

Strengthening of air quality monitoring, modelling and plans under the Ambient Air Quality Directives

Fields marked with * are mandatory.

Welcome to the survey being undertaken as part of the project entitled “Strengthening of air quality monitoring, modelling and plans under the Ambient Air Quality Directives” on behalf of DG ENV

This survey is part of the stakeholder consultation activities undertaken under the service contract 'Strengthening of air quality monitoring, modelling and plans under the Ambient Air Quality Directives' commissioned by DG Environment of the European Commission to Ricardo AEA, VITO, NILU and Trinomics B.V.

The objective of the service contract is to support the European Commission in the process of strengthening air quality monitoring, modelling and air quality plans under the EU Ambient Air Quality Directives (2008/50/EC, as amended by Commission Directive (EU) 2015/1480 and Directive 2004/107 /EC). It aims to do so by further mapping and analysing established practices across Member States, defining technical suggestions for improvement and assessing the impacts and consequences of changing relevant provisions. This is part of the initiative to improve overall EU legislation for clean air. An inception impact assessment to guide this initiative can be found in the Have your say portal.

As part of this, we are consulting with a limited number of policymakers, civil servants, air quality experts, practitioners and civil society *specifically* on how air quality monitoring, modelling and air quality plans have been implemented, where they are subject to interpretation, and how their implementation could be further improved. As a follow up to the survey a small subset of respondents will be invited to take part in more detailed interviews or focus groups on specific topics that require further feedback in the context of the work to be undertaken in the next phase of the contract – you will be asked if you would be willing to take part in these at the end of the survey.

Note that there will also be an open public consultation to inform the broader initiative to improve overall EU legislation for clean air, including on the ambition to more closely align EU air quality standards with WHO recommendations, in the third quarter of 2021.

The survey will take 25-35 minutes to answer per area of expertise (we kindly request you skip any questions you lack knowledge on). You may pause the questionnaire at any time and continue later. Unless otherwise stated all multiple choice questions can be answered by selecting as many options that apply to you. Once you have submitted your answers, you can download a copy of your completed responses. Due

to the tight deadlines for the contract, the survey will be available online for four weeks starting from 1st February 2021 and closing on 22nd February 2021. However we will start to review response from 15th February, and it would be greatly appreciated if you would be able to complete the survey over the next two to three weeks. We hope that you will find time to complete the survey within this time frame.

Thank you for your cooperation. Your input is invaluable for supporting the improvement of the Ambient Air Quality Directives.

Before you begin the survey we kindly ask you to read the enclosed privacy statement and confirm below.

I have read the enclosed privacy statement and I agree with the personal data protection provisions.

[Show](#)

[20200918_Privacy_statement_targeted_consultations_AAQ.docx](#)

Respondents should not include personal data in documents submitted in the context of consultation if they opt for anonymous publication. Please note: regardless of the option chosen, your contribution may be subject to a request for access to documents under Regulation 1049/2001 on public access to European Parliament, Council and Commission documents. In such cases, the request will be assessed against the conditions set out in the Regulation and in accordance with applicable data protection rules.

How would you prefer your consultation response to be published?

- You consent to us publishing any information in your completed form, together with your identity (your name / the name of your organisation). Your e-mail will not be published.
- Anonymously - you consent to us publishing any information in your completed form, while your name / the name of your organisation and your email will not be published.

Respondent identification

* Please indicate your name or the name of the organisation which you represent:

Lepitre Charlotte - Atmo France

* On which topic(s) would you like to respond to questions? (check all that apply)

- Air quality monitoring related questions
- Air quality modelling related questions
- Air quality plans related questions
- General questions regarding administrative burden
- General questions regarding information provision to the public

Is your organisation registered in the Transparency Register?

- Yes
- No

If your organisation is not registered, you have the opportunity to register now.

In the interests of transparency, organisations, networks, platforms or self-employed individuals engaged in activities aimed at influencing the EU decision making process have been invited to provide the public with relevant information about themselves, by registering in Transparency Register and subscribing to its Code of Conduct.

Please note: If the organisation is not registered, the submission will be published separately from the registered organisations. During the analysis of replies to a consultation, contributions from respondents who choose not to register will be treated as individual contributions (unless the contributors are recognised as representative stakeholders through Treaty provisions, European Social Dialogue, Art. 154-155 TFEU).

What stakeholder category best identifies you?

Non-government organisations (NGOs)

What country can your responses be linked to?

France

Please specify which sector you represent:

M - Professional, scientific and technical activities

Are you a member of any of the following networks? (check all that apply)

- AQUILA - Network of National Air Quality Reference Laboratories
- CAMS - Copernicus Atmosphere Monitoring Service
- EIONET - European Environment Information and Observation Network
- FAIRMODE - Forum for Air quality Modelling
- IPR TECHNICAL GROUP – Implementing Provisions on Reporting

[Q1 General] Administrative burden

Are you responsible for reporting your country's data under the Implementing Provisions on Reporting (IPR) via the EEA air quality e-reporting database?

- Yes
- No

Do differences in the requirements for sampling points for the different pollutants between Directive 2008/50 /EC and Directive 2004/107/EC result in additional administrative burden for the assessment of air quality?

- Yes, significant additional administrative burden
- Yes, but minor additional administrative burden only
- No additional burden in practice
- I do not know

How does the decentralisation of the requirements of the Ambient Air Quality Directive (AAQD) from national level to regional or local level work in your country? (check all that apply)

- Municipal/regional governments have a policy-making role to some extent e.g. they can set their own emissions targets
- Municipal/regional governments have an implementation role i.e. they can take action and implement policy measures
- Municipal/regional governments are asked to draw up plans and submit those to central government to request finance
- Municipal/regional governments receive financial support to implement actions
- Other
- I do not know

To what extent do national, regional and local authorities understand what their responsibilities are for complying with the AAQD?

(rate 1 to 5 - where 1 – full understanding of responsibilities and 5 – no understanding)

	1	2	3	4	5
National authorities understand their responsibilities well	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional authorities understand their responsibilities well	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local authorities understand their responsibilities well	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

The study “Supporting the Fitness Check of the EU Ambient Air Quality Directives (AAQDs)” concluded that inefficiencies exist around the devolution of the requirements of the AAQD from national to local level, and that this could be improved / administrative burden could be reduced by making this process more effective. Please state the extent to which you believe the following aspects, as suggested in the study, are impacting negatively on efficiencies / administrative burden:

(rate 1 to 5 - where 1 – no impact and 5 – very high impact)

	1	2	3	4	5	I do not know
Availability of funding to support the devolution of the requirements of the AAQD to local level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of guidance from national tiers of government to local tiers of government	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Effective communication between the national – regional – local tiers of government	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not agree this is an issue impacting efficiency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What other specific changes to / simplification of the provisions in the AAQDs, and the related Implementing Decision on Reporting, related to **monitoring** could reduce the administrative burden and costs?

Adaptation of the digital tools, by developing a better format of the digital tools it will allow a better efficacy between the local and european levels

What other specific changes to / simplification of the provisions in the AAQDs, and the related Implementing Decision on Reporting, related to **modelling** could reduce the administrative burden and costs?

standardisation of the tools and models, harmonise and regulate methods

What other specific changes to / simplification of the provisions in the AAQDs, and the related Implementing Decision on Reporting, related to **air quality plans** could reduce the administrative burden and costs?

description of administrative methodologies, guides. Definition how to make evaluations

[Q2 Monitoring] Air quality zones and assessment regimes

Do differences in the requirements for air quality zones and assessment regimes for the different pollutants under Directives 2008/50/EC and 2004/107/EC result in additional administrative burden for the assessment of air quality?

- Yes, significant additional administrative burden
- Yes, minor additional administrative burden only
- No, additional burden in practice
- I do not know

How do you currently establish air quality zones in your country? On the basis of:

- Existing administrative units and their boundaries
- Population density on existing administrative units
- Topography and geographical features
- Pre-existing monitoring of air quality data
- Pre-existing modelling of air quality data
- Emission information
- Combination of modelling, emission and monitoring data
- Inherited from previous iterations of air policy, not assessed since
- Other

How often have you actually changed the definition of air quality zones in your country?

- Every year
- Every 2-3 years
- Every 4-5 years
- Every 6-10 years
- Have been constant for over 10 years

Please provide details if possible of the different approaches used to define the air quality zones and when these changes took place (which year):

How do you classify zones with regards to the lower and upper assessment thresholds for the different pollutants covered by the Ambient Air Quality Directives (AAQDs) in your country? On the basis of:

- Expert judgement and geographical information systems data
- Measurement of air quality data only
- Modelling of air quality data from national/regional/local modelling systems
- Modelling of air quality data from international modelling systems
- Combination of modelling and measurement data
- Other

How often have you actually changed the definition of air quality assessment regimes in your country?

- Every year
- Every 2-3 years
- Every 4-5 years
- Every 6-10 years
- Have been constant for over 10 years

Please provide details if possible of the different approaches used to define the air quality assessment regimes and when these changes took place (which year):

In your opinion, is there a need for adding a mandatory requirement in the AAQDs for fixed or indicative measurements in areas below the lower assessment threshold?

- Yes
- No
- I do not know

In your opinion, is there a need to revise the definition of the minimum number of sampling points for fixed measurements of air pollutants to better define air quality zones and assessment regimes?

- Yes
- No
- I do not know

In your opinion, is there a need to better define the requirements for the use of fixed measurements versus indicative measurements to establish assessment regimes in relation to lower and upper assessment thresholds?

- Yes
- No
- I do not know

In your opinion, is there a need for additional guidance on establishing 'zones and agglomerations', and their reporting in dataflow B? If yes, what?

how to elaborate a zone, insufficient common definition or harmonize methods on how to establish zones

In your opinion, is there a need for additional guidance on establishing 'assessment regimes', and their reporting in dataflow C? If yes, what?

What are the role of the indicative measures

Please add any other suggestion to further improve the air quality zones and assessment regime information:

Establish what is an estimation

[Q3 Monitoring] Micro- and macro-scale siting of sampling points

Do differences in the requirements for micro- and macro-siting siting of sampling points for the different pollutants under Directives 2008/50/EC and 2004/107/EC result in additional administrative burden for the assessment of air quality?

- Yes, significant additional administrative burden
- Yes, minor additional administrative burden only
- No, additional burden in practice
- I do not know

What methodologies do you use for macro-scale siting of sampling points?

- Expert judgement and geographical information systems
- Information from additional measurement campaigns
- Modelling approaches
- Combination of modelling and measurement data approaches
- Other

How long have you been using the methodological approaches selected above?

- 1 -2 years
- 3 – 4 years
- 5 – 6 years
- 7 – 8 years
- 9 – 10 years
- More than 10 years
- I do not know

Which methodology did you use previously?

- Expert judgement and geographical information systems
- Information from additional measurement campaigns
- Modelling approaches
- Combination of modelling and measurement data approaches
- Other

What are the main challenges you face when applying current methodologies for macro-scale siting of sampling points? ?

(select up to three)

- To comply with the requirements on number of sampling points per air quality zone
- To comply with different macro-scale requirements on the location of sampling points
- To assign a specific classification to the sampling points
- To determine the area of representativeness of sampling points
- To identify a location where the highest concentrations occur to which the population is likely to be directly or indirectly exposed
- To secure sufficient resources for installation, operation and maintenance of sampling points
- To identify a location that also complies with micro-scale siting criteria
- Other

What method(s) do you use to determine where the highest concentrations occur in zones and agglomerations?

- Expert judgement
- Geographical information system data techniques
- Fixed measurements of air quality data
- Indicative measurements of air quality data
- Modelling of air quality data techniques
- Combination of modelling and measurement data techniques
- Other

How long have you been using the methodological approaches selected above?

- 1 -2 years
- 3 – 4 years
- 5 – 6 years
- 7 – 8 years
- 9 – 10 years
- More than 10 years
- I do not know

Which methodology did you use previously?

- Expert judgement and geographical information systems
- Information from additional measurement campaigns
- Modelling approaches
- Combination of modelling and measurement data approaches
- Other

How difficult is it to compile the following micro-scale siting information for e-reporting related to fixed measurement sampling points?

(rate 1 to 5 - where 1 - very easy and 5 - very difficult)

	1	2	3	4	5
Inlet height (AAQD, Annex III. C. and 2011/850/EC II. D ii.19)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Altitude (2011/850/EC,II.D.ii.26)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Latitude, Longitude (2011/850/EC,II.D.ii.26)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Classification of the area (2011/850/EC,II.D.ii.28)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Station classification (2011/850/EC,II.D.ii.22) .	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Main sources (2011/850/EC,II.D.ii.23)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spatial extent of representative area (2011/850/EC,II.D.ii.16).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Dispersion local (IPR Guidance, XML user guide D5.2.11.1 pp 199)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Dispersion regional (IPR Guidance, XML user guide D5.2.11.8 pp 203)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Which microscale siting information for sampling points would benefit from additional definition and clarification?

(rate 1 to 5 where 1 - no benefit and 5 - greatly benefit)

	1	2	3	4	5
Inlet height (AAQD, Annex III. C.and 2011/850/EC II. D ii.19)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Altitude (2011/850/EC,II.D.ii.26)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Latitude, Longitude (2011/850/EC,II.D.ii.26)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Classification of the area (2011/850/EC,II.D.ii.28)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Station classification (2011/850/EC,II.D.ii.22) .	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Main sources (2011/850/EC,II.D.ii.23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Spatial extent of representative area (2011/850/EC,II.D.ii.16).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Dispersion local (IPR Guidance, XML user guide D5.2.11.1 pp 199)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dispersion regional (IPR Guidance, XML user guide D5.2.11.8 pp 203)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How difficult is it to compile the following micro-scale siting information for e-reporting in relation to fixed measurements in **traffic-oriented** sampling points?

(rate 1 to 5 - where 1 - very easy and 5 - very difficult)

	1 - Very easy	2 - Easy	3 - Reasonable	4 - Difficult	5 - Very difficult
Building distance (AAQD, Annex III.C and 2011/850/EC, II. D.ii.20) .	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kerb distance (AAQD Annex III.C and 2011 /850/EC, II.D.ii.21)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Distance to major junction (AAQD Annex III. C and 2011/850/EC, II.D.ii.29)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traffic volume (2011/850/EC,II.D.ii.30)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Traffic emissions (IPR Guidance, XML user guide D5.1.5.3. pp 127)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Heavy duty fraction (2011/850/EC, II.D.ii.31)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Traffic speed (2011/850/EC, II.D.ii.32)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Street-canyon - Width of street (2011/850/EC,II.D.ii.33)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Which microscale siting information for **traffic-oriented** sampling points would benefit from additional definition and clarification?

(rate 1 to 5 where 1 - no benefit and 5 - greatly benefit)

	1 - No benefit	2 - Low benefit	3 - Medium benefit	4 - Large benefit	5 - Greatly benefit
Building distance (AAQD, Annex III.C and 2011/850/EC, II. D.ii.20) .	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kerb distance (AAQD Annex III.C and 2011/850/EC, II.D.ii.21)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Distance to major junction (AAQD Annex III.C and 2011/850/EC, II.D.ii.29),	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traffic volume (2011/850/EC,II.D.ii.30)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traffic emissions (IPR Guidance, XML user guide D5.1.5.3. pp 127)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Heavy duty fraction (2011/850/EC, II.D.ii.31)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traffic speed (2011/850/EC, II.D.ii.32)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Street-canyon - Width of street (2011/850/EC,II.D.ii.33)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How difficult is it to compile the following micro-scale siting information for e-reporting of **industrial** sampling points?

(rate 1-5 where 1 - very easy and 5 - very difficult)

	1 - Very easy	2 - Easy	3 - Reasonable	4 - Difficult	5 - Very difficult
Distance from source (AAQD, Annex III.B.1. b and 2011/850/EC, II.D.ii.24)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Industrial emissions (IPR Guidance, XML user guide D5.1.5.5. pp 128)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Which microscale siting information for **industrial** sampling points would benefit from better definition?
(rate 1 to 5 where 1 - no benefit and 5 - greatly benefit)

	1 - No benefit	2 - Low benefit	3 - Medium benefit	4 - Large benefit	5 - Greatly benefit
Distance from source (AAQD, Annex III.B. 1.b and 2011/850/EC, II.D.ii.24)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Industrial emissions (IPR Guidance, XML user guide D5.1.5.5. pp 128)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

In your opinion, is there a need to further define the number of different types of sampling points (urban background, rural background, traffic-oriented, industrial) needed for different zones?

- Yes
- No
- I do not know

If yes, please specify how:

description of the proximity sampling points and industry points (what should be checked in each case, what are the obligations)

In your opinion, is there a need to further refine the definition of the different types of sampling point classifications (urban background, rural background, traffic-oriented, industrial) needed for different zones?

- Yes
- No
- I do not know

If yes, please specify what:

better establish the obligations on proximity sampling points

In your opinion, is there a need for additional guidance on establishing 'assessment methods on sampling points', and their reporting in dataflow D? If yes, what?

no

Please add any other suggestion on how to further improve the siting and classification of sampling points

[Q4 Monitoring] Representativeness and continuity of monitoring for exceedance and exposure calculations

How do you ensure representativeness of sampling points and continuity of monitoring for all components in line with Annex V to Directive 2008/50/EC and Annex III (IV) to Directive 2004/107/EC?

sampling, metrology in compliance with regulations

In your opinion, is there a need to revise the minimum number of sampling point requirements in Annex V of the 2008/50/EC and Annex III (IV) to Directive 2004/107/EC?

- Yes
- No
- I do not know

If yes, please specify how:

according to the clarification of the definitions of the proximity sampling points

In your opinion, is there a need to revise the minimum number of sampling point requirements for PM10 and PM2.5 to ensure the continuity of monitoring for particulate matter in Annex V of the 2008/50/EC?

- Yes
- No
- I do not know

If yes, please specify how:

Favour PM2,5

In your opinion, is there a need to further specify ozone monitoring provisions (2008/50/EC Annex VIII), especially to ensure a better monitoring of ozone peak concentrations?

- Yes
- No
- I do not know

If yes, please specify how:

Better knowledge of the precursors (methane)

What method do you use to determine the representativeness of sampling points?

- Expert judgement
- GIS methodologies based on proxy data
- Information from measurement campaigns
- Air quality modelling results
- Combined modelling and measurement techniques
- Other

How long have you been using the methodological approaches selected above?

- 1 -2 years
-

- 3 – 4 years
- 5 – 6 years
- 7 – 8 years
- 9 – 10 years
- More than 10 years
- I do not know

Which methodology did you use previously?

- Expert judgement
- GIS methodologies based on proxy data
- Information from measurement campaigns
- Air quality modelling results
- Combined modelling and measurement techniques
- Other

How do you estimate exceedance and exposure situations in an air quality zone?

- Expert judgment based on the representativeness of sampling points in the air quality zone
- Use of worse case monitoring data as estimate for the entire air quality zone
- Use of specific measurement campaigns to identify hot-spots
- Use of fit for purpose modelling data for the entire air quality zone
- Combining modelling and measurement data
- Other

How long have you been using the methodological approaches selected above?

- 1 -2 years
- 3 – 4 years
- 5 – 6 years
- 7 – 8 years
- 9 – 10 years
- More than 10 years
- I do not know

Which methodology did you use previously?

- Expert judgment based on the representativeness of sampling points in the air quality zone
- Use of worse case monitoring data as estimate for the entire air quality zone
- Use of specific measurement campaigns to identify hot-spots
- Use of fit for purpose modelling data for the entire air quality zone
- Combining modelling and measurement data
- Other

In your opinion, what is the relationship between monitoring average exposure of the general population and monitoring the highest concentrations to which the population is or can be exposed?

No evidence, maybe I don't understand the question

How easy do you consider it is to calculate the attainment of the exceedance and exposure situation for the following indicators?

(rate 1 to 5 - where 1 - very easy and 5 - very difficult)

	1 - Very easy	2 - Easy	3 - Reasonable	4 - Difficult	5 - Very Difficult
Area of the exceedance situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Road length in exceedance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Total resident population in the exceedance area	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ecosystem Area Exposed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

How easy do you consider it is to obtain relevant data to support the calculation and reporting of the following exceedance situation and exposure indicators ?

(rate 1 to 5 - where 1 - very easy and 5 - very difficult)

	1 - Very easy	2 - Easy	3 - Reasonable	4 - Difficult	5 - Very Difficult
Area of the exceedance situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Road length in exceedance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Total resident population in the exceedance area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Ecosystem Area Exposed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

In your opinion, which exceedance and exposure indicator would benefit from better definition and guidance for its evaluation?

(rate 1 to 5 where 1 - no benefit and 5 - greatly benefit)

	1 - No benefit	2 - Low benefit	3 - Medium benefit	4 - Large benefit	5 - Greatly benefit
Surface area in exceedance	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Length of road in exceedance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Total resident population in the exceedance area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Ecosystem area affected by exceedances	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please add any other suggestion on how to further improve the continuity and representativeness of monitoring for exceedance and exposure calculations:

[Q5 Monitoring] Monitoring other air pollutants or parameters

Are you monitoring the concentration levels of air pollutants or parameters not covered by the AAQDs?

- Yes
 No
 I do not know

Which additional air pollutants or parameters not covered by the AAQDs are you monitoring? Please also provide an indication of the year you began monitoring.

NH3, CH4, PUF, PM1, BC, Pesticides and pollen

Are you using specific data quality objectives for measuring these additional air pollutants or parameters?

- Yes
 No
 I do not know

In which type of site are you monitoring additional air pollutants components?

	Research site	AAQDs monitoring network site	Specific monitoring campaigns	Not measured
Mass of Ultrafine Particles	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Particle Number of for different particle sizes	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Black Carbon	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Methane	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ammonia	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Non-methane volatile compounds (NMVOC)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Is there a need for including the monitoring of additional air pollutants or parameters in the AAQDs?

- Yes
 No
 I do not know

If yes, the monitoring of which air pollutants should be prioritized as additional air pollutants or parameters in the AAQDS?

(Rate 1 to 5 where 1 - not important and 5 - very important)

	1 - Lowest priority - Not important	2 - Low priority	3 - Medium priority	4 - High priority	5 - Highest priority – Very important

Mass of Ultrafine Particles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Particle Number of for different particle sizes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Black carbon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Ammonia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Methane	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Non-methane volatile compounds (NMVOC)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please specify:

Pesticides

Please rate the scope for harmonisation of monitoring of the following air pollutants or parameters?

(rate from 1- not mature for harmonisation to 5 - very mature for harmonisation)

	1 - Not mature for harmonisation	2 - Low maturity potential for harmonisation	3 - Medium maturity potential for harmonisation	4 - High maturity potential for harmonisation	5 - Very mature for harmonisation
Mass of Ultrafine Particles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Particle Number of for different particle sizes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Black carbon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Ammonia	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Methane	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Non-methane volatile compounds (NMVOC)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate the main reasons if you advocate for any changes in the requirements for monitoring of specific air pollutants or parameters in the AAQDs:

[Q6 Monitoring & modelling] Enhanced air quality assessment methods

What kind of assessment methods do you use to complement fixed measurement stations?

- Expert judgment / objective estimation based on proxy data
- Measurement data from passive sampling measurement campaigns
- Measurement data from low cost sensors
- Measurement data from high quality sensors and other advanced measurement techniques
- Measurement data from satellite observations and other remote sensing approaches
- Modelling approaches
- Combination of model and measurement data techniques
- Other
- I/we do not use complementary assessment measures

Is it clear how to technically apply these complementary methods for air quality assessment purposes (how to convert data or observations to relevant concentrations)?

	Yes	No	I do not know
Expert judgement / objective estimation based on proxy data	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Data from passive sampling measurement campaigns	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data from low cost sensors	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Data from higher quality sensors and other advanced measurement techniques	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data from satellite observations and other remote sensing approaches	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Modelling approaches	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Combination of model and measurement data techniques	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is it clear from the guidance how to derive the relevant AAQD (Directive 2008/50/EC) aggregation values (e.g. annual mean, percentile values) with these methods?

	Yes	No	I do not know
Expert judgement / objective estimation based on proxy data	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Data from passive sampling measurement campaigns	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data from low cost sensors	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Data from higher quality sensors and other advanced measurement techniques	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data from satellite observations and other remote sensing approaches	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Modelling approaches	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Combination of model and measurement data techniques	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Do you have a procedure in place to assess the quality and related uncertainty of these complementary methods?

	Yes	No	I do not know
Expert judgement / objective estimation based on proxy data	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Data from passive sampling measurement campaigns	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data from low-cost sensors	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Data from higher quality sensors and other advanced measurement techniques	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data from satellite observations and other remote sensing approaches	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Modelling approaches	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Combination of model and measurement data techniques	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Which of the complementary methods are, in your view, mature enough for use in compliance assessments under the AAQDs?

- Expert judgment / objective estimation based on proxy data
- Data from passive sampling measurement campaigns
- Data from low cost sensors
- Data from high quality sensor and other advanced measurement techniques
- Data from satellite observations and other remote sensing approaches
- Modelling approaches
- Combination of model and measurement data techniques
- Other

Do you combine data from passive sampler or sensor campaigns with modelling results via data fusion or data assimilation techniques?

- Yes, in a research exploration context
- Yes, in an operational air quality assessment context
- No

To what extent do you consider that the data fusion techniques are mature enough to combine monitoring data (passive samplers, sensors, ...) with modelling for compliance assessment under the AAQD (Directive 2008/50/EC)?

- Not mature

- Low maturity level
- Medium maturity level
- High maturity level
- Very mature

Do you collect passive sampler measurements (weekly to monthly means) via:

- Campaigns setup by experts
- Campaigns guided by experts but executed by citizens in so called citizen science experiments
- Campaigns solely setup by citizens
- This data is not collected

Do you collect sensor measurements (high temporal resolution) via:

- Campaigns setup by experts
- Campaigns guided by experts but executed by citizens in so called citizen science experiments
- Campaigns solely setup by citizens
- This data is not collected

Do you collect sensor data via:

- Devices at fixed locations
- Mobile devices on pedestrians, bikes, buses, cars etc.
- Other

Have you received, or do you know about, questions by non-experts about differences between values measured by low cost sensors or passive samplers on one hand, and official assessment data reported in the framework of the AAQDs on the other?

- No
- Rarely
- Regularly

Indicate where technical guidance for complementary assessment methods is currently inadequate or missing:

	Yes, technical guidance is currently inadequate or missing	No, technical guidance is currently not inadequate or missing	I do not know
Expert judgement / objective estimation based on proxy data	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data from passive sampling measurement campaigns	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Data from low cost sensors	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data from higher quality sensors and other advanced measurement techniques	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Data from satellite observations and other remote sensing approaches	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Modelling approaches	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Combination of model and measurement data techniques	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Q7 Modelling] Enhanced role of air quality modelling

Is modelling used on a regular basis in your air quality management practices?

- No
- Yes, for monitoring network design
- Yes, for exceedance situation assessment
- Yes, for now-casting
- Yes, for air quality forecasting
- Yes, for source apportionment
- Yes, to underpin air quality plans
- Yes, for health impact assessment
- Yes, for other purposes

Do you report modelling results for compliance assessment in the e-Reporting process?

- Yes, as supplementary information when concentrations are below lower assessment threshold values
- Yes, as supplementary information when concentrations are above the lower threshold values
- Yes, as the exclusive source of information for assessment, regardless of the concentration levels
- No

How long ago did you first start to report modelling results?

- 1 – 2 years
- 3 - 4 years
- 5 – 6 years
- 7 – 8 years
- 9 – 10 years
- More than 10 years

What is the spatial resolution of your modelling application used for compliance assessment in the e-Reporting process?

- Regional scale (1 – 10 km)
- Urban scale (100m – 1km)
- Local/street scale (1m – 100m)

Do you take into account street canyon effects in your modelling application?

- Yes, for all street canyon in the domain
- Yes, for a few selected street canyon in the domain
-

No, street canyons are not relevant in our modelling application

- No, I don't think street canyons can be modelled accurately
- No, I would like to do but lack human/financial resources to model street canyons
- No, I would like to do but lack the relevant input data (e.g. 3D building information)
- Other

Do you use modelling tools to check the exceedance of target/limit values in places where no monitoring station is available?

- Yes, but for informal analysis only
- Yes, but only to evaluate monitoring network design
- Yes, and these model based exceedances are used in the reporting under the Ambient Air Quality Directives
- Yes, for producing public information about air quality
- No

Do you use modelling tools to estimate the exceedance situation indicators?

- Yes, for surface area in exceedance
- Yes, for length of road in exceedance
- Yes, for total resident population in exceedance
- Yes, for ecosystem area affected by exceedances
- No

What is the spatial resolution of your modelling application used to estimate the exceedance situation indicators?

- Regional scale (1 – 10 km)
- Urban scale (100m – 1km)
- Local/street scale (1m – 100m)

Do you take into account street canyon effects in your modelling application used to estimate the exceedance situation indicators?

- Yes
- No

Are there ambiguities in the methodological formulation (e.g. in formula, algorithms, description) of the exceedance situation indicators?

- Yes, for estimating the surface area in exceedance
- Yes, for estimating the length of road in exceedance
- Yes, for estimating the total resident population in the exceedance area
- Yes, for estimating the ecosystem area affected by exceedances
- No

Please explain:

Need a european method

Are problems related to input data (e.g. data not available, poor quality, data resolution) affecting the estimation of such an indicator?

- Yes, for estimating the surface area in exceedance
- Yes, for estimating the length of road in exceedance
- Yes, for estimating the total resident population in the exceedance area
- Yes for estimating the ecosystem area affected by exceedances
- No

Please explain:

Public data not detailed enough

Do you use models for health impact assessment?

- Yes
- No

How frequently do you perform source apportionment (SA)?

- Each reporting year
- When there is an exceedance reported
- Other

Please specify:

For research

How do you use source apportionment to support planning?

- To identify key sectors to target in air quality plans
- To identify key sectors and quantify the potential impact on concentrations of an emission reduction
- Other

Which method do you use for source apportionment?

- Source oriented modelling - Brute force scenarios
- Source oriented modelling - Tagging/labelling
- Receptor modelling
- Observation based approach (e.g. increments)
- Other

How long have you been performing source apportionment for air quality planning purposes?

- 1 – 2 years
- 3 - 4 years

- 5 – 6 years
- 7 – 8 years
- 9 – 10 years
- More than 10 years

Is there a need for more legal provisions on the role of air quality models in the AAQDs?

- No
- Yes, for monitoring network design
- Yes, for exceedance situation assessment
- Yes, for now-casting
- Yes, for air quality forecasting
- Yes, for source apportionment
- Yes, to underpin air quality plans

In your opinion how relevant are the exceedance situation indicators for your air quality assessment process?

(rate 1 - 5 where 1 - not relevant and 5 - very relevant)

	1	2	3	4	5
Surface area in exceedance	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Length of road in exceedance	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Total resident population in the exceedance area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Ecosystem area affected by exceedances	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

For the estimation of which exceedance situation indicators(s) would additional guidance be most important?

- Surface area in exceedance
- Length of road in exceedance
- Total resident population in the exceedance area
- Ecosystem area affected by exceedances

Which type of guidance is most lacking to support source apportionment?

- Support to select a fit-for-purpose method
- Support to apply the method
- Interpretation of the results and use to support air quality plans
- Estimation of the associated robustness / uncertainty of the results
- Other

[Q8 Modelling] Improving quality of air quality modelling

Where air quality modelling is used, is a standard model validation based on R^2 , bias and RMSE used in the QA/QC process?

- Yes
- No
- I do not know

Do you have a 'good enough' threshold for these parameters?

- No
- No, but we rely on expert judgement
- Yes, formal thresholds are used

Where air quality modelling is used for assessment purposes, are the FAIRMODE Modelling Quality Objectives and Indicators used in the QA/QC process?

- Yes
- No
- I do not know

Which year did you start to use the FAIRMODE Modelling Quality Objectives? What did you use before this for QA/QC purposes?

2018, before that nothing

Do you use the FAIRMODE Modelling Quality Objective for:

- Daily/hourly modelling output
- Annual modelling output

What is the frequency of the assessment of the modelling quality objective?

- Annual
- Biannual
- Every 3-5 years
- Sporadic
- Not done
- I do not know

If the FAIRMODE Modelling Quality Objective would be a CEN standard, would that encourage you to use the evaluation framework?

- Yes
- No
- I do not know

Do you use additional indicators to validate temporal variability?

- Day / night
- Week / weekend
- Seasonal trends
-

Other

I do not know

Please specify:

hour, holidays

Do you use additional indicators to validate spatial variability?

Yes, urban background -rural increment

Yes, traffic-urban background increment

Other

No

Please specify:

altitude

How do you validate your model when no or only a few monitoring stations (< 5) are available in the modelling domain?

Group different cities into one model evaluation exercise.

Enlarge the modelling domain to include more stations

Rely on a successful model validation in another but similar city/region

Increase the number of observations by including results from specific monitoring campaigns

Other

Do you organise monitoring campaigns specifically for model validation (e.g. validate specific model features)?

Yes

No

I do not know

Please specify:

In rural sites and proximity sampling sites (road/traffic)

Do you include all available air quality monitoring stations in the modelling domain for QA/QC purposes?

Yes

No

I do not know

Which air quality monitoring stations do you omit? What is your criteria to omit them?

Some proximity traffic sites and campaign sites

Do you have a system to define the overall quality and fitness-for-purpose of a modelling application (e.g. QA/QC protocol, check lists, ...)?

- Yes
- No
- I do not know

Which year did you start to use this system? What did you use before this for QA/QC purposes?

2017, before that nothing on modeling

Which elements do you check for consistency of the model input?

- Emissions
- Meteorology
- Topography
- Boundary conditions
- Other
- I do not know

Is there a need to further refine the definition of the Modelling Quality Objective?

- Yes
- No
- I do not know

Is there a need to further define how the Modelling Quality Objective has to be applied in practice (number of stations, type of stations, time periods covered, size of the model domain)?

- Yes
- No
- I do not know

Please specify:

number of stations, type of stations, time periods covered, size of the model domain. There is no definition nowadays

Indicate which elements should be included in a fitness-for-purpose criteria:

- Compliance with the (FAIRMODE) MQO
- Reproduction of all available observations in the domain
- Explicitly take into account all relevant sources in the domain
- Compliance with a QA/QC check list
- Inclusion of road increments and street canyon effects
- Reproduction of temporal variations
- Reproduction of spatial variations

Is there a need for a (centralized and harmonized, online/offline) system or tool to define the quality of a modelling application (e.g. QA/QC protocol on results, evaluation of input data, check lists on documentation of modelling system, ...)?

- Yes
- No
- I do not know

Please specify:

QA/QC protocol on results, evaluation of input data, check lists on documentation of modelling system

Indicate where improved guidance is needed, can make an impact and can improve current practise:

(rate 1-5, where 1 - no guidance needed and 5 - guidance very much needed)

	1	2	3	4	5
Technical documentation about the formulation of the MQO	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technical guidance on the application of the MQO under specific conditions (limited number of stations, specific sampling campaigns, complex situations,...)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Software tools (online, offline) to derive the MQO	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assessment of the fitness-for purpose of modelling applications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Additional QA/QC procedures and check lists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify any other suggestion to improve the quality of air quality modelling under the AAQD:

[Q9 Planning] Improving air quality plans

Does your region / city have an air quality plan in place?

- Yes
- No
- I do not know

Please provide the year that your **current** air quality plan was published:

every year depend on the region

Please provide the year that your **previous** air quality plan was published prior to the current one, if applicable:

depend on the region

Which of these elements are in your view essential within an effective air quality plan?

(Rate 1 to 5, where 1 – not at all essential and 5 - highly essential)

	1	2	3	4	5
Localisation of excess pollution e.g. region, city or measuring station	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
General information e.g. type of zone, estimate of polluted area & population exposed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Determining the sources responsible for pollution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Identifying the responsible authorities e.g. names and addresses	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nature and assessment of pollution eg concentrations observed over previous years	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quantifying the impact of measures likely to be implemented (Ex-ante assessment)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Origin of pollution (a) list of main emission sources responsible for pollution (map)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Origin of pollution (b) total quantity of emissions from these sources (tonnes/year)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Origin of pollution (c.) information on pollution imported from other regions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Analysis of the situation e.g. details of those factors responsible for the exceedance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Details of those measures or projects for improvement which previously existed e.g. local, regional, national or international measures	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Details of those measures or projects adopted with a view to reducing pollution (a) listing and description of all the measures set out in the project;	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Details of those measures or projects adopted with a view to reducing pollution (b) timetable for implementation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Details of those measures or projects adopted with a view to reducing pollution (c.) estimate of the planned improvement of air quality and of the expected time required to attain these objectives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Details of the measures or projects planned or being researched for the long term	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
List of the publications, documents, work, etc., used to supplement information required under Annex XV of the Air Quality Directive	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Are there missing elements in the table above which you think are essential to an effective air quality plan?

- Yes
 No

Please specify:

success evaluation indicators

Within what time range were (or will be) the measures implemented after the adoption of the current air quality plan?

- 1-2 years
- 3-4 years
- 5-6 years
- 7 to 8
- 9 to 10
- More than 10 years
- Never / not yet

Within what time range were the measures implemented after the adoption of the previous air quality plan (if applicable)?

- 1-2 years
- 3-4 years
- 5-6 years
- 7 to 8
- 9 to 10
- More than 10 years
- Never / not yet

When did measures in the current plan deliver the expected effect?

- 1-2 years
- 3-4 years
- 5-6 years
- 7 to 8 years
- 9 to 10 years
- More than 10 years
- Never
- The impact is expected in the future

Are there any elements missing in Annex XV on Air Quality Plans in the Directive? If so please specify and add any other suggestions to improve the quality of air quality plans under the AAQD:

economical impacts (costs and benefice), evaluation methods and success indicators

Would good examples of air quality plans be helpful?

- Yes
- No
- I do not know

At which scale would these be most helpful at?

--	--	--	--

	Yes	No	I do not know
City Scale	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional Scale	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
National Scale	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

In your opinion, how important is it to estimate the costs of measures to be implemented?

- Not at all important
- Limited importance
- Medium importance
- Medium/high importance
- High importance

In your opinion, how important is it to quantify other impacts in addition to air pollutant concentrations?
(rate 1-5 where 1 - not important and 5 - very important)

	1	2	3	4	5
Health – mortality	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health - respiratory, cardiovascular and other impacts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Social inequalities (impact on social deprivation and disability)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Impacts on business	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Wider impacts on transport (e.g. uptake of public & active transport)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Wider environmental impacts (e.g on climate change & noise)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Is more comprehensive guidance on the quantification of impacts of measures needed?
(rate 1-5, where 1 - not needed and 5 - very much needed)

	1	2	3	4	5
Economic assessment (how to undertake cost benefit analysis)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Health assessment (quantification of the health benefits of additional measures)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Wider impact assessment (quantification of co-benefits, e.g. climate change & noise)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

[Q10 Modelling & planning] Role of modelling to support air quality plans

Did you explicitly quantify the impact of your current air quality plan?

- Yes
- No
- I do not know

How is the impact of improvement of your air quality plan stated or defined?

- As a change in behaviour
- As a change in emissions
- As a change in concentrations
- As a change in population exposure
- As a change in health impact
- Other

Did you quantify the impact of individual measures of your air quality plan?

- Yes
- No
- I do not know

Did you use an emission model to translate actions (technical or non-technical) into emission changes?

- Yes
- No
- I do not know

Did you use an air quality model to translate emission changes into concentration changes?

- Yes
- No
- I do not know

Did you develop the air quality plan in any of the following?

- Forward modelling scenario analysis
- Integrated assessment modelling optimizing cost-benefits
- Other

Did you validate the modelling application (e.g. via a test of the Modelling Quality Objective) for the historic base year of the air quality plan?

- Yes
- No
- I do not know

Did you validate if the modelling application is able to respond correctly to the air quality plan and/or the expected emission changes?

- Yes, via ex-post/dynamic evaluation of similar plans that were implemented
- Yes, via a long term trend analysis
- Yes, via model intercomparisons
- No

Do you have a quality objective for modelling applications in planning modus?

- No
- Yes

What is the time horizon or reference year of your air quality plans? (number of years into the future)

5

Did you take into account expected changes in the regional/national background which are not part of your air quality plan?

- Yes, a varying background due to EU and other MS policy is taken into account
- No, background is kept fixed
- Other

If the model simulation of the base case has a bias (e.g. underestimation of PM10), did you correct the absolute concentration levels of the current air quality plan?

- Yes, via a fixed additive bias correction determined on the base case
- Yes, via a fixed multiplicative bias correction determined on the base case
- Yes, via another method
- No

Is there a need for a Model Quality Objective for estimating the effects of measures?

- Yes
- No
- I do not know

What barriers do you experience when applying modelling applications in the planning process?

- Lack of a fit-for-purpose model for the air quality zone
- Lack of a reliable quantification of the emission reductions
- Lack of reliable quantification of interactions between individual measures
- (Financial) resources to setup a modelling exercise
- Lack of boundary conditions (regional background)
- Timing, comprehensive modelling is too time consuming
- None of the above

Indicate where you see potential to improve common practice e.g. guidance

(rate 1-5, where 1 - no guidance needed and 5 - guidance very much needed)

	1	2	3	4	5
Validation of model applications for planning purposes and its related MQO	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Modelling of the combination of local and regional plans	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Simulation of the impact of an air quality plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Simulation of the impact of a single measure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Bias corrections in air quality plans	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scenario analysis to develop the AQ plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Integrated cost-benefit analysis to develop the AQ plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Regarding all of the previous answers, please indicate if a similar approach was taken for your previous air quality plan published prior to the current plan:

- Yes
- No
- No previous plan has been published
- I do not know

Please describe any differences that were taken in terms of the approach to quantification of the impact of your previous air quality plan:

concentration impact

[Q11 Planning] Air quality plan development process and engagement

Was the current air quality plan coordinated between national and local authorities?

- Yes
- No
- I do not know

Which level of responsibility leads the preparation of your air quality plans?

- National (e.g. Government or Environment Agency or National Laboratory)
- Regional (e.g. Authority or Environment Agency or Laboratory)
- Local (e.g. City authority or Local Government)
- I do not know
- Other

Please specify:

The lead responsible is national level however the planning is done at local level

Please describe any differences in stakeholder influence/responsibility in the development of your previous air quality plan:

less responsibility of the local level at the previous plan (LEZ)

During the development of your current air quality plan, were the public, actors and/or stakeholders consulted?

- Yes
- No

When did engagement and consultations with the public, actors and stakeholders take place during the development of the current air quality plan?

--	--	--	--

	Yes	No	I do not know
At the outset of plan development	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
At the generation of a long list of measures to choose from to improve air quality	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
When there was a short list of measures from which to choose a preferred option /package of measures	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
When the preferred option had been decided	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Regarding the previous answers on stakeholder engagement, please indicate if the same engagement was carried out for your previous air quality plan published prior to the current plan:

- Yes
- No
- No previous plan has been published
- I do not know

Please describe any differences in stakeholder engagement in the development of your previous air quality plan:

Have any specific measures/actions as specified in your current air quality plan been allocated funding for implementation?

- Yes
- No

What is the source of the funding?

	Yes	No	I do not know
National government	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional government	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local government	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Businesses	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
EU Funding (e.g. LIFE, Cohesion Funds, etc)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Is there a communications strategy / plan to inform the public about the current air quality plan?

- Yes
- No
- I do not know

Regarding the previous answers on communication, please indicate if a communication strategy was carried out for your previous air quality plan published prior to the current plan:

- Yes
- No
- No previous plan has been published
- I do not know

Are there any changes that could be made to the AAQD that would facilitate the development and implementation of air quality plans?

- Yes
- No
- I do not know

Please specify:

communication of a list of measures and their evaluation, communication and consultation before the elaboration of the plan. put into place harmonised evaluation methods and evaluation of success indicators. communication of feedbacks

Is guidance on the development of air quality plans needed?

- Yes
- No
- I do not know

Please rank the following 1 to 5 according to its importance:

(1 – not needed and 5 – very much needed)

	1	2	3	4	5
Guidance on the development of air quality plans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Guidance on developing a communications strategy	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guidance on stakeholder engagement mechanisms (e.g. methods for undertaking public communication)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other guidance needs	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify:

Please specify any other suggestions to improve the air quality plan development process under the AAQD:

[Q12 Planning] Ex-ante impact assessments, costs and effectiveness of air quality plans

Have you undertaken ex-ante estimates of the impact of measures that are in your air quality plans (i.e. have you estimated the future impact of your plans)?

- Yes
- No
- I do not know

How did you undertake the ex-ante estimate of the impact of measures that are in the **current** air quality plan?

- No estimation is included
- Expert judgement
- Emission reduction estimation only
- Use of screening models to estimate concentration reduction
- Use of screening models to estimate concentration reduction plus future projections to determine when compliance is likely
- Use of complex dispersion/regional scale modelling to estimate concentration reduction
- Use of complex dispersion/regional scale modelling to estimate concentration reduction plus future projections to determine when compliance is likely
- Other

How did you undertake the ex-ante estimate of the impact of measures that were in the **previous** air quality plan?

- No previous plan was published
- No estimation was included
- Expert judgement
- Emission reduction estimation only
- Use of screening models to estimate concentration reduction
- Use of screening models to estimate concentration reduction plus future projections to determine when compliance is likely
- Use of complex dispersion/regional scale modelling to estimate concentration reduction
- Use of complex dispersion/regional scale modelling to estimate concentration reduction plus future projections to determine when compliance is likely
- Other

If an ex-ante estimate of the impact of measures is made in the **current** plan are these made at:

- Roadside locations
- City Scale
- Background locations
- Regional Scale
- National Scale

What metric is used to evaluate the success of the **current** air quality plan?

- Reduction in emissions (tonnes)
- Reduction in air pollutant concentrations ($\mu\text{g}/\text{m}^3$)
- Reduction in health exposure (total resident population in the exceedance area)
- Other

If ex-ante quantification of improvements in air quality (i.e. air pollutant concentrations) are made in the **current** air quality plan, which are these for?

	Yes	No	I do not know
Individual measures included in the plan	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Packages of measures included in the plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
All measures included in the plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

If ex-ante assessment of the impact of measures in the **current** plan is undertaken using emissions only and not a concentration impact assessment why is this?

- Cost too high to include concentration modelling
- Human resource burden for concentration modelling
- Lack of available data for air quality modelling
- Other

Are specific ex-ante estimates of health impacts undertaken in your **current** air quality plan for the following:

- Mortality (lives lost)
- Respiratory hospital admissions
- Cardiovascular hospital admissions
- Coronary heart disease
- Stroke
- Lung cancer
- Diabetes
- COPD (chronic bronchitis)
- Asthma
- None of the above

Were specific ex-ante estimates of health impacts undertaken in your **previous** air quality plan for the following:

- No previous plan was published
- Mortality (lives lost)
- Respiratory hospital admissions
- Cardiovascular hospital admissions
- Coronary heart disease
- Stroke
- Lung cancer
- Diabetes
- COPD (chronic bronchitis)
- Asthma
- None of the above

Are specific ex-ante estimations of environmental impacts undertaken in your **current** air quality plan for the following:

- Damage caused by sulphur dioxide to buildings

- Damage caused by ozone to materials
- Soiling of buildings due to PM
- Ecosystem damages
- Crop damage
- None of the above

Is a cost/benefit analysis carried out to support your **current** air quality plan? (taking into account costs of individual measures including feasibility, upfront investment and running costs and economic benefits such as health cost savings, reduction in work days lost, reduced congestion, energy savings etc)?

- Yes, cost & benefits are included
- No, neither costs nor benefits are included
- Costs are only included
- Benefits are only included
- I do not know

Was a cost/benefit analysis carried out to support your previous air quality plan? (taking into account costs of individual measures including feasibility, upfront investment and running costs and economic benefits such as health cost savings, reduction in work days lost, reduced congestion, energy savings etc)?

- No previous plan was published
- Yes, cost & benefits are included
- No, neither costs nor benefits are included
- Costs are only included
- Benefits are only included
- I do not know

Are there measures included in the current plan even though it was not possible to quantify their impacts?

- Yes
- No
- I do not know

Do you see a value in the reporting of the expected impacts of measures being made mandatory?

- Yes
- No
- I do not know

Would further guidance on the quantification of the expected impact of measures be helpful in delivering a more effective air quality plan?

- Not at all
- A little helpful
- Somewhat helpful
- Very helpful

Would further guidance on the quantification of costs of measures be helpful in delivering a more effective air quality plan?

- Not at all
- A little helpful
- Somewhat helpful
- Very helpful

What should such guidance cover?

	Yes	No	I do not know
Technical documentation about the quantification of expected impacts on air quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technical guidance on the monetary estimation of costs (upfront and running costs) and benefits (health cost savings, reduction in work days lost) of measures used	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Software tools (online, offline) to support the cost benefit analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please specify:

Please specify any other suggestions to improve the ex-ante estimation of expected costs and benefits (for air quality improvements, health etc) of air quality measures in air quality plans under the AAQD:

[Q13 Planning] Ex-post assessments of impacts and costs of air quality plans

Have you evaluated the effect of your **current** air quality plan over the period of its application?

- Yes
- No
- I do not know

What method is used to evaluate the effects of your air quality plan over the period of its application?

	Yes	No	I do not know
Existing air quality monitoring	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Additional air quality monitoring	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Activity monitoring (e.g. traffic flows, or fleet composition via Automatic number plate recognition cameras, fuel sales)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Air quality modelling	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regular review of implementation status of the air quality plan	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please specify:

Have the same approaches been used for previous air quality plans?

- Yes
- No
- I do not know
- There are no previous plans

Please describe the different approaches applied to your previous plan. Providing the date span of the previous plan would be helpful:

less data

Has the competent authority for the most recent air quality plan enforced the implementation of the measures?

- Yes
- No
- It has enforced those measures it is competent for but not others
- I do not know

Which enforcement methods have been applied by the competent authority?

- Automatic enforcement (e.g. Automatic Number Plate Recognition) and issue of a penalty fine
- Manual enforcement (e.g. via spot checks on compliant heating installations)
- Licencing and / or permitting (e.g. emission limits on industrial permits)
- They are not monitored
- Other

Has the competent authority for the previous air quality plan enforced the implementation of the measures?

- No previous plan has been published
- Yes
- No
- It has enforced those measures it is competent for but not others
- I do not know

Which enforcement methods have been applied by the competent authority for your previous plan?

- Automatic enforcement (e.g. Automatic Number Plate Recognition) and issue of a penalty fine
- Manual enforcement (e.g. via spot checks on compliant heating installations)
- Licencing and / or permitting (e.g. emission limits on industrial permits)
- They are not monitored
- Other

If enforcement methods are applied by the competent authority to whom are they directed?

- Public authorities
- Private citizens
- Economic operators
- Other

How regularly are the impacts evaluated and reported?

- Never
- Annually
- 1-3 years
- 5+ years
- I do not know

Does it include wider impacts of the measure beyond air quality?

- Yes
- No
- I do not know

Do you see a value in making ex-post reporting of impacts of measures being made mandatory?

- Yes
- No
- I do not know

In what areas is more comprehensive guidance needed?

(rate 1 to 5, where 1 - not important and 5 - highly important)

	1	2	3	4	5
How to effectively analyse monitoring data to assist in the evaluation of impacts	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How to evaluate wider impacts (e.g. environmental impacts, climate change)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
How to effectively use models to evaluate impacts	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How to quantify health impacts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
How to translate health impacts into quantified economic benefits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify:

Please specify any other suggestions to improve the quality of air quality plans under the AAQD:

[Q14 General] Public access to air quality data

What communication channels do you currently use to communicate with the public?

- Dedicated website
- Social media
- Smartphone apps
- Warning systems
- SMS
- Email notifications
- Display panels in public spaces
- Television
- Citizen science activities
- Publishing of easy to understand information in the form of leaflets, pamphlets, etc.
- Other

Please specify:

opendata, study reports

What kind of general air quality information do you provide to the public in the communication channels you use?

- (Real-time) air quality data / Up-to-date average concentrations
- Air pollution forecasts
- Time series of historic observation
- Air Quality Index levels
- Exceedances of limit and target values
- Information thresholds
- Alert thresholds
- Access to downloadable historical data sets
- Annual reports specifically targeted to the general public
- Air quality plan (if in place)
- Information about (policy) measures in place
- Information about health impacts
- Information about air pollution in general
- Other
- I do not know

How are health impacts of long term elevated air pollutant concentrations communicated to the public?

- Provision of information on long term health risks of air pollution (eg via a website)

- General information on air pollutants, sensitive population groups, symptoms, etc.
- Information on specific precautions and preventative actions for different at risk groups
- We do not provide any information on this
- I do not know
- Other

Please specify:

We do give a basic information on air pollutants health impacts, but limited as we are not a health organisation. However, we provide a annual repport on pollen emissions and their impacts, a little more detailed

How are health impacts of short term elevated air pollutant concentrations communicated to the public?

- Provision of general information on short term health risks of air pollution (eg via a website)
- Information on specific precautions and preventative actions for different sensitive population groups
- Alerts / targeted messaging via SMS to vulnerable citizens during high pollution events (e.g. the elderly, people with existing health conditions)
- Alerts / targeted messaging to the general population via various media
- Provision of information for specific vulnerable members of the population via a website
- Alert/ targeted messaging to health-care professionals during high pollution events
- We do not provide any information on this
- I do not know
- Other

To what extent do you think that the online information provided currently by public authorities in your country / region / city regarding the health impacts of air pollution and the measures citizens can take to mitigate risks is sufficient or insufficient?

Please rank 1 to 5 where 1 indicate that there is no data available and 5 indicates that the level of data provided is more than sufficient.

2

Please rate how important you think each of the following recommendations are to improve the quality of information for citizens:

(where 5 – very important and 1 – not important at all)

	1	2	3	4	5
Identify with the help of health-care professionals, the most critical information that the Commission and Member States should make available to citizens (including health impacts and behavioural recommendations)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Support Member States to adopt best practices to communicate with and involve citizens in air quality matters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Publish yearly rankings of air quality zones with the best / worst progress achieved and share the best practices by the best locations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Develop an online tool that allows citizens to report on air quality violations and provide feedback to their national government	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Develop an online tool that allows citizens to report on air quality violations and provide feedback to the Commission on issues related to Member States' actions on air quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Support Member States to develop user-friendly tools for the access of the general public to air quality information and monitoring (e.g. smartphone apps, social media dedicated pages)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Seek an agreement to harmonise air quality indices across Member States	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
I do not know	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify any other suggestions to improve information provision to the public (for example regarding alert thresholds and/or information thresholds applied to inform the public):

Different countries and regions have different air quality indices in place. To what extent do you agree with the following statements?

Check the answer that comes closer to your opinion.

- Every EU country (and/or region) should continue to have their own, different air quality index
- All EU countries should adopt the [European Air Quality Index](#), introduced in 2017, to have a fully harmonised system of reporting Air Quality Indices across the European Union.
- All EU countries (and/or region) use an index that is harmonised in terms of the pollutants reported on, information / alert thresholds, averaging periods, colours (other than the European Air Quality Index)
- A hybrid solution where all EU countries maintain their own indices but have a conversion table that compares such with the European Air Quality Index
- Other

In your opinion, is there a need for good practice guidance on how to communicate with citizens?

- Yes
- No
- I do not know

[Q15 General] External factors

Which external sources do you believe are contributing to the worsening of air quality in your country?

- Saharan dust/ natural particles from dry regions
- Sea spray
- Wild-land fires
- Volcanic eruptions & seismic activities
- Winter sanding and salting
- Long-Range Transport (LRT) of pollutants

- Other

Which external sources do you quantify?

- Saharan dust/ natural particles from dry regions
- Sea spray
- Wild-land fires
- Volcanic eruptions & seismic activities
- Winter sanding and salting
- Long-Range Transport (LRT) of pollutants
- Other

Which external sources do you subtract in your reporting?

- Saharan dust/ natural particles from dry regions
- Sea spray
- Wild-land fires
- Volcanic eruptions & seismic activities
- Winter sanding and salting
- Other

Which external sources and other factors do you include for modelling assessments?

- Saharan dust/ natural particles from dry regions
- Sea spray
- Wild-land fires
- Volcanic eruptions & seismic activities
- Winter sanding and salting
- Long-Range Transport (LRT) of pollutants
- Climate change
- Meteorology
- Other

Which external sources and other factors do you include when developing air quality plans?

- Saharan dust/ natural particles from dry regions
- Sea spray
- Wild-land fires
- Volcanic eruptions & seismic activities
- Winter sanding and salting
- Long-Range Transport (LRT) of pollutants
- Climate change
- Other

Are you following the methodologies recommended in the SEC(2011) 208 guidance for "the demonstration and subtraction of exceedances attributable to natural sources under the Directive 2008/50/EC..." and/or in the SEC(2011) 207 guidance for "...determination of contributions from the re-suspension of particulates following winter sanding or salting of roads ..." to quantify external sources?

- Yes – natural sources guidance
- Yes – winter sanding and salting guidance

- Yes – both
- No
- I do not know

Are you using additional methodologies not currently in the 2011 guidance to calculate external sources?

- Yes
- No
- I do not know

Please specify which external source and which methodology and indicate if possible why you are using these other methodologies:

Is there a need to include additional eligible external sources for subtraction under the AAQDs?

- Yes
- No
- I do not know

Which sources, in your opinion, should be considered eligible?

transboundary pollution

Are you considering contribution from Long Range Transport of pollutants within your compliance assessment and air quality plans?

- Yes
- No

How useful is the current existing guidance for quantifying external sources and factors in monitoring results?

(Rate 1 to 5 where 1 - not at all useful and 5 - very useful)

	1	2	3	4	5
Saharan dust/ natural particles from dry regions	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sea spray	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Wild-land fires	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Volcanic eruptions & seismic activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

How necessary is it to develop additional guidance for quantifying external sources and factors in monitoring results?

(Rate 1 to 5 where 1 - not at all necessary and 5 - very necessary)

	1	2	3	4	5
Saharan dust/ natural particles from dry regions	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Sea spray	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Wild-land fires	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Volcanic eruptions & seismic activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Long-Range Transport (LRT) of pollutants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify:

How necessary is it to develop additional guidance to include external sources in air quality modelling assessments?

(Rate 1 to 5 where 1 - not at all necessary and 5 - very necessary)

	1	2	3	4	5
Saharan dust/ natural particles from dry regions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Sea spray	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Wild-land fires	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Volcanic eruptions & seismic activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Long-Range Transport (LRT) of pollutants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Other	<input type="radio"/>				

Please specify:

How necessary is it to develop additional guidance to take into account external sources in air quality plans?

(Rate 1 to 5 where 1 - not at all necessary and 5 - very necessary)

	1	2	3	4	5
Saharan dust/ natural particles from dry regions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Sea spray	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Wild-land fires	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Volcanic eruptions & seismic activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Long-Range Transport (LRT) of pollutants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Other	<input type="radio"/>				

Please specify:

Please add any other suggestion for an improved calculation of the contribution of external sources:

Closing

Would you be willing to be contacted for an interview (approx. 60 minutes)?

- Yes
 No

Please provide your email address if you agree to us contacting you for possible participation in an interview.

(Note: We are fully GDPR compliant. Your email address will be only accessible to the project team and eventually the European Commission. You are able at all times to decide not to participate in the interview.)

Would you like to participate in a focus group (approx. 120 minutes) with other stakeholders?

- Yes, in an air quality monitoring focus group
 Yes, in an air quality modelling focus group
 Yes, in an air quality plans focus group
 No

Please provide your email address if you agree to us contacting you about possible participation in the focus groups.

(Note: We are fully GDPR compliant. Your email address will be only accessible to the project team and eventually the European Commission. You are able at all times to decide not to participate in the Focus Groups.)

Thank you for participating in the survey!

Contact

pavla.cihlarova@trinomics.eu

