traffic restrictions are difficult because of opposition by the public and businesses. | 1 | | | | 1 |
| Resistance against measures that restrict individual freedom or interfere with widespread habits, especially regarding mobility, can be quite heavy. | 1 | | | | 1 |
| Public acceptance for some measures is low. | 1 | | | | 1 |
| Political resistance from groups affected by measures in the air quality plans can lead to measures with many exemptions. | 1 | | | | 1 |
| Accessibility and environment may be conflicting targets in the transport sector. | 1 | | | | 1 |
| | | | | | |
| **8. The timeframe for preparing air quality plans is too tight.** | 3 | 2 | 1 | 0 | 0 |
| More time than allowed in the AQD is needed to prepare AQ plans and involve public and other stakeholders. | | | | | |
| Time framework of the Directive (deadlines for PM2.5, PM10 and other) is an implementation barrier. | 1 | 1 | | | |
| Air quality plans can require time for developing. | 1 | 1 | | | |
| The timeframe for preparing air quality plans is a burden, considering that the public has to be involved. | 1 | 1 | | | |
| MSs need a longer time period to establish air quality plans. | 1 | | 1 | | |
| | | | | | |
| **9. Better enforcement by the Commission is needed.** | 2 | 0 | 0 | 2 | 0 |
| Improve the scrutiny of transpositions of Article 30 (penalties applicable to infringements of national provisions). | 2 | | | 2 | |
| | | | | | |
| **10. Various other comments on governance** | 16 | 6 | 6 | 3 | 1 |
| The number of PM10 exceedance days is not a clear indicator for the effect of measures. | 1 | 1 | | | |
| Lack of flexibility and the uncertainty within the NECD directive fragilize the level playing field. | 1 | | 1 | | |
| National or local measures are more cost-effective for reducing hotspot levels. | 1 | | 1 | | |
| It would be difficult to agree on European-wide standards for public participation. | 1 | 1 | | | |
| Consider flexible approaches such as emission trading schemes for addressing ship emissions. | 2 | | 2 | | |
| Direct discussion between industry and regional authorities is advocated. | 1 | | 1 | | |
| Incorporate in the AQD a clarification of the competences of national laboratories. | 1 | 1 | | | |
| It is important that the efforts are shared between all levels of policy making. | 3 | | | 3 | |
| The administrative burdens for assessment, reporting, management, measures are considerable, however proportional. | 1 | 1 | | | |
| The authorities in charge assure, adequately and in good time, public information | 1 | 1 | | | |

| Issues regarding governance | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| regarding air quality plans. | | | | | |
| Assess the basis on which measures were taken (scientific base, costs, effects). | 1 | | 1 | | |
| Air quality plans are assessed in the Strategic Environmental Assessment, so the public has the possibility to give comments to it. | 1 | 1 | | | |
| For continuous PM monitoring, the lack of equivalence testing limits its use. | 1 | | | | 1 |
| We see insufficient feedback from the Commission on reported data. | 1 | 1 | | | |
| There is little information on transboundary influences. | 1 | 1 | | | |
| When limit values are not met, MSs, not cities, should be responsible for paying fines. | 1 | | | | 1 |

### *2.3.10 Question 9: Scientific and technological innovations*

**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):
7. air quality assessment technology (measurement, modelling);
8. health impacts of air pollution;
9. harmful effects of air pollution on vegetation and ecosystems;
10. innovation potential of abatement measures for air pollution sources;
11. expected trends in future air pollution;
12. any other field.

| Issues regarding scientific and technological innovations | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| | | | | | |
| **A. USEFUL RESEARCH RESULTS** | 19 | 7 | 5 | 2 | 5 |
| **A1 Consider new modelling possibilities.** | 9 | 5 | 2 | 0 | 2 |
| A recent method for assessing ship emissions is suggested. | 1 | | 1 | | |
| Guidance on which components should be included in models when comparing modelled data with PM mass limits is useful. | 1 | | 1 | | |
| Implement new insights in modelling in the revision of the directive. | 1 | 1 | | | |
| An Emission Calculator for ship emissions used for fuel use scenarios is suggested. | 1 | | 1 | | |
| Take the latest results for modelling the national emissions ceilings into account. | 1 | | 1 | | |
| Complement monitoring by modelling and objective estimation. | 1 | 1 | | | |
| Take the results of AQMEI (Air Quality Model Evaluation International Initiative) supported by JRC into account. | 1 | 1 | | | |
| Modelling should not become mandatory or replace monitoring. | 1 | | | | 1 |
| Models are not transparent enough and used for making decisions with huge impacts and financial costs (i.e. PRIMES). | 1 | 1 | | | |
| Models for the calculation of the benefits of measures are suggested. | 1 | | | | 1 |
| Take the recommendations of FAIRMODE on modelling into account. | 2 | 2 | | | |
| Set minimum standards (for input parameters, output resolution, …) of AQ modelling. | 1 | 1 | | | |
| | | | | | |
| **A2 Consider new techniques.** | 5 | 1 | 3 | 0 | 1 |
| Modern emissions control systems and appropriate vehicle calibration allow better control of NO2 emissions. | 1 | | 1 | | |
| The EURO6 standard and the development of new low carbon technologies improve air quality. | 1 | | | | 1 |

| Issues regarding scientific and technological innovations | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| An innovation is lowering ocean going vessel sulphur emissions via an emissions averaging approach. | 1 | | 1 | | |
| Consider a new calibration methodology to calculate concentration trends. | 1 | 1 | | | |
| Consider technological solutions to make shipping environmentally-friendly (vessel design optimizations, propeller design optimizations, alternative fuels, emission reduction equipment, engine energy recovery, hull coating, solar and wind power). | 2 | | 2 | | |
| Support electric vehicles, conventional and plug-in hybrid vehicles and, in the short term, incentives to adapt used engines for methane/GPL. | 1 | | | | 1 |
| Consider operational solutions to make shipping environmentally-friendly (voyage optimization, energy management of the ship, fleet management) | 2 | | 2 | | |
| | | | | | |
| **A3 Consider new results on the health impact of air pollutants.** | 4 | 2 | 1 | 1 | 0 |
| There is no new evidence which allows the setting of additional AQ standards. | 1 | 1 | | | |
| Advice should be asked of WHO which PM components and related sources deserve major attention. | 1 | 1 | | | |
| WHO should give guidance on how to differentiate between components of the overall PM mix (primary/secondary). | 1 | | 1 | | |
| Advice should be asked from WHO which indicators are useful for taking the most effective measures is requested. | 1 | 1 | | | |
| The review process should ensure that health standards are based on the latest findings. | 1 | | | 1 | |
| | | | | | |
| **A4 Consider new metrics of air pollutants.** | 4 | 4 | 0 | 0 | 0 |
| Instead of AOT40, the new method based on flux approach should be used. | 1 | 1 | | | |
| It is proposed to complement concentration-based target values by area-wide risk-assessment reporting. | 1 | 1 | | | |
| Use critical levels (Nox and SO2) and loads instead of target values based on concentrations for protection of vegetation. | 1 | 1 | | | |
| For ozone, take long-term exposure (introduction of SOMO35 indicator or annual mean) into consideration. | 1 | 1 | | | |
| A reference method for determining EC and OC deposition on filters (thermal-optical transmittance method) is suggested. | 1 | 1 | | | |
| Regulation of Cr and Hg deposition and implementation of assessment reporting on this is suggested. | 1 | 1 | | | |
| | | | | | |
| **B. TOPICS FOR FURTHER RESEARCH** | 24 | 10 | 6 | 2 | 6 |
| **B1 Research on the effects of air pollution is needed.** | 10 | 4 | 3 | 0 | 3 |
| Harmful effects of air pollution on human health, vegetation and ecosystems should be studied in more detail. | 1 | 1 | | | |
| More research about causes and effects is necessary. | 1 | | 1 | | |
| There are not enough funds in Europe for research on the health impacts of air pollution. | 1 | | | | 1 |
| It is proposed to investigate health risks of non-exhaust emissions. | 1 | 1 | | | |
| Focus on the impact of air pollution on childhood asthma, allergy and airway disease. | 1 | | 1 | | |
| Design and implement new cohort studies. | 1 | | 1 | | |
| The impact of air pollutants on health and ecosystems needs to be assessed. | 2 | | | | 2 |
| The effects of air pollution on human health, vegetation and ecosystems | 1 | 1 | | | |

| Issues regarding scientific and technological innovations | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| should be studied in more detail. | | | | | |
| Develop a methodology to enable specification of PM to help identify characteristics that correlate with toxicity. | 1 | | 1 | | |
| Approaches/tools need to be developed to take potencies of PM constituents into account. | 1 | | 1 | | |
| Investigate if new health indicators (e.g. the number of particles) should be taken into account. | 1 | 1 | | | |
| Information of dose-response related to the speciation of the PM is lacking. | 1 | 1 | | | |
| There is a lack in the knowledge of PM effect (e.g. which indicator relates to human health). | 1 | | 1 | | |
| | | | | | |
| **B2 Further research on monitoring and assessment possibilities is needed.** | 9 | 4 | 2 | 0 | 3 |
| Cost-effective screening techniques, including NO2 diffusion tubes, would be helpful. | 1 | | | | 1 |
| Monitoring is expensive, provides relatively poor spatial representativeness and focuses only on the worst areas of air quality. | 1 | 1 | | | |
| Consider using data of the SENTINEL (earth observation satellite) system. | 2 | 1 | | | 1 |
| Set up a monitoring network like the EEA Ozoneweb, but for other components – this provides up-to date information for modelling. | 1 | 1 | | | |
| More research on measurement methods is needed. | 1 | | | | 1 |
| Invest more in improving the assessment of current status and trends in the environment. | 1 | | 1 | | |
| Consider more measurements for chemical analysis of various PM fractions. | 1 | 1 | | | |
| Support GMES work in EU AQ policy. | 1 | 1 | | | |
| Promote the development and dissemination of source apportionment methods (based on source or receptor modelling). | 1 | 1 | | | |
| Better understanding of methods to understand the sources of exposure (stationary vs. mobile) is needed. | 1 | | 1 | | |
| | | | | | |
| **B3 Address specific research topics.** | 8 | 2 | 3 | 2 | 1 |
| Studies on cost-benefit analysis and ex post assessments of legislation should be strengthened. | 2 | | | 2 | |
| Assessment concepts and methodologies should be harmonised across the EU. | 1 | | 1 | | |
| More research on the links between air quality, climate and vegetation is proposed. | 1 | 1 | | | |
| Research on the development of air quality taking into account climate change and changes in ecosystems is suggested. | 1 | 1 | | | |
| Potential trade-offs with climate change policies should be considered in the BREF process. | 1 | 1 | | | |
| Improve modelling by enhancing the reliability of source information, such as on traffic density. | 1 | | | | 1 |
| Better understanding is needed of the mechanisms of action in air quality management in a multi-pollutant world. | 1 | | 1 | | |
| Work on the World-harmonized Light-Duty Test Procedure (WLTP) for light duty vehicles, ensuring a more real-world test cycle. | 1 | | 1 | | |
| Investigate processes with high uncertainty, e.g. re-suspension of particles. | 1 | 1 | | | |
| Incorporate the scientific uncertainties in scenario analyses, including e.g. benign climate effect of sulphate. | 1 | | 1 | | |
| Further development in vehicle retrofit technologies is suggested. | 1 | 1 | | | |

| Issues regarding scientific and technological innovations | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| | | | | | |
| **B4 Investigate new components and metrics.** | 6 | 3 | 1 | 0 | 2 |
| Consider research on the impact on PAHs and heavy metals deposition. | 1 | 1 | | | |
| It is worth exploring other measurable particle-related parameters. | 1 | 1 | | | |
| The Commission should encourage research in preparation of an EC/black carbon limit value. | 1 | | | | 1 |
| Pollutant metrics relating to the health impact need to be established. | 1 | | 1 | | |
| Gather data on ultra-fine particles (UFP) and the black carbon fraction. | 1 | 1 | | | |
| More information is needed on pollutants not yet covered by the directives (EC/BC, particle number concentration and BaP). | 1 | | | | 1 |
| The derivation of target values for Hg and Cr deposition should be funded within EU programs. | 1 | 1 | | | |
| | | | | | |
| **B5 Further research on mitigation possibilities is needed.** | 2 | 1 | 0 | 0 | 1 |
| More research on possible abatement policies is needed. | 1 | | | | 1 |
| Investigate how to identify measures that are most effective in reducing existing health risks. | 1 | 1 | | | |
| Continuous actualisation of the BREFs which are drawn up in the framework of Industrial Emission Directive is crucial. | 1 | 1 | | | |
| Explore which additional sectors could be covered by the IED. | 1 | 1 | | | |
| | | | | | |
| **C. OTHER COMMENTS ON SCIENTIFIC AND TECHNOLOGICAL INNOVATIONS** | 13 | 4 | 3 | 3 | 3 |
| **C1 Improve access to research results.** | 5 | 3 | 0 | 1 | 1 |
| Guidance on emission inventories should be improved. | 1 | 1 | | | |
| Establish an EU-level system for providing easy access to research project results. | 1 | 1 | | | |
| Coordinate research monitoring and policy support through data sharing, workshops, conferences etc. | 1 | 1 | | | |
| Proactively solicit the newest research and coordinate it in the preparatory and consultation stages of the European Commission. | 2 | | | 1 | 1 |
| | | | | | |
| **C2 Consider the innovation potential of measures.** | 4 | 2 | 0 | 2 | 0 |
| Summary: Robust measures will stimulate innovation in clean technology. | | | | | |
| The innovation potential of abatement measures is important and should be discussed. | 1 | 1 | | | |
| Force MS to adopt robust AQ plans, this will stimulate the development of clean technology. | 2 | | | 2 | |
| Weakening limit values and allowing time extensions delays investment in clean technology. | 2 | | | 2 | |
| The innovation potential of abatement measures should be stressed and supported. | 1 | 1 | | | |
| | | | | | |
| **C3 Various other comments on scientific and technological innovations** | 11 | 4 | 3 | 1 | 3 |
| Collaboration under the CLRTAP should be continued and supported. | 2 | | | | 2 |
| Monitoring, modelling or assessment of harmful effects should be coordinated with the CLRTAP WG on Effects. | 1 | | | | 1 |
| Financial help for the implementation of new abatement technologies is important. | 1 | | 1 | | |
| A prescriptive system gives little incentive for scientific and technical innovation. | 1 | 1 | | | |

| Issues regarding scientific and technological innovations | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| Give more emphasis on measured emission data, instead of emission factors. | 1 | 1 | | | |
| Remove the requirement to distinguish between salt of the sea and winter salting from PM10. | 1 | 1 | | | |
| There is a risk that the EU is funding unnecessary areas of research (e.g., modelling methods, discovering hitherto unknown possible deleterious effects). | 1 | | 1 | | |
| Stronger alignment of EU and non-EU limit values/standards is needed, in particular of US EPA. | 1 | | | 1 | |
| Treating all PM components as equally harmful results in costly emissions abatement with little or no benefit to health. | 1 | | 1 | | |

### *2.3.11 Question 10: Your most important issues*

| **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.<br><br>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. |

| **The most important issues** | **All** | **MS** | **BA** | **NGO** | **OS** |
|---|---|---|---|---|---|
| | | | | | |
| **1. Consider regulating other, possibly more harmful PM fractions, in particular black carbon/elemental carbon and/or ultrafine particles.** | **15** | **5** | **3** | **5** | **2** |
| Include standards for ultrafine particles, nanoparticles and BC. | 4 | | | 4 | |
| Investigate the health relevance of PM fractions. | 3 | 1 | 2 | | |
| Promote and/or regulate monitoring of UFP and/or EC/BC. | 1 | 1 | | | |
| Consider introducing PM1. | 1 | 1 | | | |
| Within the responding MS much attention for UFP will arise during review because of health studies. | 1 | 1 | | | |
| Revise the NO2 standard and move towards BC. | 1 | 1 | | | |
| Consider also the smallest particles such as PM0.1 (but a standard for this may not be needed). | 1 | | 1 | | |
| Consider a standard or objective for BC to capture traffic related emissions. | 1 | | | 1 | |
| Further reduction requirements of PM should focus on the more toxic PM fractions rather than PM2.5. | 1 | | 1 | | |
| More research on BC, UFP and BaP is needed, also on measuring methods and measures. | 1 | | | | 1 |
| PNC is a better indicator than PM for emission standards for mobile sources. | 1 | | 1 | | |
| Make initial steps on short-lived climate forcers. | 1 | | | | 1 |
| | | | | | |
| **2. Consistency between EU policies and legislation is very important, particularly between the real world emission reductions (road traffic emissions and NECD) and the air quality limit values.** | **11** | **4** | **3** | **0** | **4** |
| Relate AQ standards to real world emission reduction under EU measures. | 4 | | 1 | | 3 |
| Include a flexibility mechanism for standards (in AQD and NECD) to take new insights in emissions into account. | 2 | 2 | | | |
| Improve the real-world emissions of EURO standards. | 2 | | | | 2 |
| Consider the time lag of implementation of emission measures when setting AQ standards. | 2 | | | | 2 |
| Link LVs to EU measures that really deliver. | 1 | 1 | | | |
| Base revised standards on real-world emission scenarios. | 1 | 1 | | | |
| Standards should be supported by EU emission reduction measures. | 1 | 1 | | | |
| Find a solution for the gap between EURO standards and the LVs for NO2 and PM. | 1 | | | | 1 |
| Relate the assessment of exceedance of LVs to the failure of the EURO-IV and –V standards. | 1 | | 1 | | |
| Cost-effectiveness and consistency with other policy areas is very important. | 1 | | 1 | | |
| Revise the EURO driving cycle to account for real-world emissions. | 1 | 1 | | | |
| Consider opportunities for combined strategies on air quality and related objectives. | 1 | | 1 | | |
| | | | | | |

| The most important issues | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| **3. Be ambitious and consider further possibilities to reduce emissions (see also Issue 4).** | 11 | 2 | 0 | 5 | 4 |
| Bring AQ standards in line with WHO recommendations. | 4 | | | 4 | |
| Strengthen EU emission legislation (NECD revision; emissions by agriculture, domestic boilers/burners/stoves, non-road mobile machinery, shipping (Nox, PM, BC), road vehicles; extension of Emission Control Areas for international shipping). | 3 | | | 3 | |
| The AQD is not health protective. | 2 | | | 1 | 1 |
| Include further ambition in a revised NECD. | 1 | | | | 1 |
| Review derogations, particularly regarding winter sanding and salting, they may not be justifiable from a health viewpoint. | 1 | 1 | | | |
| Focus new regulation on: small combustion installations (especially biomass combustion), non-road mobile machinery, two-stroke engines and agriculture (details are given). | 1 | | | | 1 |
| Important sources to focus regulation on include: small combustion installations (especially biomass combustion), non-road mobile machinery, agriculture (details are given). | 1 | | | | 1 |
| Reduce agricultural emissions. | 1 | | | | 1 |
| Address the rising emissions of biofuels in heating systems/small combustion plants. | 1 | | | | 1 |
| Strengthen EU emission legislation (NECD revision; emissions by agriculture, domestic, shipping). | 1 | | | 1 | |
| Possibly the respondent's position will be to change the TVs in DD4 into LVs. | 1 | 1 | | | |
| Tighten the TVs of DD4 and make them more effective; consider turning these into LVs. | 1 | 1 | | | |
| | | | | | |
| **4. Be very cautious in considering more ambitious targets and take also negative effects into account (see also Issue 3).** | 11 | 2 | 8 | 0 | 1 |
| Do not set (further) limit values for HM or PAH without a clear indication on whether effective measures exist to reduce concentrations. | 1 | 1 | | | |
| Fully consider the technical feasibility and cost-effectiveness of any revision of DD4. | 1 | | 1 | | |
| A major concern regarding shipping is that the 0.1% S requirement as from 2015 will cause a shift to land transportation. | 1 | | 1 | | |
| New market-based instruments, like Emission Trading Scheme, are disproportionate, adding complexity and regulatory uncertainty. | 1 | | 1 | | |
| Achievability is fundamental for standards, the ambition should not go beyond BAT. | 1 | | 1 | | |
| Keep the flexibility, especially the derogation and time extension possibilities for PM and NO2. | 2 | | 1 | | 1 |
| Find a workable balance between the societal benefits of farming and environmental protection. | 1 | | 1 | | |
| PM2.5 should be kept as TV, since it is difficult to measure the emissions and determine the correct abatement measures. | 1 | | 1 | | |
| Because of the difficulties to meet the NERT and other standards, new and stricter standards are not effective. | 1 | | 1 | | |
| Reconsider the daily PM LV, it is too strict compared to the annual PM LV. | 1 | | 1 | | |
| The NO2 LV will not be met in major cities before 2020. | 1 | 1 | | | |
| The TVs for PM2.5 are too challenging. | 1 | | 1 | | |
| Introducing LVs for PM2.5 by 2015 is too ambitious timing. | 1 | | 1 | | |
| Meeting the TVs for HM near non-ferrous industry is not cost-effective. | 1 | | 1 | | |
| The TVs for HM are overprotective. | 1 | | 1 | | |
| | | | | | |
| **5. Solutions are needed for exceedances that are beyond control of the responsible authorities.** | 9 | 6 | 1 | 0 | 2 |
| Allow derogations where all cost-efficient measures have been taken. | 1 | 1 | | | |

| The most important issues | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| Set ambitious AQ standards but allow for derogations where all cost-efficient measures are implemented. | 2 | 1 | | | 1 |
| The attainability of PM2.5 is uncertain, so include time extensions. | 1 | | | | 1 |
| Find a solution for extreme situations beyond local control (weather, transboundary fluxes). | 2 | 1 | 1 | | |
| More flexibility for exceedances where adverse local (meteorological) conditions exist is appropriate, e.g. use a dispersion indicator. | 1 | 1 | | | |
| Structural solutions for situations with unusual meteorology or transboundary fluxes are needed. | 1 | | | | 1 |
| Transitional arrangements for non-compliance situations are needed. | 1 | 1 | | | |
| MSs should only be held responsible for matters in their control. | 1 | 1 | | | |
| Take transboundary transport better into account in provisions for ozone. | 1 | 1 | | | |
| | | | | | |
| **6. A thorough review is needed.** | 8 | 5 | 3 | 0 | 0 |
| Base the review on updated scientific evidence including updated WHO guidelines. | 1 | 1 | | | |
| Consult MSs in all review stages. | 1 | 1 | | | |
| Explore further scope for reducing negative health and environmental impacts. | 1 | 1 | | | |
| Improve the science base of the health LVs. | 1 | 1 | | | |
| Inventorise possible additional EU measures, including a timetable of effectiveness. | 1 | 1 | | | |
| Emission policy regarding shipping should be rational and transparent. | 2 | | 2 | | |
| Review standards, particularly of PM and NO2, regarding health protection and trigger for action, and their relation to local emissions and health. | 1 | 1 | | | |
| Analyse origins and reduction potential for PM before making decisions. | 1 | 1 | | | |
| Analyse past and future cost-effectiveness and socio-economic impact of measures. | 1 | 1 | | | |
| In view of the difficulty to measure NERT, a robust impact assessment is needed in case of a binding NERT. | 1 | | 1 | | |
| | | | | | |
| **7. Level the playing field by harmonised implementation, burden sharing and international co-ordination.** | 7 | 3 | 4 | 0 | 0 |
| Involve all sectors in the achievement of new targets including transport, agriculture and households. | 1 | | 1 | | |
| A more defined sanctioning system, with effective, proportionate and dissuasive penalties for non-compliance, should be developed. | 1 | 1 | | | |
| Enforce the monitoring requirements for BaP. | 1 | 1 | | | |
| Further harmonisation of station siting and of model validation is needed. | 1 | 1 | | | |
| Ensuring effective and consistent implementation, including where to assess AQ, assessment regimes and guidance. | 1 | 1 | | | |
| The EU ship emissions policy should be co-ordinated with IMO. | 2 | | 2 | | |
| Set the targets in the context of CLTRAP in order to promote an international level playing field and cost-effectiveness. | 1 | | 1 | | |
| The costs of emission reductions should not be disproportional for shipping. | 2 | | 2 | | |
| Ensure enforcement of ship emission regulation to achieve a level playing field. | 2 | | 2 | | |
| Balanced burden sharing is needed, e.g. consider the agriculture sector too. | 1 | | 1 | | |
| | | | | | |
| **8. Reconsider the set of regulated pollutants and indicators (other than for PM, see Issue 1).** | 5 | 4 | 0 | 1 | 0 |
| Include objectives for ammonia, hydrogen sulphide, formaldehyde, etc. | 1 | 1 | | | |
| Include provisions related to odour. | 1 | 1 | | | |
| Review the BaP TV and consider including dibenzopyrenes as additional PAH markers. | 1 | 1 | | | |
| Introduce a TV for HM deposition. | 1 | 1 | | | |
| Consider establishing a LV or TV for Hg and depositions. | 1 | 1 | | | |

| The most important issues | All | MS | BA | NGO | OS |
|---|---|---|---|---|---|
| Reconsider the health evidence for NO2 and the approach to control NO2. | 1 | 1 | | | |
| Reconsider NO2, which is now too much based on indoor studies. | 1 | | | 1 | |
| | | | | | |
| **9. Modelling should have a greater role.** | 4 | 3 | 0 | 0 | 1 |
| There should be a greater role for modelling. | 1 | 1 | | | |
| Modelling is one of the most important issues for review. | 1 | | | | 1 |
| Improve the provisions on the application of modelling. | 1 | 1 | | | |
| Implement new insights regarding modelling in the provisions for monitoring. | 1 | 1 | | | |
| Strengthen provisions for modelling and aim at optimal combination of modelling with measurements. | 1 | 1 | | | |
| | | | | | |
| **10. Reduce the burden of implementation in Member States.** | 4 | 4 | 0 | 0 | 0 |
| Focus on cost reduction and efficiency of AQ assessment. | 1 | 1 | | | |
| Reduce reporting obligations to items relevant for compliance checking. | 1 | 1 | | | |
| Investigate options for simplifying and reducing costs and administrative burden. | 1 | 1 | | | |
| Reduce assessment and reporting for standards that are largely met. | 1 | 1 | | | |
| Consider reducing the monitoring requirements for HMs. | 1 | 1 | | | |
| | | | | | |
| **11. Simplify the set of air quality standards.** | 4 | 3 | 1 | 0 | 0 |
| Reduce the number of AQ standards for PM. | 1 | 1 | | | |
| Consider reducing the number of standards. | 1 | 1 | | | |
| Simplify, there should be one standard per pollutant, also a single one for PM. | 1 | 1 | | | |
| Give less attention to pollutants with levels far below the standards. | 1 | 1 | | | |
| Reconsider PM10 as health risk indicator, take perhaps PM2.5 as substitute. | 1 | | 1 | | |
| | | | | | |
| **12. Include the Fourth Daughter Directive in the Ambient Air Quality Directive.** | 3 | 2 | 0 | 0 | 1 |
| Include DD4 in the AQD. | 3 | 2 | | | 1 |
| Consider including DD4 in AQD. | 1 | 1 | | | |
| | | | | | |
| **13. Reconsider the PM measuring methods.** | 3 | 1 | 2 | 0 | 0 |
| It is proposed to move to new automatic reference methods for PM10 and PM2.5. | 1 | 1 | | | |
| The methodology for PM measurement needs to be improved. | 1 | | 1 | | |
| Review the reference methods for the measurement of PM10 and PM2.5, their fitness for purpose and cost-effectiveness | 1 | | 1 | | |
| | | | | | |
| **14. Take real population exposure better into account in the evaluation of exceedances and assessment.** | 3 | 1 | 1 | 0 | 1 |
| Take exposure into account when evaluating exceedances. | 1 | 1 | | | |
| Compliance should be assessed only where people are exposed during a relevant period of time. | 1 | | 1 | | |
| The AQD and related monitoring do not fully capture population exposure (regional and local). | 1 | | | | 1 |
| | | | | | |
| **15. Provide help and funding to problem areas.** | 2 | 1 | 0 | 0 | 1 |
| The Commission and other EU institutions should help MSs with measures in problem areas. | 1 | 1 | | | |
| EU funds (Multi-Annual Financial Framework) should also be available for the local level. | 1 | | | | 1 |
| | | | | | |
| **16. Co-ordinate research and the assessment methodology with CLTRAP.** | 1 | 0 | 0 | 0 | 1 |
| Maximise co-ordination of science within CLTRAP and EU. | 1 | | | | 1 |
| Consistency of monitoring strategy and methods of AQD and EMEP is important. | 1 | | | | 1 |
| | | | | | |

| **The most important issues** | **All** | **MS** | **BA** | **NGO** | **OS** |
|---|---|---|---|---|---|
| **17. Various other comments on the most important issues** | 13 | 4 | 4 | 1 | 4 |
| Clarify how to determine exceedance of assessment thresholds. | 1 | 1 | | | |
| More clarity about how to deal with meteorologically induced fluctuations is needed. | 1 | 1 | | | |
| Clarify the provision on drawing up action plans in case of risk of alert thresholds being exceeded. | 1 | 1 | | | |
| Public participation is important, especially of sensitive groups, in all stages, ensuring transparency. | 1 | | | 1 | |
| Substantial improvements have already been achieved under EU AQ legislation. | 1 | | 1 | | |
| The issues in the minimum list of review issues given by in the AQ directives are important. | 1 | | | | 1 |
| The focus should be on mid- en long-term measures instead of short-term measures. | 1 | 1 | | | |
| For the respondent the most important pollutants are: PM including BC, O3, NO2 and NH3. | 1 | | | | 1 |
| For CLTRAP the most important pollutants are: PM including BC, O3, NOx and NH3. | 1 | | | | 1 |
| Data should be collected over a longer time frame. | 1 | | 1 | | |
| Review the provisions related to PM2.5 and to what extent they are satisfied by control of PM10. | 1 | | 1 | | |
| Take regional aspects of natural PM2.5 sources into account. | 1 | | 1 | | |
| Monitoring primary PM2.5 emissions is complicated and costly. | 1 | | 1 | | |
| Climate change/greenhouse gas emissions are among the most important issues. | 1 | | | | 1 |
| PAH measurements unfortunately capture only the particulate fraction, not the gaseous fraction. | 1 | 1 | | | |
| The best solution to improve AQ is to limit emissions at the source. | 1 | | | | 1 |
| Direct measurement data are needed for assessing the current AQ and trends. | 1 | | 1 | | |

### *2.3.12 Question 11: Your own involvement in the review process*

| **11. Your own involvement in the review process** |
|---|
| For an effective review of the air quality directives intensive stakeholder involvement is indispensible. 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.<br><br>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. |

| **Issue regarding the respondent's own involvement in the review process** | **All** | **MS** | **BA** | **NGO** | **OS** |
|---|---|---|---|---|---|
| | | | | | |
| **1. The respondent is prepared to collaborate in the review.** | 14 | 3 | 7 | 1 | 3 |
| The respondent is prepared to cooperate in the review. | 2 | 2 | | | |
| The respondent is content/committed to participate in the SEG / provide expertise / is available for discussion. | 7 | | 5 | 1 | 1 |
| The respondent will participate actively and positively in the SEG. | 2 | | 2 | | |
| The respondent has great interest in effective collaboration in Europe. | 1 | | | | 1 |
| The respondent is ready for consultation and participation in the AQ Committee. | 1 | 1 | | | |
| The co-ordination role of WHO in the health review is being negotiated. | 1 | | | | 1 |
| | | | | | |
| **2. The respondent can contribute experts, expertise, research results.** | 10 | 2 | 6 | 1 | 1 |
| The respondent can suggest and send experts. | 2 | 1 | | 1 | |
| The respondent will provide expertise. | 1 | | 1 | | |
| The respondent is keen to contribute to strengthening links between the AQD and NECD. | 1 | 1 | | | |
| The respondent can provide expertise on AQ measures. | 1 | | 1 | | |
| The respondent can provide expertise, particularly on new/alternative technologies. | 2 | | 2 | | |
| Business participation will contribute to better understanding of cost-effectiveness. | 1 | | 1 | | |
| The respondent will provide technical expertise on industrial emissions. | 1 | | 1 | | |
| The respondent contributes to relevant research. | 1 | 1 | | | |
| Results of a recent workshop on non-tailpipe road emissions will be provided. | 1 | 1 | | | |
| Results of relevant research are available. | 1 | | 1 | | |
| The respondent's work in CLTRAP contributes to the EU expertise. | 1 | | | | 1 |
| | | | | | |
| **3. The respondent can involve its internal stakeholders.** | 7 | 2 | 1 | 2 | 2 |
| The respondent can disseminate information to other AQ authorities. | 1 | 1 | | | |
| The respondent can support by dissemination, education, awareness raising on clean mobility. | 1 | | | | 1 |
| Early involvement of cities/regions is important. | 1 | | | | 1 |
| The respondent will organise internal stakeholder consultations. | 1 | 1 | | | |

| **Issue regarding the respondent's own involvement in the review process** | **All** | **MS** | **BA** | **NGO** | **OS** |
|---|---|---|---|---|---|
| Documents need to be available and the time for comment has to be sufficiently long. | 2 | 1 | 1 | | |
| Use the experience of national/local NGOs, e.g. by organising one or two workshops. | 2 | | | 2 | |
| The respondent will give input from the stakeholders represented by the respondent (cities, regions). | 1 | | | | 1 |
| | | | | | |
| **4. The respondent proposes to provide a specific contribution.** | 4 | 4 | 0 | 0 | 0 |
| The respondent could contribute to/host seminars on PM source apportionment, modelling, health indicators, experience with soot as health indicator. | 1 | 1 | | | |
| The respondent could contribute to/host seminars on the exposure reduction approach for PM2.5 and on NO2 provisions. | 1 | 1 | | | |
| The respondent can provide in 2012 a proposal on how to incorporate modelling in the AQD. | 1 | 1 | | | |
| The respondent can provide in 2012 a concept on consistent protection of ecosystems based on latest CLTRAP findings. | 1 | 1 | | | |
| The respondent can give a presentation on GMES. | 1 | 1 | | | |
| The respondent can give a presentation on possibilities for modelling. | 1 | 1 | | | |
| | | | | | |
| **5. Transparency will facilitate collaboration with stakeholders.** | 4 | 1 | 3 | 0 | 0 |
| Improved transparency of modelling would facilitate the stakeholder analysis for policy development. | 1 | | 1 | | |
| The respondent expects a transparent process, with access to technical data. | 1 | | 1 | | |
| The Commission should communicate more directly with citizens on the revision. | 2 | 1 | 1 | | |
| | | | | | |
| **6. Recommendations about the review process are given.** | 4 | 2 | 0 | 2 | 0 |
| The EU impact assessment should include the national level. | 1 | 1 | | | |
| Minimise the administrative burden. | 1 | 1 | | | |
| Regulatory stability is important, do not change too much. | 1 | 1 | | | |
| Base the review on up-to-date information on health evidence. | 1 | 1 | | | |
| Involve health experts. | 2 | | | 2 | |
| | | | | | |
| **7. Various other comments on the involvement of the respondent in the review process** | 5 | 2 | 0 | 2 | 1 |
| Contribution to and participation in CLTRAP work is essential for achieving Europe-wide binding commitments. | 1 | | | | 1 |
| Consider forming a working group on PM (the finer fraction). | 1 | 1 | | | |
| Involve the European Parliament and Council early, e.g. by participation in SEG meetings. | 2 | | | 2 | |
| Intensive involvement not possible because of lack of manpower. | 1 | 1 | | | |

# 3 Detailed results of the questionnaire for experts and practitioners

## 3.1 Introduction

This annex of report 'Survey of views of stakeholders, experts and citizens on the review of the EU Air Policy' gives a detailed overview of the replies given by experts and practitioners in the field of air quality to the online questionnaire on the Air Policy Review. A more concise summary of the replies and a description of the survey process are given in the main report.

The questions and the number and percentages of predefined answers ticked by the respondents are listed below. The free text replies are not listed; these are summarised in Part I of the report.

## 3.2 Replies to the questionnaire for experts and practitioners

The questions were preceded by the following introduction:

*Background*

*As part of a comprehensive review of Europe's air policies intended to set new long-term objectives beyond 2020, the European Commission is launching a public consultation on its current policy in this area. Views are being sought on the strengths and weaknesses of the existing legislative framework and progress on its implementation. This web-based consultation is part of broader process of reflection that will feed into a review due no later than 2013.*

*The public consultation invites all interested parties to share their views on the best way to improve the EU's air quality legislation. It is divided into two parts – a short questionnaire for the general public and a longer section for experts and practitioners form national administrations, regional or local authorities, researchers, businesses, stakeholders, health, environmental and other groups involved in the implementation of EU air quality legislation.*

***This questionnaire is intended for professionals and practitioners working (or having worked previously) in the field of air quality as well as for professional organizations relating to this field**. Also when an organization submits its view, its professionals are free to reply as individual experts independently.*

*Answering all questions will take about 15-20 minutes. Depending on your expertise and interest, pleas skip any question or entire section you wish (except the first questions about who you are).*

*Question 1. Who are you?*

| | | |
|---|---|---|
| In which capacity are you participating in this consultation? | | |
| | Number of replies | % of replies (250) |
| as an individual | 91 | 36% |
| on behalf of an organisation | 159 | 64% |
| | | |
| For which type of organisation do you work (or, in case you are retired, did you work) or which type of organisation do you represent? | | |
| | Number of replies | % of replies (250) |
| national government | 8 | 3% |
| regional government | 45 | 18% |
| local government | 34 | 14% |
| international body (other than EU institution) | 0 | 0% |
| public research institution | 12 | 5% |
| university | 12 | 5% |
| NGO, civil society, environmental group, charity | 33 | 13% |
| industrial interest group | 36 | 14% |
| EU scientific project | 0 | 0% |
| private research institution | 5 | 2% |
| enterprise or self-employed | 29 | 12% |
| EU institution | 1 | 0% |
| other | 20 | 8% |
| N/A | - | - |
| | | |
| Please indicate the country where you reside | | |
| | Number of replies | % of replies (91) |
| Austria | 3 | 3% |
| Belgium | 14 | 15% |
| Bulgaria | 0 | 0% |
| Cyprus | 1 | 1% |
| Czech Republic | 0 | 0% |
| Denmark | 1 | 1% |
| Estonia | 0 | 0% |
| Finland | 0 | 0% |
| France | 5 | 5% |
| Germany | 7 | 8% |
| Greece | 0 | 0% |
| Hungary | 0 | 0% |
| Ireland | 0 | 0% |
| Italy | 14 | 15% |
| Latvia | 0 | 0% |
| Lithuania | 0 | 0% |
| Luxembourg | 0 | 0% |
| Malta | 0 | 0% |
| Netherlands | 13 | 14% |
| Poland | 1 | 1% |

| | | |
|---|---|---|
| Portugal | 3 | 3% |
| Romania | 0 | 0% |
| Slovakia | 0 | 0% |
| Slovenia | 0 | 0% |
| Spain | 6 | 7% |
| Sweden | 5 | 5% |
| United Kingdom | 13 | 14% |
| Other | 5 | 5% |
| | | |
| Please indicate the country where your organisation is based. | | |
| | Number of replies | % of replies (159) |
| Austria | 17 | 11% |
| Belgium | 18 | 11% |
| Bulgaria | 0 | 0% |
| Cyprus | 0 | 0% |
| Czech Republic | 0 | 0% |
| Denmark | 0 | 0% |
| Estonia | 1 | 1% |
| Finland | 0 | 0% |
| France | 9 | 6% |
| Germany | 32 | 20% |
| Greece | 0 | 0% |
| Hungary | 0 | 0% |
| Ireland | 0 | 0% |
| Italy | 13 | 8% |
| Latvia | 0 | 0% |
| Lithuania | 0 | 0% |
| Luxembourg | 0 | 0% |
| Malta | 0 | 0% |
| Netherlands | 8 | 5% |
| Poland | 0 | 0% |
| Portugal | 0 | 0% |
| Romania | 0 | 0% |
| Slovakia | 1 | 1% |
| Slovenia | 0 | 0% |
| Spain | 12 | 8% |
| Sweden | 16 | 10% |
| United Kingdom | 26 | 16% |
| Other | 6 | 4% |
| | | |
| Would you authorise the European Commission to publish your name along with your reply on the website of DG Environment once the consultation has been closed? | | |
| | Number of replies | % of replies (91) |
| yes | 48 | 53% |
| no | 38 | 42% |
| | | |
| Would you authorise the European Commission to publish the name of your organisation along with your reply on the website of DG Environment once the consultation has been closed? | | |
| | Number of replies | % of replies (159) |
| yes | 128 | 81% |

| | | |
|---|---|---|
| no | 27 | 17% |
| | | |
| In which policy area or scientific area are you mainly involved (you may choose more than one alternative)? | | |
| | Number of replies | % of replies (91) |
| air quality assessment | 46 | 51% |
| air quality management | 34 | 37% |
| public information | 20 | 22% |
| research | 32 | 35% |
| other | 15 | 16% |
| | | |
| In which policy area or scientific area is your organisation mainly involved (you may choose more than one alternative)? | | |
| | Number of replies | % of replies (159) |
| air quality assessment | 83 | 52% |
| air quality management | 90 | 57% |
| public information | 76 | 48% |
| research | 29 | 18% |
| other | 60 | 38% |

*Question 2. The Thematic Strategy on Air Pollution*

| | | |
|---|---|---|
| | | |
| The European Union has developed comprehensive legislation in order to protect health and the environment from harmful effects of air pollution. The most important pieces of legislation include 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. What do you think, overall, of the policies in the EU to reduce air pollution? (More detailed questions will follow.) | | |
| | Number of replies | % of replies (250) |
| very ambitious | 29 | 12% |
| ambitious | 125 | 50% |
| neutral | 59 | 24% |
| weak | 22 | 9% |
| very weak | 4 | 2% |
| no opinion | 2 | 1% |
| N/A | - | - |
| | | |
| Do you feel that the main issues of air quality are well addressed in European legislation? | | |
| | Number of replies | % of replies (250) |
| very well | 10 | 4% |
| well | 83 | 33% |
| reasonably | 119 | 48% |
| rather badly | 21 | 8% |
| badly | 7 | 3% |
| no opinion | 3 | 1% |
| N/A | - | - |
| | | |
| **Within the Clean Air For Europe (CAFE) process a large effort has been devoted to coherence of the various pieces of air pollution legislation including sector specific air emission control measures. How important should integrated policy development be in the review of the Air Quality Directive?** | | |

| | | |
|---|---|---|
| in relation to the National Emission Ceilings Directive? | | |
| | Number of replies | % of replies (250) |
| very important | 148 | 59% |
| important | 72 | 29% |
| moderately important | 11 | 4% |
| hardly important | 0 | 0% |
| not at all important | 0 | 0% |
| no opinion | 8 | 3% |
| N/A | - | - |
| | | |
| in relation to sectoral emission legislation? | | |
| | Number of replies | % of replies (250) |
| very important | 141 | 56% |
| important | 78 | 31% |
| moderately important | 9 | 4% |
| hardly important | 1 | 0% |
| not at all important | 0 | 0% |
| no opinion | 10 | 4% |
| N/A | - | - |
| | | |
| in relation to EU legislation on Climate Change? | | |
| | Number of replies | % of replies (250) |
| very important | 120 | 48% |
| important | 72 | 29% |
| moderately important | 40 | 16% |
| hardly important | 1 | 0% |
| not at all important | 2 | 1% |
| no opinion | 6 | 2% |
| N/A | - | - |
| | | |
| in relation to environmental noise legislation? | | |
| | Number of replies | % of replies (250) |
| very important | 42 | 17% |
| important | 57 | 23% |
| moderately important | 78 | 31% |
| hardly important | 23 | 9% |
| not at all important | 13 | 5% |
| no opinion | 24 | 10% |
| N/A | - | - |
| | | |
| in relation to the Common Agricultural Policy? | | |
| | Number of replies | % of replies (250) |
| very important | 61 | 24% |
| important | 67 | 27% |
| moderately important | 55 | 22% |
| hardly important | 17 | 7% |
| not at all important | 3 | 1% |
| no opinion | 31 | 12% |

| | | |
|---|---|---|
| N/A | - | - |

*Question 3. The approach of the air quality directives*

| | | |
|---|---|---|
| | | |
| The Air Quality Directive and the Fourth Daughter Directive 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 European 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. Is, in your view, the overall conceptual approach of the air quality directives appropriate given the complexity of the air quality policy area? | | |
| | Number of replies | % of replies (250) |
| very appropriate | 11 | 4% |
| appropriate | 116 | 46% |
| moderately appropriate | 83 | 33% |
| hardly appropriate | 21 | 8% |
| not at all appropriate | 11 | 4% |
| no opinion | 1 | 0% |
| N/A | - | - |
| | | |
| If not appropriate, in which area changes of the general approach should be made? (In Section 10 you may clarify your view.) | | |
| | Number of replies | % of replies (115) |
| the concept of standards | 38 | 33% |
| the general approach of assessment | 34 | 30% |
| the concept of air quality management in Member States | 55 | 48% |
| the principle of public information | 19 | 17% |
| other | 14 | 12% |
| no opinion | 1 | 1% |
| | | |
| The Air Quality Directive defines a minimum level of protection for all citizens in the Union (reflected by the provision that the limit values have to be attained throughout the territory). Do you agree with that principle? | | |
| | Number of replies | % of replies (250) |
| totally agree | 113 | 45% |
| tend to agree | 101 | 40% |
| neutral | 9 | 4% |
| tend to disagree | 12 | 5% |
| totally disagree | 2 | 1% |
| no opinion | 3 | 1% |
| N/A | - | - |
| | | |
| Exceedances of the limit values tend to occur at hotspots and hence local measures tend to focus on reducing levels at those hotspots. The Air Quality Directive has also introduced provisions relating to possible measures to reduce the exposure of the general population (e.g. provisions on PM2.5). Is it, in your view, important to strengthen the latter approach? | | |
| | Number of replies | % of replies (250) |
| very important | 89 | 36% |
| important | 87 | 35% |

| | | |
|---|---|---|
| moderately important | 38 | 15% |
| hardly important | 15 | 6% |
| not at all important | 6 | 2% |
| no opinion | 5 | 2% |
| N/A | - | - |
| | | |
| If of importance, how could that be achieved? | | |
| | Number of replies | % of replies (214) |
| set limit values for urban background levels | 91 | 43% |
| set binding targets for the exposure of the population | 99 | 46% |
| set targets directly expressed in health risks | 67 | 31% |
| other | 40 | 19% |
| no opinion | 1 | 0% |
| | | |
| The Air Quality Directive also sets target values; for those standards compliance is less binding. Are the target values in your view appropriate instruments for achieving a good balance between health protection and abatement costs? | | |
| | Number of replies | % of replies (250) |
| very appropriate | 16 | 6% |
| appropriate | 75 | 30% |
| moderately appropriate | 83 | 33% |
| hardly appropriate | 37 | 15% |
| not at all appropriate | 21 | 8% |
| no opinion | 9 | 4% |
| N/A | - | - |
| | | |
| If not appropriate, how should the target values be changed? | | |
| | Number of replies | % of replies (141) |
| make target values more binding | 59 | 42% |
| make target values less binding | 8 | 6% |
| change some target values into limit values | 54 | 38% |
| other | 11 | 8% |
| no opinion | 4 | 3% |
| | | |
| Fluctuations in annual meteorology (e.g. a rather low average wind speed in a year) can determine whether an air quality standard is exceeded or not in a certain year. Should, in your view, the air quality directives take stronger account of meteorological variability (even though this could add another dimension of complexity)? | | |
| | Number of replies | % of replies (250) |
| totally agree | 71 | 28% |
| tend to agree | 69 | 28% |
| neutral | 29 | 12% |
| tend to disagree | 41 | 16% |
| totally disagree | 27 | 11% |
| no opinion | 3 | 1% |
| N/A | - | - |
| | | |
| The Air Quality Directive provides some flexibility in relation to compliance with limit values for PM10 and NO2 if certain criteria for special conditions are met. Do you regard this flexibility as appropriate? | | |
| | Number of replies | % of replies (250) |

| | | |
|---|---|---|
| very appropriate | 44 | 18% |
| appropriate | 68 | 27% |
| moderately appropriate | 46 | 18% |
| hardly appropriate | 43 | 17% |
| not at all appropriate | 31 | 12% |
| no opinion | 10 | 4% |
| N/A | - | - |
| | | |
| Should the list of pollutants for which EU legislation sets air quality objectives be expanded? | | |
| | Number of replies | % of replies (250) |
| yes | 104 | 42% |
| no | 81 | 32% |
| no opinion | 52 | 21% |
| N/A | - | - |

| | | |
|---|---|---|
| *Question 4. The air quality standards* | | |
| | | |
| In many Member States, limit values for PM, NO2 and target values for ozone have been difficult to meet. What do you think are the main reasons for this? | | |
| | | |
| For PM10 | | |
| | Number of replies | % of replies (250) |
| limit value too ambitious | 53 | 21% |
| measures too expensive | 57 | 23% |
| air quality plans started too late | 91 | 36% |
| transboundary air pollution | 81 | 32% |
| deviation of expected air quality trend | 33 | 13% |
| other (please specify below) | 108 | 43% |
| no opinion | 9 | 4% |
| | | |
| For ozone | | |
| | Number of replies | % of replies (250) |
| limit value too ambitious | 26 | 10% |
| measures too expensive | 23 | 9% |
| air quality plans started too late | 47 | 19% |
| transboundary air pollution | 91 | 36% |
| deviation of expected air quality trend | 10 | 4% |
| other (please specify below) | 54 | 22% |
| no opinion | 45 | 18% |
| | | |
| For NO2 | | |
| | Number of replies | % of replies (250) |
| limit value too ambitious | 47 | 19% |
| measures too expensive | 49 | 20% |
| air quality plans started too late | 80 | 32% |
| transboundary air pollution | 27 | 11% |
| deviation of expected air quality trend | 64 | 26% |
| other (please specify below) | 98 | 39% |

| | | |
|---|---|---|
| no opinion | 11 | 4% |
| | | |
| | | |
| **Given the expected protection provided by the standards and the costs needed for attaining it, how do you rate the following standards? Note: you do not have to rate all standards.** | | |
| | | |
| Limit value for PM10, 1 day means | | |
| | Number of replies | % of replies (250) |
| very strict | 58 | 23% |
| strict | 57 | 23% |
| neutral | 48 | 19% |
| lenient | 34 | 14% |
| very lenient | 5 | 2% |
| no opinion | 20 | 8% |
| N/A | - | - |
| | | |
| Limit value for PM2.5 (Stage 1) | | |
| | Number of replies | % of replies (250) |
| very strict | 34 | 14% |
| strict | 45 | 18% |
| neutral | 55 | 22% |
| lenient | 41 | 16% |
| very lenient | 18 | 7% |
| no opinion | 30 | 12% |
| N/A | - | - |
| | | |
| Limit value for PM2.5 (Stage 2) | | |
| | Number of replies | % of replies (250) |
| very strict | 49 | 20% |
| strict | 44 | 18% |
| neutral | 49 | 20% |
| lenient | 34 | 14% |
| very lenient | 12 | 5% |
| no opinion | 33 | 13% |
| N/A | - | - |
| | | |
| Target value for ozone, 8 hour means (health protection) | | |
| | Number of replies | % of replies (250) |
| very strict | 23 | 9% |
| strict | 43 | 17% |
| neutral | 60 | 24% |
| lenient | 26 | 10% |
| very lenient | 4 | 2% |
| no opinion | 51 | 20% |
| N/A | - | - |
| | | |
| Target value for ozone, AOT40 (vegetation protection) | | |
| | Number of replies | % of replies (250) |

| | | |
|---|---|---|
| very strict | 21 | 8% |
| strict | 35 | 14% |
| neutral | 55 | 22% |
| lenient | 15 | 6% |
| very lenient | 7 | 3% |
| no opinion | 69 | 28% |
| N/A | - | - |
| | | |
| Limit value for NO2, annual mean (health protection) | | |
| | Number of replies | % of replies (250) |
| very strict | 47 | 19% |
| strict | 54 | 22% |
| neutral | 59 | 24% |
| lenient | 20 | 8% |
| very lenient | 13 | 5% |
| no opinion | 24 | 10% |
| N/A | - | - |
| | | |
| Do you wish to rate the stringency of other standards similarly? | | |
| | Number of replies | % of replies (250) |
| yes | 85 | 34% |
| no | 126 | 50% |
| N/A | - | - |
| | | |
| **Given the expected protection provided by the standards and the costs needed for attaining it, how do you rate the following other standards? Note: you do not have to rate all standards.** | | |
| | | |
| Limit value for sulphur dioxide (health protection), 1 hour means | | |
| | Number of replies | % of replies (85) |
| very strict | 7 | 8% |
| strict | 8 | 9% |
| neutral | 31 | 36% |
| lenient | 7 | 8% |
| very lenient | 5 | 6% |
| no opinion | 7 | 8% |
| | | |
| Limit value for sulphur dioxide (health protection), 1 day means | | |
| | Number of replies | % of replies (85) |
| very strict | 3 | 4% |
| strict | 11 | 13% |
| neutral | 27 | 32% |
| lenient | 10 | 12% |
| very lenient | 4 | 5% |
| no opinion | 7 | 8% |
| | | |
| Critical level for sulphur dioxide (vegetation protection) | | |
| | Number of replies | % of replies (85) |
| very strict | 3 | 4% |

| | | |
|---|---|---|
| strict | 10 | 12% |
| neutral | 33 | 39% |
| lenient | 3 | 4% |
| very lenient | 4 | 5% |
| no opinion | 7 | 8% |
| | | |
| Alert threshold for sulphur dioxide | | |
| | Number of replies | % of replies (85) |
| very strict | 4 | 5% |
| strict | 10 | 12% |
| neutral | 24 | 28% |
| lenient | 8 | 9% |
| very lenient | 3 | 4% |
| no opinion | 11 | 13% |
| | | |
| Information threshold for sulphur dioxide | | |
| | Number of replies | % of replies (85) |
| very strict | 3 | 4% |
| strict | 10 | 12% |
| neutral | 23 | 27% |
| lenient | 6 | 7% |
| very lenient | 3 | 4% |
| no opinion | 12 | 14% |
| | | |
| Limit value for nitrogen dioxide (health protection), 1 hour means | | |
| | Number of replies | % of replies (85) |
| very strict | 8 | 9% |
| strict | 23 | 27% |
| neutral | 14 | 16% |
| lenient | 11 | 13% |
| very lenient | 5 | 6% |
| no opinion | 3 | 4% |
| | | |
| Critical level for nitrogen dioxide (vegetation protection) | | |
| | Number of replies | % of replies (85) |
| very strict | 7 | 8% |
| strict | 22 | 26% |
| neutral | 17 | 20% |
| lenient | 8 | 9% |
| very lenient | 3 | 4% |
| no opinion | 7 | 8% |
| | | |
| Alert threshold for nitrogen dioxide | | |
| | Number of replies | % of replies (85) |
| very strict | 6 | 7% |
| strict | 15 | 18% |
| neutral | 21 | 25% |
| lenient | 6 | 7% |
| very lenient | 5 | 6% |

| | | |
|---|---|---|
| no opinion | 9 | 11% |
| | | |
| Information threshold for nitrogen dioxide | | |
| | Number of replies | % of replies (85) |
| very strict | 5 | 6% |
| strict | 17 | 20% |
| neutral | 16 | 19% |
| lenient | 3 | 4% |
| very lenient | 6 | 7% |
| no opinion | 9 | 11% |
| | | |
| Limit value for benzene | | |
| | Number of replies | % of replies (85) |
| very strict | 7 | 8% |
| strict | 7 | 8% |
| neutral | 36 | 42% |
| lenient | 6 | 7% |
| very lenient | 4 | 5% |
| no opinion | 6 | 7% |
| | | |
| Limit value for carbon monoxide | | |
| | Number of replies | % of replies (85) |
| very strict | 5 | 6% |
| strict | 11 | 13% |
| neutral | 33 | 39% |
| lenient | 10 | 12% |
| very lenient | 2 | 2% |
| no opinion | 4 | 5% |
| | | |
| Limit value for lead | | |
| | Number of replies | % of replies (85) |
| very strict | 8 | 9% |
| strict | 8 | 9% |
| neutral | 32 | 38% |
| lenient | 7 | 8% |
| very lenient | 5 | 6% |
| no opinion | 5 | 6% |
| | | |
| Limit value for PM10, annual mean (health protection) | | |
| | Number of replies | % of replies (85) |
| very strict | 5 | 6% |
| strict | 28 | 33% |
| neutral | 19 | 22% |
| lenient | 12 | 14% |
| very lenient | 13 | 15% |
| no opinion | 1 | 1% |
| | | |
| Exposure concentration obligation for PM2.5 | | |
| | Number of replies | % of replies (85) |

| | | |
|---|---|---|
| very strict | 18 | 21% |
| strict | 25 | 29% |
| neutral | 7 | 8% |
| lenient | 11 | 13% |
| very lenient | 6 | 7% |
| no opinion | 5 | 6% |
| | | |
| Target value for PM2.5 | | |
| | Number of replies | % of replies (85) |
| very strict | 25 | 29% |
| strict | 14 | 16% |
| neutral | 13 | 15% |
| lenient | 10 | 12% |
| very lenient | 11 | 13% |
| no opinion | 2 | 2% |
| | | |
| Alert threshold for ozone | | |
| | Number of replies | % of replies (85) |
| very strict | 7 | 8% |
| strict | 23 | 27% |
| neutral | 17 | 20% |
| lenient | 5 | 6% |
| very lenient | 3 | 4% |
| no opinion | 9 | 11% |
| | | |
| Information threshold for ozone | | |
| | Number of replies | % of replies (85) |
| very strict | 7 | 8% |
| strict | 19 | 22% |
| neutral | 22 | 26% |
| lenient | 4 | 5% |
| very lenient | 3 | 4% |
| no opinion | 11 | 13% |
| | | |
| Target value for arsenic | | |
| | Number of replies | % of replies (85) |
| very strict | 6 | 7% |
| strict | 8 | 9% |
| neutral | 28 | 33% |
| lenient | 7 | 8% |
| very lenient | 4 | 5% |
| no opinion | 7 | 8% |
| | | |
| Target value for cadmium | | |
| | Number of replies | % of replies (85) |
| very strict | 6 | 7% |
| strict | 7 | 8% |
| neutral | 29 | 34% |
| lenient | 7 | 8% |

| | | |
|---|---|---|
| very lenient | 6 | 7% |
| no opinion | 7 | 8% |
| | | |
| Target value for nickel | | |
| | Number of replies | % of replies (85) |
| very strict | 5 | 6% |
| strict | 8 | 9% |
| neutral | 29 | 34% |
| lenient | 9 | 11% |
| very lenient | 4 | 5% |
| no opinion | 7 | 8% |
| | | |
| Target value for benzo(a)pyrene | | |
| | Number of replies | % of replies (85) |
| very strict | 10 | 12% |
| strict | 23 | 27% |
| neutral | 13 | 15% |
| lenient | 12 | 14% |
| very lenient | 4 | 5% |
| no opinion | 5 | 6% |
| | | |
| The limit value for PM2.5 and the Exposure Concentration Obligation (ECO) will become binding in 2015. Would it be appropriate to keep it at its present level or to further strengthen them? | | |
| | | |
| The limit value for PM2.5 | | |
| | Number of replies | % of replies (250) |
| keep at present value | 106 | 42% |
| strengthen somewhat | 60 | 24% |
| strengthen considerably | 50 | 20% |
| no opinion | 20 | 8% |
| N/A | - | - |
| | | |
| The Exposure Concentration Obligation | | |
| | Number of replies | % of replies (250) |
| keep at present value | 102 | 41% |
| strengthen somewhat | 52 | 21% |
| strengthen considerably | 36 | 14% |
| no opinion | 35 | 14% |
| N/A | - | - |
| | | |
| Should, in your view, the National Exposure Reduction Target (which requires a relative improvement of air quality by 2020) become legally binding? | | |
| | Number of replies | % of replies (250) |
| totally agree | 79 | 32% |
| tend to agree | 72 | 29% |
| neutral | 27 | 11% |
| tend to disagree | 20 | 8% |
| totally disagree | 25 | 10% |
| no opinion | 13 | 5% |

| | | |
|---|---|---|
| N/A | - | - |

*Question 5. Air quality assessment*

| | | |
|---|---|---|
| | | |
| How do you judge the differences in assessment methods between Member States considering on the one hand flexibility needed and on the other hand the necessity to take abatement action where needed and establishing a level playing field? | | |
| | Number of replies | % of replies (250) |
| very large | 36 | 14% |
| large | 87 | 35% |
| moderate | 40 | 16% |
| small | 1 | 0% |
| very small | 1 | 0% |
| no opinion | 51 | 20% |
| N/A | - | - |
| | | |
| Do you think that the number of air quality monitoring stations in your city or region is adequate for assessing the air quality? | | |
| | Number of replies | % of replies (250) |
| far too many stations | 2 | 1% |
| somewhat too many stations | 24 | 10% |
| enough stations | 98 | 39% |
| somewhat too few stations | 65 | 26% |
| far too few stations | 33 | 13% |
| no opinion | 11 | 4% |
| N/A | - | - |
| | | |
| If there are in your view too few stations, is this because: | | |
| | Number of replies | % of replies (98) |
| the Air Quality Directive does not require enough stations | 42 | 43% |
| the directive does not require the right mix of station types | 19 | 19% |
| supplementary modelling should be mandatory | 29 | 30% |
| other (please specify below) | 35 | 36% |
| no opinion | 5 | 5% |
| | | |
| Do you think that if areas of poor air quality exist or will come to exist in your city or region, these areas will indeed be identified as areas of poor air quality? | | |
| | Number of replies | % of replies (250) |
| certainly | 76 | 30% |
| likely | 82 | 33% |
| possibly | 49 | 20% |
| unlikely | 15 | 6% |
| certainly not | 4 | 2% |
| no opinion | 9 | 4% |
| N/A | - | - |
| | | |

| If less than likely, please indicate why: | | |
|---|---|---|
| | Number of replies | % of replies (68) |
| monitors are not placed at the exceedance locations | 34 | 50% |
| there are too many hotspots | 21 | 31% |
| identification is not possible without modelling | 24 | 35% |
| other (please specify below) | 16 | 24% |
| no opinion | 3 | 4% |
| | | |
| Should, in your view, modelling be made mandatory in areas where air quality is not good? | | |
| | Number of replies | % of replies (250) |
| totally agree | 88 | 35% |
| tend to agree | 65 | 26% |
| neutral | 32 | 13% |
| tend to disagree | 30 | 12% |
| totally disagree | 12 | 5% |
| no opinion | 9 | 4% |
| N/A | - | - |

| *Question 6. Air quality management in Member States* | | |
|---|---|---|
| | | |
| The Air Quality Directive requires Member States to take action when standards are exceeded or at risk to be exceeded. Provisions for two types 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 (see e.g. the list of measures in Section B.3 of Annex XV of the Air Quality Directive, which can displayed with the help button of this question). Do you think that this approach is the right one or should measures be taken less or more at EU level? | | |
| | Number of replies | % of replies (250) |
| far more at EU level | 29 | 12% |
| somewhat more at EU level | 90 | 36% |
| current approach is adequate | 59 | 24% |
| somewhat more at national, regional and local level | 37 | 15% |
| far more at national, regional and local level | 11 | 4% |
| no opinion | 8 | 3% |
| N/A | - | - |
| | | |
| Do you think that the Air Quality Directive gives effective requirements for Member States to take appropriate action when air quality limit values are exceeded? | | |
| | Number of replies | % of replies (250) |
| very effective | 6 | 2% |
| effective | 60 | 24% |
| moderately effective | 89 | 36% |
| hardly effective | 53 | 21% |
| not at all effective | 16 | 6% |
| no opinion | 10 | 4% |
| N/A | - | - |
| | | |

| If the requirements are not effective regarding limit values, is this because: | | |
|---|---|---|
| | Number of replies | % of replies (158) |
| the effectiveness of air quality plans is not ensured | 99 | 63% |
| combating exceedance is not effective to reduce health risks | 28 | 18% |
| areas of exceedance are often not identified | 48 | 30% |
| exceedances can be ignored | 55 | 35% |
| no opinion | 0 | 0% |
| | | |
| Do you think that the Air Quality Directive gives effective requirements for Member States to take appropriate action when air quality target values are exceeded? | | |
| | Number of replies | % of replies (250) |
| very effective | 6 | 2% |
| effective | 41 | 16% |
| moderately effective | 89 | 36% |
| hardly effective | 49 | 20% |
| not at all effective | 27 | 11% |
| no opinion | 22 | 9% |
| N/A | - | - |
| | | |
| If the requirements are not effective regarding target values, is this because: | | |
| | Number of replies | % of replies (165) |
| the effectiveness of air quality plans is not ensured | 92 | 56% |
| combating exceedance is not effective to reduce health risks | 20 | 12% |
| areas of exceedance are often not identified | 34 | 21% |
| exceedances can be ignored | 70 | 42% |
| no opinion | 6 | 4% |
| | | |
| In many areas in Europe the limit values for PM and/or NO2 are still not attained. What are in your opinion the most important reasons for non-attainment? | | |
| | Number of replies | % of replies (250) |
| realistic national, regional or local measures are insufficient due to high background levels | 106 | 42% |
| national and/or local policies started too late | 104 | 42% |
| political priority of air quality is low | 143 | 57% |
| costs are too high | 88 | 35% |
| competency problems between authorities | 52 | 21% |
| unexpected high NO2 emission of EURO5 vehicles | 99 | 40% |
| inefficiency of EU legislation | 87 | 35% |
| no opinion | 5 | 2% |
| | | |
| If you think non-attainment is due to inefficiency of EU legislation: legislation for which sector(s)? | | |
| | Number of replies | % of replies (87) |
| power generation | 17 | 20% |
| industry | 24 | 28% |
| households | 29 | 33% |

| | | |
|---|---|---|
| agriculture | 39 | 45% |
| road transport | 75 | 86% |
| non-road (land)transport (including non-road mobile machinery) | 40 | 46% |
| shipping | 41 | 47% |
| aviation | 13 | 15% |
| other | 21 | 24% |
| no opinion | 0 | 0% |

*Question 7. Public information and dissemination*

| | | |
|---|---|---|
| | | |
| Do you agree with the way the public is informed about air quality matters under the Air Quality Directive and the Fourth Daughter Directive? | | |
| | Number of replies | % of replies (250) |
| totally agree | 35 | 14% |
| tend to agree | 69 | 28% |
| neutral | 57 | 23% |
| tend to disagree | 52 | 21% |
| totally disagree | 6 | 2% |
| no opinion | 18 | 7% |
| N/A | - | - |
| | | |
| If you (tend to) disagree, is the information: | | |
| | Number of replies | % of replies (58) |
| incomplete | 39 | 67% |
| too much | 5 | 9% |
| too late | 17 | 29% |
| not correct | 10 | 17% |
| biased | 12 | 21% |
| other | 18 | 31% |
| no opinion | 1 | 2% |
| | | |
| As a professional or professional body, do you use air quality data and other information generated under the Air Quality Directive or the Fourth Daughter Directive? | | |
| | Number of replies | % of replies (250) |
| very often | 65 | 26% |
| often | 72 | 29% |
| sometimes | 54 | 22% |
| hardly | 24 | 10% |
| not at all | 9 | 4% |
| don't know | 7 | 3% |
| N/A | - | - |
| | | |
| When using such data and information, do you have good access to it? | | |
| | Number of replies | % of replies (191) |
| very good | 53 | 28% |
| good | 66 | 35% |

| | | |
|---|---|---|
| moderately good | 61 | 32% |
| bad | 6 | 3% |
| very bad | 1 | 1% |
| no opinion | 1 | 1% |
| | | |
| If you would like to have better access to air quality data and other information generated under the air quality directives, what could be improved? | | |
| | Number of replies | % of replies (250) |
| more active dissemination by Member States | 83 | 33% |
| more active dissemination by EU institutions | 55 | 22% |
| better access facilities at websites in Member States, e.g. user friendly portals | 125 | 50% |
| better access facilities at EU websites, e.g. user friendly portals | 99 | 40% |
| a format or layout used EU-wide | 80 | 32% |
| other | 21 | 8% |
| no opinion | 34 | 14% |
| | | |
| 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. Should, in your view, a common EU Air Quality Index be introduced? | | |
| | Number of replies | % of replies (250) |
| totally agree | 73 | 29% |
| tend to agree | 78 | 31% |
| neutral | 31 | 12% |
| tend to disagree | 34 | 14% |
| totally disagree | 13 | 5% |
| no opinion | 7 | 3% |
| N/A | - | - |

| | | |
|---|---|---|
| *Question 8. Governance* | | |
| | | |
| The air quality directives constitute a common policy framework for EU Member States to reduce harmful effects of air pollution, aiming 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. How do you rate the administrative burden by the Air Quality Directive and the Fourth Daughter Directive within Member States when considered in relation to the protection that the directives are giving? | | |
| | | |
| For air quality monitoring and assessment | | |
| | Number of replies | % of replies (250) |
| very high | 22 | 9% |
| high | 71 | 28% |
| neutral | 54 | 22% |
| low | 23 | 9% |
| very low | 6 | 2% |
| no opinion | 42 | 17% |
| N/A | - | - |

| | | |
|---|---|---|
| For reporting | | |
| | Number of replies | % of replies (250) |
| very high | 17 | 7% |
| high | 70 | 28% |
| neutral | 59 | 24% |
| low | 26 | 10% |
| very low | 3 | 1% |
| no opinion | 39 | 16% |
| N/A | - | - |
| | | |
| For developing air quality plans | | |
| | Number of replies | % of replies (250) |
| very high | 27 | 11% |
| high | 66 | 26% |
| neutral | 46 | 18% |
| low | 25 | 10% |
| very low | 12 | 5% |
| no opinion | 40 | 16% |
| N/A | - | - |
| | | |
| For implementing air quality plans | | |
| | Number of replies | % of replies (250) |
| very high | 36 | 14% |
| high | 59 | 24% |
| neutral | 46 | 18% |
| low | 26 | 10% |
| very low | 10 | 4% |
| no opinion | 37 | 15% |
| N/A | - | - |
| | | |
| Some Member States have difficulties to attain limit values, in particular those for PM10 and NO2. In addition, the Commission denied a number of notifications concerning the postponement of attainment dates. In your view, have administrations in your home country implemented all appropriate measures to comply with the limit value for PM10? | | |
| | Number of replies | % of replies (250) |
| totally agree | 27 | 11% |
| tend to agree | 51 | 20% |
| neutral | 30 | 12% |
| tend to disagree | 67 | 27% |
| totally disagree | 44 | 18% |
| no opinion | 18 | 7% |
| N/A | - | - |

| | | |
|---|---|---|
| *Question 9. Scientific and technological innovations* | | |
| | | |
| Do you think that one or more air quality standards should be reconsidered because of new scientific or technological advances? | | |
| | Number of replies | % of replies (250) |

| | | |
|---|---|---|
| yes | 99 | 40% |
| no | 54 | 22% |
| no opinion | 83 | 33% |
| N/A | - | - |
| | | |
| Which air quality standards should in your view be reconsidered because of new scientific or technological advances? Please indicate in which fields these advances occurred. Note: only tick the standards that should be reconsidered. | | |
| | | |
| Limit value for sulphur dioxide, 1 hour means (health protection) | | |
| | Number of replies | % of replies (99) |
| measurement techniques | 6 | 6% |
| health risks | 7 | 7% |
| expected trends in future concentrations | 10 | 10% |
| abatement potential for air pollution sources | 14 | 14% |
| other | 0 | 0% |
| | | |
| Limit value for sulphur dioxide, 1 day means (health protection) | | |
| | Number of replies | % of replies (99) |
| measurement techniques | 2 | 2% |
| health risks | 10 | 10% |
| expected trends in future concentrations | 10 | 10% |
| abatement potential for air pollution sources | 14 | 14% |
| other | 0 | 0% |
| | | |
| Critical level for sulphur dioxide (vegetation protection) | | |
| | Number of replies | % of replies (99) |
| measurement techniques | 4 | 4% |
| health risks | 8 | 8% |
| expected trends in future concentrations | 10 | 10% |
| abatement potential for air pollution sources | 11 | 11% |
| other | 0 | 0% |
| | | |
| Alert threshold for sulphur dioxide | | |
| | Number of replies | % of replies (99) |
| measurement techniques | 3 | 3% |
| health risks | 9 | 9% |
| expected trends in future concentrations | 8 | 8% |
| abatement potential for air pollution sources | 8 | 8% |
| other | 0 | 0% |
| | | |
| Information threshold for sulphur dioxide | | |
| | Number of replies | % of replies (99) |
| measurement techniques | 2 | 2% |
| health risks | 7 | 7% |
| expected trends in future concentrations | 3 | 3% |
| abatement potential for air pollution sources | 5 | 5% |
| other | 0 | 0% |
| | | |

| Limit value for nitrogen dioxide, 1 hour means (health protection) | | |
|---|---|---|
| | Number of replies | % of replies (99) |
| measurement techniques | 9 | 9% |
| health risks | 23 | 23% |
| expected trends in future concentrations | 13 | 13% |
| abatement potential for air pollution sources | 14 | 14% |
| other | 1 | 1% |
| | | |
| Limit value for nitrogen dioxide, annual mean (health protection) | | |
| | Number of replies | % of replies (99) |
| measurement techniques | 6 | 6% |
| health risks | 27 | 27% |
| expected trends in future concentrations | 21 | 21% |
| abatement potential for air pollution sources | 16 | 16% |
| other | 1 | 1% |
| | | |
| Critical level for nitrogen dioxide (vegetation protection) | | |
| | Number of replies | % of replies (99) |
| measurement techniques | 7 | 7% |
| health risks | 11 | 11% |
| expected trends in future concentrations | 11 | 11% |
| abatement potential for air pollution sources | 7 | 7% |
| other | 0 | 0% |
| | | |
| Alert threshold for nitrogen dioxide | | |
| | Number of replies | % of replies (99) |
| measurement techniques | 7 | 7% |
| health risks | 18 | 18% |
| expected trends in future concentrations | 9 | 9% |
| abatement potential for air pollution sources | 6 | 6% |
| other | 1 | 1% |
| | | |
| Information threshold for nitrogen dioxide | | |
| | Number of replies | % of replies (99) |
| measurement techniques | 6 | 6% |
| health risks | 11 | 11% |
| expected trends in future concentrations | 8 | 8% |
| abatement potential for air pollution sources | 5 | 5% |
| other | 1 | 1% |
| | | |
| Limit value for benzene | | |
| | Number of replies | % of replies (99) |
| measurement techniques | 7 | 7% |
| health risks | 16 | 16% |
| expected trends in future concentrations | 5 | 5% |
| abatement potential for air pollution sources | 7 | 7% |
| other | 1 | 1% |
| | | |

| Limit value for carbon monoxide | | |
|---|---|---|
| | Number of replies | % of replies (99) |
| measurement techniques | 3 | 3% |
| health risks | 9 | 9% |
| expected trends in future concentrations | 8 | 8% |
| abatement potential for air pollution sources | 5 | 5% |
| other | 1 | 1% |
| | | |
| Limit value for lead | | |
| | Number of replies | % of replies (99) |
| measurement techniques | 4 | 4% |
| health risks | 14 | 14% |
| expected trends in future concentrations | 8 | 8% |
| abatement potential for air pollution sources | 6 | 6% |
| other | 1 | 1% |
| | | |
| Limit value for PM10, annual mean | | |
| | Number of replies | % of replies (99) |
| measurement techniques | 19 | 19% |
| health risks | 48 | 48% |
| expected trends in future concentrations | 12 | 12% |
| abatement potential for air pollution sources | 19 | 19% |
| other | 8 | 8% |
| | | |
| Target value for ozone, 8h means (health protection) | | |
| | Number of replies | % of replies (99) |
| measurement techniques | 5 | 5% |
| health risks | 20 | 20% |
| expected trends in future concentrations | 10 | 10% |
| abatement potential for air pollution sources | 7 | 7% |
| other | 2 | 2% |
| | | |
| Target value for ozone, AOT40 (vegetation protection) | | |
| | Number of replies | % of replies (99) |
| measurement techniques | 6 | 6% |
| health risks | 10 | 10% |
| expected trends in future concentrations | 6 | 6% |
| abatement potential for air pollution sources | 3 | 3% |
| other | 2 | 2% |
| | | |
| Alert threshold for ozone | | |
| | Number of replies | % of replies (99) |
| measurement techniques | 6 | 6% |
| health risks | 14 | 14% |
| expected trends in future concentrations | 7 | 7% |
| abatement potential for air pollution sources | 5 | 5% |
| other | 0 | 0% |
| | | |

| Information threshold for ozone | | |
|---|---|---|
| | Number of replies | % of replies (99) |
| measurement techniques | 6 | 6% |
| health risks | 12 | 12% |
| expected trends in future concentrations | 7 | 7% |
| abatement potential for air pollution sources | 5 | 5% |
| other | 0 | 0% |
| | | |
| Regulating the deposition of heavy metals was not feasible when the Fourth Daughter Directive was developed. Has, in your opinion, recent scientific/technological development made this more feasible now? | | |
| | Number of replies | % of replies (250) |
| far more feasible | 6 | 2% |
| more feasible | 40 | 16% |
| somewhat more feasible | 20 | 8% |
| not more feasible | 24 | 10% |
| no opinion | 116 | 46% |
| N/A | - | - |
| | | |
| Benzo(a)pyrene has been chosen as a marker for carcinogenity of polycyclic aromatic hydrocarbons. Should this, in your view, be reconsidered in view of new scientific evidence? | | |
| | Number of replies | % of replies (250) |
| totally agree | 21 | 8% |
| tend to agree | 34 | 14% |
| neutral | 38 | 15% |
| tend to disagree | 14 | 6% |
| totally disagree | 7 | 3% |
| no opinion | 91 | 36% |
| N/A | - | - |

| *Question 10. Your most important issues* | | |
|---|---|---|
| | | |
| The European Commission is initiating a review of the Air Quality Directive, which aims to improve the directive where feasible and to make it more effective. Member States and other stakeholders will be involved in this process and the result of the present public consultation will also be used. If you have a view on improvements of the directive, you may use the list below to indicate priorities for review. You may also describe your views in the text box below; it will be appreciated if you then express your view concisely, preferably in English, German or French to facilitate the analysis. | | |
| | Number of replies | % of replies (250) |
| The overall approach of the EU air quality policy | 68 | 27% |
| The consistency with other policy fields | 130 | 52% |
| Stronger alignment with climate change policy | 109 | 44% |
| The conceptual approach of the limit values | 48 | 19% |
| The conceptual approach of the target values | 34 | 14% |
| The conceptual approach of exposure reduction targets | 27 | 11% |
| The fractions of PM being regulated | 114 | 46% |
| The strictness of standards for PM | 110 | 44% |
| The strictness of standards for NO2 | 76 | 30% |
| The strictness of standards for ozone | 31 | 12% |

| | | |
|---|---|---|
| The role of monitoring in assessment | 63 | 25% |
| The role of modelling in assessment | 71 | 28% |
| Differences in assessment methodology between Member States | 87 | 35% |
| Differences between Member States in taking action where improvement of air quality is needed | 91 | 36% |
| Public information | 78 | 31% |
| Public participation | 64 | 26% |

*Question 11. Your own role*

| | | |
|---|---|---|
| If you reply as an individual, what are you prepared to do to contribute to better air quality? | | |
| | Number of replies | % of replies (250) |
| Use public transport instead of my own car | 105 | 42% |
| Select an area for living with attractive public transport | 64 | 26% |
| Work not far from home (thus avoiding large distance commuting) | 73 | 29% |
| Buy a low emission vehicle | 79 | 32% |
| Improve my personal heating habits | 86 | 34% |
| Switch to cleaner heating fuels, avoid open wood fires | 60 | 24% |
| Invest in thermal isolation of my home | 86 | 34% |
| Other | 28 | 11% |

# 4 Detailed results of the questionnaire for citizens interested in air quality

## 4.1 Introduction

This chapter gives a detailed overview of the replies given by citizens interested in air quality to the online questionnaire on the Air Policy Review. A more concise summary of the replies and a description of the survey process.are given in Part I of the report.

The questions and the number and percentages of predefined answers ticked by the responsdents are listed below. The free text replies are not listed; these are summarised in Part 1 of the report.

## 4.2 Replies to the questionnaire for citizens interested in air quality

The questions were preceded by the following introduction:

*Background*

*As part of a comprehensive review of Europe's air policies intended to set new long-term objectives beyond 2020, the European Commission is launching a public consultation on its current policy in this area. Views are being sought on the strengths and weaknesses of the existing legislative framework and progress on its implementation. This web-based consultation is part of broader process of reflection that will feed into a review due no later than 2013.*

*The public consultation invites all interested parties to share their views on the best way to improve the EU's air quality legislation. It is divided into two parts – a short questionnaire for the general public and a longer section for experts and practitioners form national administrations, regional or local authorities, researchers, businesses, stakeholders, health, environmental and other groups involved in the implementation of EU air quality legislation.*

***The questionnaire below is intended for citizens interested in air quality policy.*** *Filling in the questions should take about five minutes. You do not need to answer each question.*

*Most questions are closed (this means that the answers can be selected form a set of predefined options). One general question (in Section 9) is open and allow you to describe any view that you deem important for the review of the air quality directives. If you choose this option, we ask you to describe your view concisely.*

| *Question 1. Who are you?* | | |
|---|---|---|
| | | |
| In which capacity are you participating in this consultation? | | |
| | Number of replies | % of replies (599) |
| as an individual | 540 | 90% |
| on behalf of an organisation | 59 | 10% |
| | | |
| On behalf of which type of organisation? | | |
| | Number of replies | % of replies (59) |
| national administration | 1 | 2% |
| regional administration | 0 | 0% |
| local administration | 3 | 5% |
| other administration | 1 | 2% |
| enterprise or self-employed | 8 | 14% |
| research institution | 5 | 8% |
| NGO | 18 | 31% |
| industrial interest group | 3 | 5% |
| other | 20 | 34% |
| | | |
| Please indicate the country where you reside | | |
| | Number of replies | % of replies (599) |
| Austria | 6 | 1% |
| Belgium | 94 | 16% |
| Bulgaria | 0 | 0% |
| Cyprus | 0 | 0% |
| Czech Republic | 1 | 0% |
| Denmark | 0 | 0% |
| Estonia | 2 | 0% |
| Finland | 1 | 0% |
| France | 42 | 7% |
| Germany | 28 | 5% |
| Greece | 4 | 1% |
| Hungary | 1 | 0% |
| Ireland | 2 | 0% |
| Italy | 234 | 39% |
| Latvia | 1 | 0% |
| Lithuania | 0 | 0% |
| Luxembourg | 0 | 0% |
| Malta | 0 | 0% |
| Netherlands | 36 | 6% |
| Poland | 1 | 0% |
| Portugal | 11 | 2% |
| Romania | 4 | 1% |
| Slovakia | 1 | 0% |
| Slovenia | 1 | 0% |
| Spain | 40 | 7% |
| Sweden | 6 | 1% |

| | | |
|---|---|---|
| United Kingdom | 66 | 11% |
| Other | 17 | 3% |

*Question 2. Air quality and policy*

| | | |
|---|---|---|
| How important is clean air to you? | | |
| | Number of replies | % of replies (599) |
| very important | 495 | 83% |
| important | 92 | 15% |
| moderately important | 4 | 1% |
| of little importance | 2 | 0% |
| unimportant | 2 | 0% |
| no opinion | 1 | 0% |
| N/A | - | - |
| What do you think of the air quality near your home? | | |
| | Number of replies | % of replies (599) |
| excellent | 17 | 3% |
| good | 100 | 17% |
| moderate | 164 | 27% |
| bad | 154 | 26% |
| very bad | 159 | 27% |
| no opinion | 2 | 0% |
| N/A | - | - |
| | | |
| How much do you know about the air quality legislation in your country? | | |
| | Number of replies | % of replies (599) |
| very much | 56 | 9% |
| much | 153 | 26% |
| some | 259 | 43% |
| hardly anything | 102 | 17% |
| nothing | 18 | 3% |
| no opinion | 3 | 1% |
| N/A | - | - |
| | | |
| EU legislation on air pollution includes directives that set limit values for the quality of air, directives that control the emissions by specific sources and a directive that sets a limit to the total emission of air pollutants of Member States. How much do you know about the EU air quality legislation (which is an important basis of your national legislation)? | | |
| | Number of replies | % of replies (599) |
| very much | 46 | 8% |
| much | 119 | 20% |
| some | 252 | 42% |
| hardly anything | 123 | 21% |
| nothing | 54 | 9% |
| no opinion | 2 | 0% |
| N/A | - | - |

*Question 3. The approach of the Air Quality Directive*

| | | |
|---|---|---|
| The Air Quality Directive set standards for the air quality of specified substances in order to ensure a minimum level of protection to citizens and the environment. The directive require Member States to assess air quality in zones and agglomerations and to inform the European Commission and the public about the results. Member States must take action when standards are exceeded or at risk to be exceeded. Do you think this approach is appropriate? | | |
| | Number of replies | % of replies (599) |
| very appropriate | 179 | 30% |
| appropriate | 237 | 40% |
| moderately appropriate | 118 | 20% |
| hardly appropriate | 34 | 6% |
| not at all appropriate | 22 | 4% |
| no opinion | 5 | 1% |
| N/A | - | - |

*Question 4. Air quality standards*

| | | |
|---|---|---|
| The Air Quality Directive sets standards for the concentrations of air pollutants such as particulate matter, ozone and NO2 (see here). These standards were set on the basis of guidelines from the World Health Organization. Are you aware of such standards? | | |
| | Number of replies | % of replies (599) |
| well aware | 126 | 21% |
| aware | 257 | 43% |
| slightly aware | 156 | 26% |
| not aware | 53 | 9% |
| N/A | - | - |
| | | |
| If you are aware of the standards: When the standards were set, both the benefits to health and environment and the costs required to meet the standards have been taken into account. Is, in your view, the protection provided by the air quality standards sufficient? | | |
| | Number of replies | % of replies (383) |
| more than sufficient | 12 | 3% |
| sufficient | 119 | 31% |
| insufficient | 232 | 61% |
| no opinion | 16 | 4% |
| | | |
| If insufficient, how can this be improved? | | |
| | Number of replies | % of replies (232) |
| tightening the standards | 34 | 15% |
| better enforcement of the standards | 43 | 19% |
| both of the above possibilities | 130 | 56% |
| other | 17 | 7% |
| no opinion | 2 | 1% |
| | | |
| Did you make this judgement in general or for a particular pollutant? | | |
| | Number of replies | % of replies (232) |
| in general | 147 | 63% |

| | | |
|---|---|---|
| particulate matter | 78 | 34% |
| NO2 | 36 | 16% |
| ozone | 27 | 12% |
| other pollutant(s) | 38 | 16% |

*Question 5. Air quality measurements*

| | | |
|---|---|---|
| | | |
| Are you aware of any monitoring of air quality in your city or region? | | |
| | Number of replies | % of replies (599) |
| well aware | 171 | 29% |
| aware | 254 | 42% |
| slightly aware | 101 | 17% |
| not aware | 67 | 11% |
| N/A | - | - |
| | | |
| Do you regard location and number of stations as appropriate for collecting representative data? | | |
| | Number of replies | % of replies (425) |
| very appropriate | 17 | 4% |
| appropriate | 89 | 21% |
| moderately appropriate | 137 | 32% |
| hardly appropriate | 82 | 19% |
| not at all appropriate | 77 | 18% |
| no opinion | 17 | 4% |

*Question 6. Air quality management in EU Member States*

| | | |
|---|---|---|
| | | |
| The Air Quality Directive provides a variety of proposed measures to address air quality problems but leaves it to the Member States and the regional and local authorities to choose the appropriate and effective combination of measures. Do you agree with this approach? | | |
| | Number of replies | % of replies (599) |
| totally agree | 49 | 8% |
| tend to agree | 170 | 28% |
| neutral | 83 | 14% |
| tend to disagree | 191 | 32% |
| totally disagree | 94 | 16% |
| no opinion | 7 | 1% |
| N/A | - | - |
| | | |
| Do you think that the EU should have more responsibility regarding measures within Member States? (Examples of measures can be displayed with the help button of this question.) | | |
| | Number of replies | % of replies (599) |
| more influence | 463 | 77% |
| keep as it is now | 74 | 12% |
| less influence | 30 | 5% |
| no opinion | 22 | 4% |
| N/A | - | - |

| *Question 7. Being informed* | | |
|---|---|---|
| | | |
| **Do you feel that you have sufficient information about air quality:** | | |
| | | |
| in your neighbourhood? | | |
| | Number of replies | % of replies (599) |
| more than sufficient | 28 | 5% |
| sufficient | 120 | 20% |
| somewhat too little | 139 | 23% |
| not at all sufficient | 300 | 50% |
| no opinion | 3 | 1% |
| N/A | - | - |
| | | |
| in your country? | | |
| | Number of replies | % of replies (599) |
| more than sufficient | 22 | 4% |
| sufficient | 151 | 25% |
| somewhat too little | 169 | 28% |
| not at all sufficient | 240 | 40% |
| no opinion | 3 | 1% |
| N/A | - | - |
| | | |
| in the EU? | | |
| | Number of replies | % of replies (599) |
| more than sufficient | 14 | 2% |
| sufficient | 106 | 18% |
| somewhat too little | 195 | 33% |
| not at all sufficient | 225 | 38% |
| no opinion | 35 | 6% |
| N/A | - | - |

| *Question 8. Do the policies work?* | | |
|---|---|---|
| | | |
| Are the EU policies to reduce air pollution understandable to you? | | |
| | Number of replies | % of replies (599) |
| very clear | 37 | 6% |
| clear | 156 | 26% |
| moderately clear | 214 | 36% |
| difficult to understand | 98 | 16% |
| not at all understandable | 20 | 3% |
| no opinion | 55 | 9% |
| N/A | - | - |
| | | |
| How do you judge the structure of the EU air quality legislation? | | |
| | Number of replies | % of replies (599) |

| | | |
|---|---|---|
| very well structured | 3 | 1% |
| well structured | 114 | 19% |
| moderately structured | 210 | 35% |
| not well structured | 65 | 11% |
| inherently contradictory | 20 | 3% |
| no opinion | 158 | 26% |
| N/A | - | - |
| | | |
| Do you regard the EU air quality legislation as an effective driver for national, regional and local authorities to take action for improving air quality wherever needed? | | |
| | Number of replies | % of replies (599) |
| very effective | 36 | 6% |
| effective | 122 | 20% |
| moderately effective | 232 | 39% |
| hardly effective | 98 | 16% |
| not at all effective | 52 | 9% |
| no opinion | 47 | 8% |
| N/A | - | - |

*Question 9. Your most important issues*

| | | |
|---|---|---|
| | | |
| The European Commission is initiating a review of the Air Quality Directive, which aims to improve the directive where feasible and to make it more effective. Member States and other stakeholders will be involved in this process and the result of the present public consultation will also be used. If you have a view on improvements of the directive, please tick changes that you would like to be considered in the review. If you wish you can describe your view in your own words in the text box below; it will then be appreciated if you express your view concisely, preferably in English, German or French to facilitate the analysis. | | |
| | | |
| Make standards for particulate matter more/less strict? | | |
| | Number of replies | % of replies (599) |
| more | 436 | 73% |
| keep as it is | 83 | 14% |
| less | 15 | 3% |
| no opinion | 22 | 4% |
| N/A | - | - |
| | | |
| Make standards for NO2 more/less strict? | | |
| | Number of replies | % of replies (599) |
| more | 371 | 62% |
| keep as it is | 125 | 21% |
| less | 17 | 3% |
| no opinion | 38 | 6% |
| N/A | - | - |
| | | |
| Make standards for ozone more/less strict? | | |
| | Number of replies | % of replies (599) |
| more | 368 | 61% |
| keep as it is | 131 | 22% |

| | | |
|---|---|---|
| less | 16 | 3% |
| no opinion | 37 | 6% |
| N/A | - | - |
| | | |
| Require more/less measurement stations? | | |
| | Number of replies | % of replies (599) |
| more | 437 | 73% |
| keep as it is | 82 | 14% |
| less | 10 | 2% |
| no opinion | 27 | 5% |
| N/A | - | - |
| | | |
| Provide more/less information about the air quality in my neighbourhood? | | |
| | Number of replies | % of replies (599) |
| more | 476 | 79% |
| keep as it is | 63 | 11% |
| less | 15 | 3% |
| no opinion | 7 | 1% |
| N/A | - | - |
| | | |
| Make improvement of air quality for Member States more/less mandatory? | | |
| | Number of replies | % of replies (599) |
| more | 478 | 80% |
| keep as it is | 44 | 7% |
| less | 18 | 3% |
| no opinion | 19 | 3% |
| N/A | - | - |

*Question 10. Your own role*

| | | |
|---|---|---|
| | | |
| As an individual, what are you prepared to do to contribute to better air quality? | | |
| | Number of replies | % of replies (599) |
| Use public transport instead of my own car | 427 | 71% |
| Select an area for living with attractive public transport | 273 | 46% |
| Work not far from home (thus avoiding large distance commuting) | 322 | 54% |
| Buy a low emission vehicle | 364 | 61% |
| Improve my personal heating habits | 427 | 71% |
| Switch to cleaner heating fuels, avoid open wood fires | 295 | 49% |
| Invest in thermal isolation of my home | 377 | 63% |
| Other | 132 | 22% |

# 5 Authentication

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Unit C.3 Industrial Emissions
Air Quality & Noise
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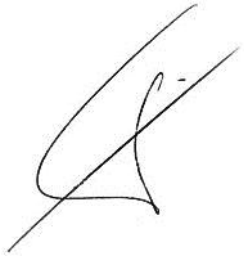

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# Annex A Abbreviations and acronyms

| | |
|---|---|
| AEI | Average exposure indicator |
| AQ | Air quality |
| AQD | Directive 2008/50/EC on ambient air quality and cleaner air for Europe ( ('the Air Quality Directive') |
| AQUILA | (European network of) Air Quality Reference Laboratories |
| BaP | Benzo(a)pyrene |
| BC | Black carbon |
| CEN | European Committee for Standardization |
| CLTRAP | UNECE Convention on Long-Range Transboundary Air Pollution |
| DD4 | Directive 2004/107/EC on arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air ('the Fourth Daughter Directive') |
| EAP6 | Sixth Environmental Action Plan |
| EC | Elemental carbon |
| ECO | Exposure concentration obligation |
| EEA | European Environment Agency |
| EIONET | European Environmental Information and Observation Network |
| EMEP | European Monitoring and Evaluation Programme (part of CLTRAP) |
| EPA | Environmental Protection Agency |
| ERT | Exposure reduction target |
| EURO6 | EU emission standard for road vehicles entering in force in 2014 |
| FAIRMODE | Forum for Air quality Modelling in Europe |
| GMES | (European programme for) Global Monitoring for Environment and Security |
| HM | Heavy metals |
| ICAO | International Civil Aviation Organization |
| IED | Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control) ('Industrial Emission Directive') |
| JRC | Joint Research Centre of the European Commission |
| LRT | Long-range transport (of air pollution) |
| LTO | Long term objective |
| LV | Limit value |
| MS | Member State |
| NECD | Directive 2001/81/EC on National Emission Ceilings for certain pollutants ('the National Ceilings Directive') |
| NERT | National exposure reduction target |
| PAH | Polycyclic aromatic hydrocarbons |
| PM | Particulate matter |
| PNC | Particle number concentration |
| TEOM | Tapered element oscillating microbalance (PM sampling instrument) |
| TSAP | Thematic Strategy on Air Pollution |
| TV | Target value |
| UFP | Ultrefine particles |
| VOC | Volatile Organic Compounds |
| WHO | World Health Organization |