

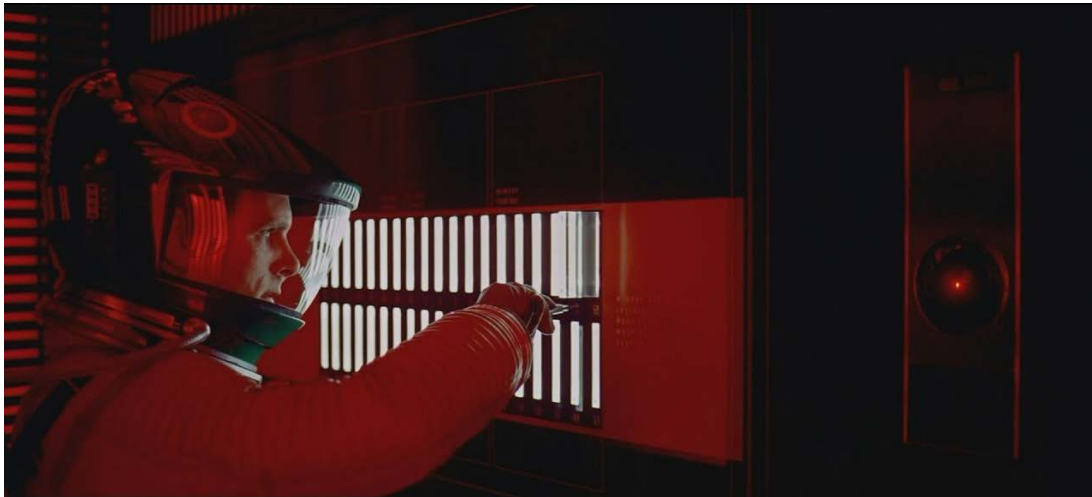
# EEA lessons learned regarding e-reporting under the current IPR



Alberto González Ortiz / FAIRMODE Plenary meeting / Paris, 26 February 2024



# Context



English

Energy, Climate change, Environment

Environment


Home > Topics > Air > Air Quality > Revision of the Ambient Air Quality Directives

## Revision of the Ambient Air Quality Directives

Improving the EU's air quality standards for zero pollution by 2050.


ETC HE Report 2022/7

Recommendations for an update of the **Implementing Provisions for Reporting (IPR)** in connection with the revision of the Ambient Air Quality Directives



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European Environment Agency  
European Topic Centre  
Human health and the environment



JRC SCIENCE FOR POLICY REPORT

Recommendations for the revision of the ambient air quality directives (AAQDs) regarding modelling applications

Thunis P., Janssen S., Wesseling J., Piersanti A., Piovanino G., Tarrasón L., Martín F., Lopez-Aparicio S., Bessagnet B., Guevara M., Monteiro A., Clappier A., Pisoni E., Guerreiro C., González Ortiz A.  
on behalf of FAIRMODE

2022

Joint Research Centre

EUR 31102 EN

European Environment Agency



# Outline

- Current reporting of modelling and presentations of results
- Basic principles for IPR
- Modelled data for assessment/attainment including
  - Model quality objectives
  - Spatial representativeness and exceedance indicators
- Modelled data in the context of plans including
  - Source-apportionment

WG2

WG8

WG5

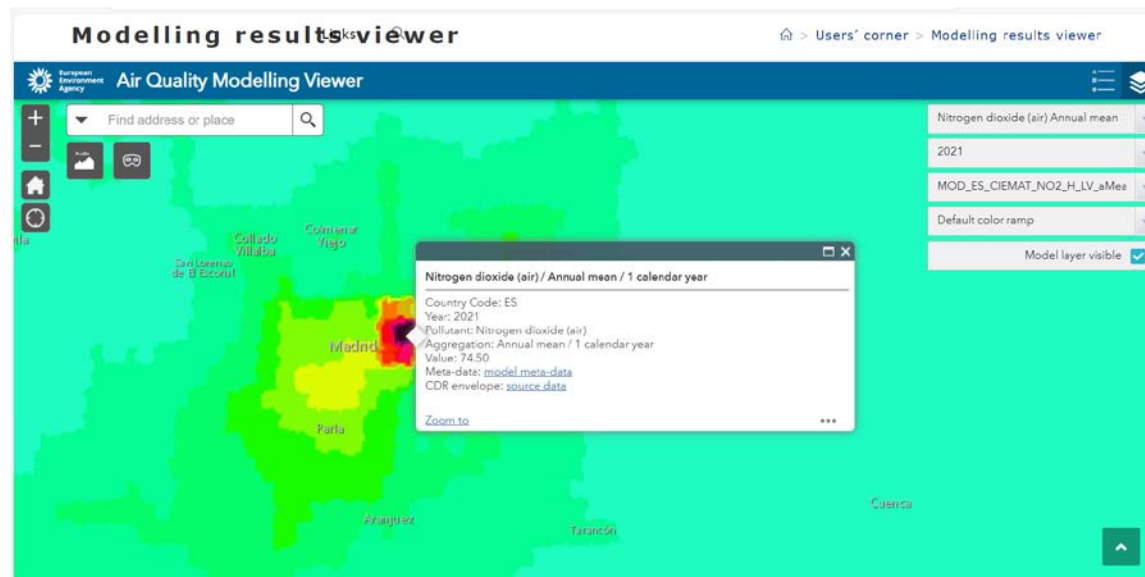
WG1



# Reporting of modelled data for assessment/attainment: current situation (1)



Modelling results viewer



## Models and objective estimation table

### Air Quality Models and Objective Estimations (data flows D1b/E1b)

This viewer shows information on Air Quality Models and Objective Estimations reported within AO e-Reportina

Linked tables | Share | Download CSV

Country	B-G Namespace	AQ Year	OBE Model Id	OBE Model Process Id	Model Area Id	Assessment Type	Air Pollutant	Air Pollutant Description
Austria	AT.0008.20.AQ	2018	OBE.1.801	OBE.MOP.1.2018.801.96	ZON-AT_05	Objective estimation	SO2	Sulphur dioxide (air)
Austria	AT.0008.20.AQ	2018	OBE.1.802	OBE.MOP.1.2018.802.82	ZON-AT_05	Objective estimation	SO2	Sulphur dioxide (air)
Austria	AT.0008.20.AQ	2018	OBE.1.803	OBE.MOP.1.2018.803.121	ZON-AT_07	Objective estimation	SO2	Sulphur dioxide (air)
Austria	AT.0008.20.AQ	2018	OBE.1.804	OBE.MOP.1.2018.804.110	ZON-AT_07	Objective estimation	SO2	Sulphur dioxide (air)

### Filters

- Country: [ all ]
- Year: [ all ]
- AQ Model Id: [ ]
- Assessment Type
- Modelling (1378)
  - Objective estimation (2157)
- Air Pollutant Description: [ all ]
- Data Aggregation Process: [ all ]
- Result Encoding
- external (1133)
  - inline (2402)
- Result Format
- ascii-grid (355)
  - esri-shp (583)
  - geotiff (195)
  - swe-array (2402)



# Reporting of modelled data for assessment/attainment: current situation (2)

## Air quality assessment regimes - levels

Air Quality Assessment Regimes - Levels (based on data flows B, C, G, E1a, E1b and E2a)  
This viewer shows information on Air Pollution Levels reported within Assessment Regimes in AQ e-Reporting.

AQ Assessment Method Id	Air Pollutant	Air Pollutant Description	Data Aggregation Process Id	Data Aggregation Process	Year	Air Pollution Level	Unit Of Air Pollution Level	Data Coverage	Exceedance Threshold	EEA Exceedance Assessment	Country Exceedance Assessment	Country Reported Max Value	AQ Assessment Regime Id	Preliminary	AQ Zone Id	Protection Target	Objective Type	Reporting Metric	Data Description	EEA Assessment Description	Compiled
MDL-ATMOSTREET_00008	NO2	Nitrogen dioxide (air)	P1Y	Annual mean / 1 calendar year	2018	51	ug-m-3		40	true	false	40	ARE-EF015_00008_fixed_LV_H_aMean_2018	No	ZON-BEF015	Health	Limit Value (LV)	Annual mean / average	Completion of reported modelling results (E1b) with assessment regimes (C) and zones (B).	Maximum air pollution level identified by the EEA in reported modelling results within the zone.	2024-02-15T23:04:33.110
MDL-ATMOSTREET_00008	NO2	Nitrogen dioxide (air)	P1Y	Annual mean / 1 calendar year	2021	40	ug-m-3		40	false	false	40	ARE-BEF065_00008_LV_H_aMean_2021	No	ZON-BEF065	Health	Limit Value (LV)	Annual mean / average	Completion of reported modelling results (E1b) with assessment regimes (C) and zones (B).	Maximum air pollution level identified by the EEA in reported modelling results within the zone.	2024-02-15T23:04:33.110
MOD-08E-DK0003_06001_LV_aMean_ECO_AIE	PM2.5	Particulate matter < 2.5 µm (aerosol)	P1Y	Annual mean / 1 calendar year	2019	12	ug-m-3		25	false	false	10.2	ARE-DK0003_06001_LV_aMean_2019	No	ZON-DK0003	Health	Limit Value (LV)	Annual mean / average	Completion of reported modelling results (E1b) with assessment regimes (C) and zones (B).	Maximum air pollution level identified by the EEA in reported modelling results within the zone.	2024-02-15T23:04:33.110
MOE-FR992ZAG01_SAHARAN_DUST_PM10_LV_daysAbove_H_5N_EQ	PM10	Particulate matter < 10 µm (aerosol)	P1Y-daysAbove50	1 year day exceed 50	2022	0			35	false	false	27	ARE-FR992ZAG01_5_LV_daysAbove_H_2022	No	ZON-FR992ZAG01	Health	Limit Value (LV)	Days in exceedance in a calendar year	Completion of reported modelling results (E1b) with assessment regimes (C) and zones (B).	Maximum air pollution level identified by the EEA in reported modelling results within the zone.	2024-02-15T23:04:33.110
MOD_IT_MOD_01_5015_H_TV_aMean_005	Ni in PM10	Nickel in PM10 (aerosol)	P1Y	Annual mean / 1 calendar year	2022	1	ng-m-3		2000	false	false	1.3	ARE-IT0121_5015_H_TV_aMean_2022	No	ZON-IT0121	Health	Target Value (TV)	Annual mean / average	Completion of reported modelling results (E1b) with assessment regimes (C) and zones (B).	Maximum air pollution level identified by the EEA in reported modelling results within the zone.	2024-02-15T23:04:33.110

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AQ e-Reporting recommends FAIRMODE's Modelling Quality Objective



# Basic principles to improve the IPR

Data (including metadata), information and parameters required under e-reporting need to:

1. Be **transparent**
2. Be **comparable** for different periods and from one place to another
3. Be provided in such a form that it is **easy to be assessed** in terms of **completeness**
4. Be **quantifiable**
5. (metadata) Be reported, preferably following a **checklist approach**
6. (additional info) Be provided in established **common repositories**
7. Be **usable** and **useful** to trace progress in the implementation of the Air Quality directives
8. Have a **clear status**, either mandatory, conditional, or voluntary, avoiding statements such as “when available” that give rise to confusion and misunderstandings



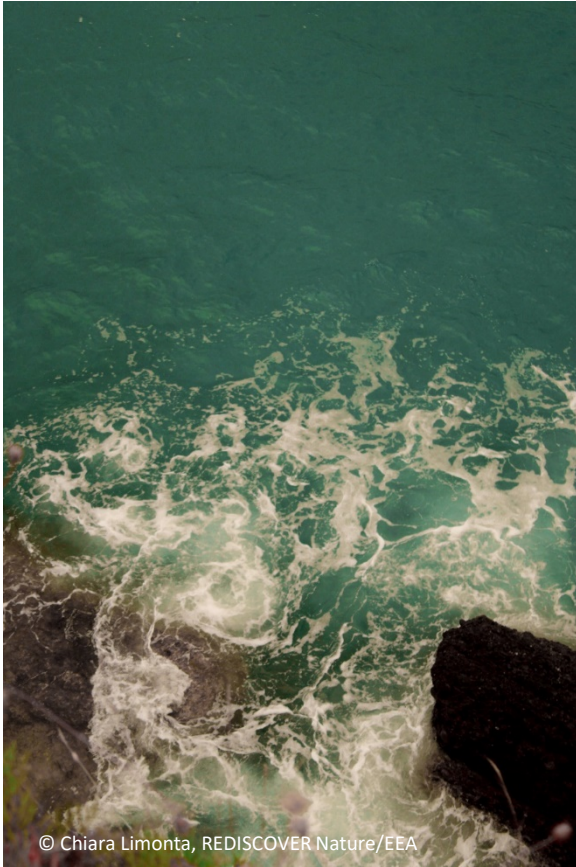
# Modelled data for assessment and attainment

## FAIRMODE recommendations:

- to make modelling mandatory for air quality planning, exposure calculations and short-term forecast.
- modelling should be strongly encouraged for monitoring network design, exceedance indicator estimates and near-real-time mapping, source-apportionment and estimates of long-range transport and to define zones and agglomerations.
- the use of FAIRMODE's Model Quality Objective (MQO).
- **Update** the current **definitions of MQO** to allow for percentiles and other statistics in addition to annual averages and align them with the FAIRMODE's MQI/MPI definitions
- **Define better** the **information** to be reported under current dataflows D1b (metadata on models and objective estimation) and E1b (modelled data)
- Include information, as **metadata**, on the **emissions** used in the models (to understand both exceedances and reductions in plans)
- *Prepare the systems for a new requirement of reporting UTD modelling results, where those are available*



# Spatial representativeness



## SPATIAL REPRESENTATIVENESS

- Reported under dataflow D, “where available”
- Make it a **mandatory** reporting element
- Report the methodology applied, with preference to the **use of models** as suggested by FAIRMODE
- **Avoid** reporting spatial representativeness by means of **polygons** which will imply a heavy processing burden
- Reporting using a standardized way, for instance a **common European grid**, probably provided by EEA (that could be used also for zones and, for sure, for exceedance indicators)
- Adopt a **common reference year** to define the spatial representativeness?
- Use an average over **several years**.





# Exceedances indicators

## EXCEEDANCE INDICATORS

- Currently under dataflow G
- Surface area, length of road, total resident population, and ecosystem and vegetation area.
- Use the results provided by **models**
- It could be reported either **under G or**, if not available, when drafting a **plan**
- **No need** for the exceedance **flagging indicator**



# Reporting of plans (including source apportionment) (1)

Some current shortcomings in the structure/reporting of plans

- No clear relationship among the four different dataflows.
- Dataflow I is at the centre of reporting, while it should be the plan itself.
- The references to source apportionment focuses on the increment approach
- Lack of completeness in most of the reported plans: lack of resources, competence...
- Lack of reporting of effectiveness of measures
  
- **Simplify** the information to be reported to avoid current shortcomings in terms of non-used information and structure (links among different dataflows)
- Make **model** the **mandatory** basis for drafting and reporting of plans
- Merge the reporting in **one single dataflow**, following the logics of a plan drafting



# Reporting of plans (including source apportionment) (2)

- H: **plan** information, **model** information, **baseline** scenario, definition of **receptor area**
- I: SOURCE APPORTIONMENT
  - Not recommend the incremental method but follow FAIRMODE recommendations on **different methods**. The method should be specified
  - Link it to the required **receptor area/AQ** zone, addressing the relevant **source areas**
  - Use a **common** existing **regional** source apportionment;
- J: information on the **projection** year for attainment
- K: **measures**
  - linked to the sources identified in I
  - **Assess the program as a whole**, instead of individual measures
- Consider also the possibility of reporting **plans not linked to specific exceedances**



**Thank you for your attention and your feedback!**

