Update from the European Commission

Air Quality - *revision of EU Rules*

ERMES meeting (2nd plenary session on Air Quality and Remote Sensing)

17 May 2021 (virtual)

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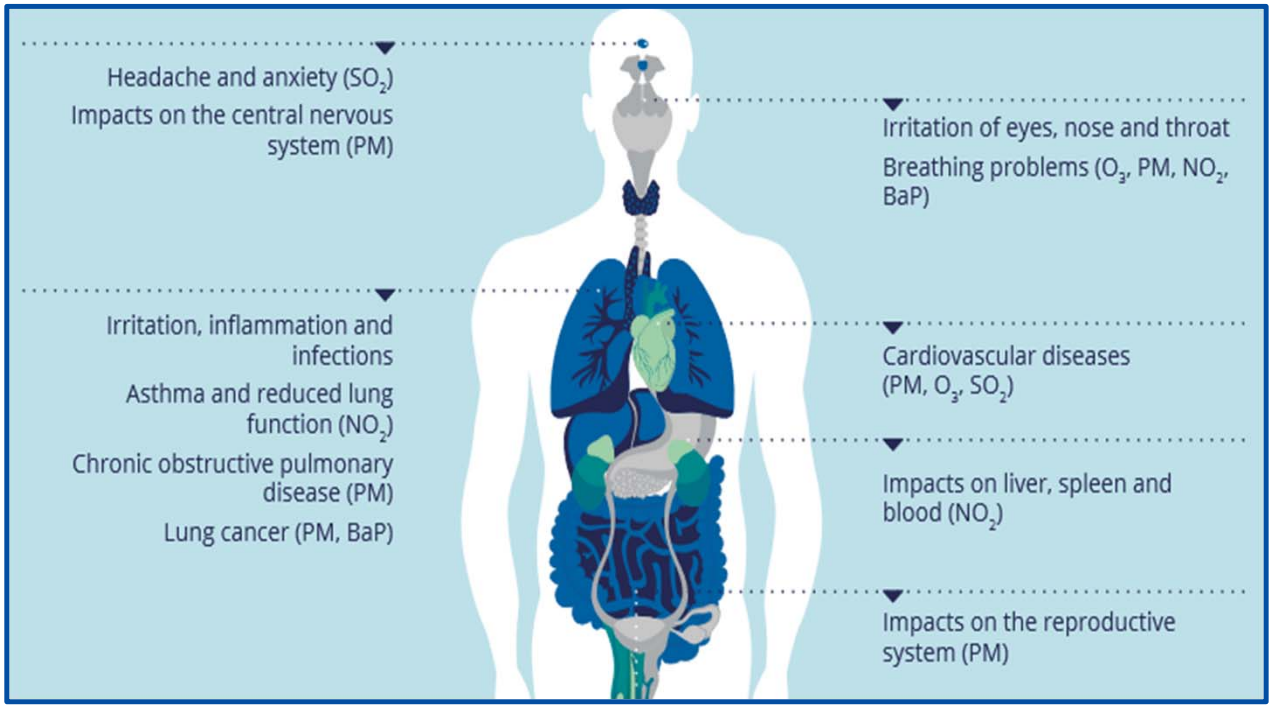
European Commission
DG ENV — Clean Air Unit

Air pollution - why is it a problem?



Health impacts (EU):

- > 400.000 premature deaths each year
- 17% of all lung cancer deaths due to air pollution

Economic impacts (EU):

- More than € 20 billion per year in 'direct costs'
- plus € 330 to € 940 billion per year in 'indirect costs'

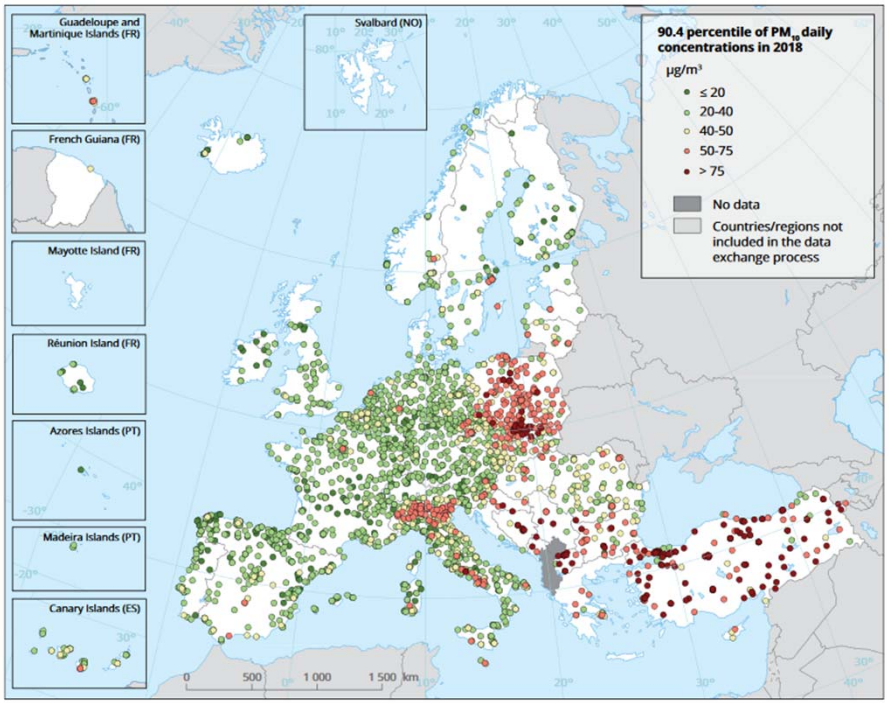
Environmental impacts (EU):

- Eutrophication limits exceeded in 62% of ecosystem

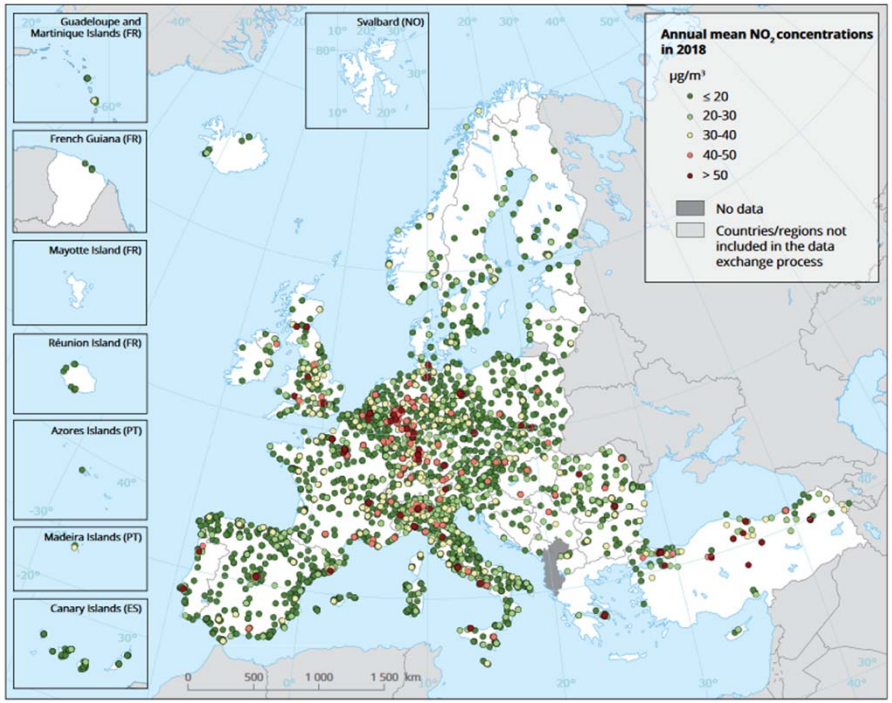
Source(s): Healthy lives, healthy environment (EEA, 2020)

Air pollution - where is it a problem?

PM_{10} exceedances are often linked to fuel combustion (i.e., heating, transport).



NO_2 exceedances are often linked to traffic, in more than 100 cities in EU.



Source(s): EEA Air Quality in Europe (2020)

Air pollution – who and what causes it?

Air pollution has multiple sources …

$PM_{2.5}$: Households (54%), Energy & Industry (21%), Transport (13%),…

NO_x: Transport (47%), Energy (15%), Industry (15%), Households (8%), …

SO_x: Energy (47%), Industry (33%), Households (15%), Transport (3%), …

NH_3: Agriculture (93%), …

Source(s): EEA Air Quality in Europe (2020)

… and originates across all scales

- Transboundary pollution
- National level background
- City level sources
- Road-side peaks

This combination requires EU Clean Air Policy to address all sectors & all scales

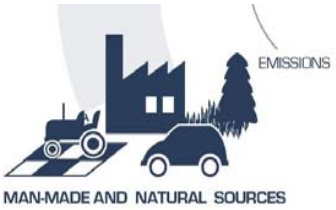
What are we doing about air pollution?

SETTING OBJECTIVES FOR GOOD AIR QUALITY

Ambient Air Quality (AAQ) Directives

Maximum concentrations of
air polluting substances
(PM_{10}, $PM_{2.5}$, SO_2, NO_2, O_3 + 8 more)

REDUCING EMISSIONS OF POLLUTANTS



National Emission reduction Commitments Directive

National emission totals
(SO_2, NO_x, NMVOC, $PM_{2.5}$, NH_3)

Source-specific emission standards

- IED Directive
- MCP Directive
- Eco-design Directive
- Energy efficiency
- Euro and fuel standards

"The Commission will draw on the lessons learnt from the evaluation of the current air quality legislation.

It will also propose to strengthen provisions on monitoring, modelling and air quality plans to help local authorities achieve cleaner air.

The Commission will notably propose to revise air quality standards to align them more closely with the World Health Organization recommendations."

Communication on the European Green Deal
(COM/2019/640 final)

#EUGreenDeal

European Commission

Fitness Check of the AAQ Directives

In 2019, an **evidence-based, retrospective evaluation** offered a number of **lessons learnt**:

- Air quality remains a major **health and environmental concern**;
- Air quality standards have been instrumental, and **partially effective**, to reduce pollution;
- Current EU standards are **less ambitious than scientific advice**;
- **Limit values** have been more effective than other types of air standards;
- Legal **enforcement action** by European Commission, and civil society, works *(with some caveats);*
- Scope to further harmonise **monitoring, modelling**, and **air quality plans**;
- Not all reported data equally useful, **e-reporting** allows for further efficiency.

A decade of air data
For period 2008 to 2018
from all Member States

Stakeholder feedback
Open public consultation
and expert questionnaires

Seven case studies
BG,DE,ES,IE,IT,SE,SK
each with specific focus

Literature & analysis
600 scientific sources
& a cost-benefit model

Five shortcomings

Health outcome shortcomings

Implementation and enforcement shortcomings

Governance shortcomings

Assessment shortcomings

Information shortcomings

European Commission

Health outcome shortcomings

Premature deaths due to air pollution halved during last two decades, but …

Health outcome shortcomings

EU Standards are not fully aligned with scientific advice …

Exceedances above WHO Air Quality Guidelines and negative health impacts persist

Lack of flexibility to adapt to evolving science and new recommendations

Pollutants	2005 WHO AQ Guidelines	EU Air Standards	EU Exceptions
PM_{10} (year)	**20 µg/m³**	**40 µg/m³**	-
PM_{10} (day)	**50 µg/m³**	**50 µg/m³**	**(35d a year)**
$PM_{2.5}$ (year)	10 µg/m³	25 µg/m³	-
$PM_{2.5}$ (day)	25 µg/m³	-	-
NO_2 (year)	**40 µg/m³**	**40 µg/m³**	-
NO_2 (hour)	**200 µg/m³**	**200 µg/m³**	**(18d a year)**
SO_2 (daily)	20 µg/m³	125 µg/m³	3d a year
O_3 (8-hour)	**100 µg/m³**	**120 µg/m³**	**(75d in 3yr)**

WHO Air Quality Guidelines are being revised in 2021

Source(s): Fitness Check of the Ambient Air Quality Directive SWD(2019) 427

Implementation & enforcement shortcomings

Frequency, extent and magnitude of exceedances has declined, but …

Enforcement shortcomings

Exceedances are not always addressed sufficiently and/or on time …

Air quality plans and measures have often proven ineffective

Insufficient penalties and damages linked to exceedances

As of 5 Feb 2021, still **31 cases** addressing 18 Member States (+ 1 vs UK) related to bad application:

- 15 particulate matter (PM_{10} and/or $PM_{2.5}$)
- 13 (1) nitrogen dioxide (NO_2)
- 1 sulphur dioxide (SO_2)
- 2 monitoring problems

Of these, 13 cases (i.e. 9 Member States + 1 vs UK) have been referred to the Court of Justice of the EU.

6 cases have seen rulings: BG, PL, RO, IT, HU (for PM_{10}) and FR (for NO_2) .

These cases address both exceedances of air quality standards and not keeping these as short as possible.

Air quality governance shortcomings

To limit exceedances, competent authorities develop plans, but …

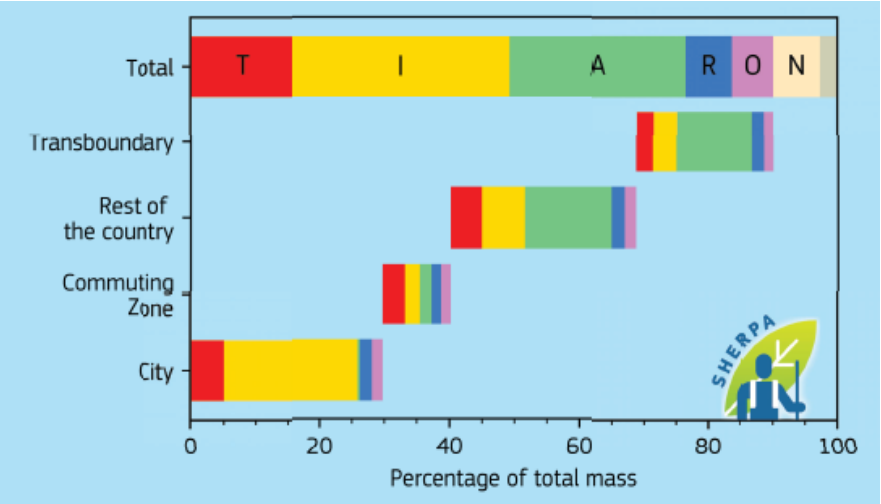
Governance shortcomings

Air quality plans do not always address all sources effectively ...

Local air quality is impacted by emissions outside local control

Some measures may be ineffective, or seem disproportionate

Example: Air pollution (here: $PM_{2.5}$) in Frankfurt (DE) is a combination of emissions in the city, its surroundings, the rest of the country and from other parts of Europe:



This combination requires air quality plans to address all sectors & all scales – in a coherent manner (!)

Source(s): Urban PM2.5 Atlas: Air Quality in European Cities (JRC, 2017)

Air quality assessment shortcomings

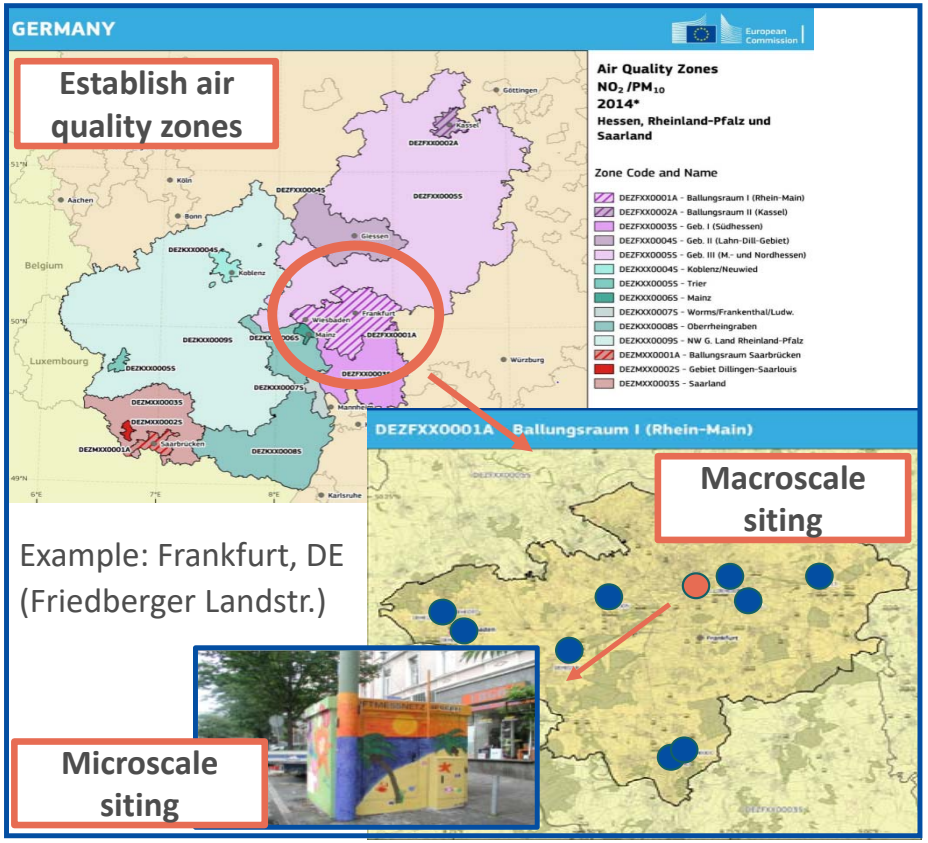
More than 4.000 air quality monitoring stations deliver robust data, but …

Assessment shortcomings

Flexibilities may sometimes impact the comparability of data …

Monitoring rules offering flexibility are sometimes ‘stretched’

Modelling ability has improved, allows for much more detail



Source(s): https://ec.europa.eu/environment/air/quality/zones.htm

Air quality information shortcomings

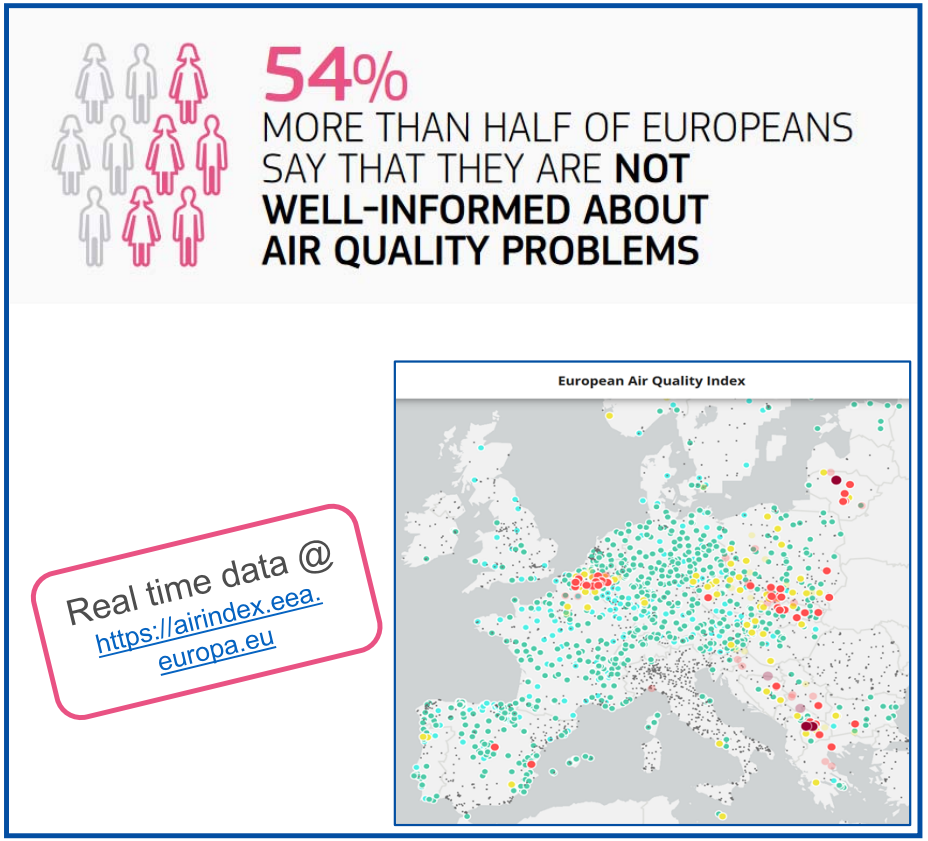
Reliable air quality information is widely available, often even in real-time, but …

Information shortcomings

Public feels under-informed about poor air quality and its impacts …

Concerns about health impacts have increased

Public information is not always clear, and not harmonised



Source(s): Special Eurobarometer 497 (September 2019) & Air Quality Index

The consequences

Air pollution continues to be a problem

Consequences for environment and health

Consequences for our economy (with direct and indirect costs)

Consequences for our society (not everyone impacted equally)

Administrative burden

European Commission

The consequences of air pollution & air policy

Environment & Health

- **Elevated concentration levels of air pollutants,** both general exposure of population and at pollution hotspots
- **Health impacts**, more than 400.000 premature deaths each year across the EU, plus morbidity health impacts
- **Ecosystem impacts**, eutrophication limits are being exceeded in 62% of ecosystem areas across the EU territory
- **Links with climate change**, as higher temperature are associated with elevated ozone levels
- **Synergies with other EU policies**, and in particular with the goals of the (upcoming) EU Zero Pollution Action Plan
- **Administrative burden** of air quality management, in particular as relates to air quality assessment regimes

Economic

- **Cost to society**, EUR 20 bn direct cost to health-care, lost work-days, crop losses, plus EUR 330-940 bn indirect costs
- **Measures needed to meet EU air quality standards,** with costs for industry, transport, energy, and agriculture sector
- **Impacts on the EU's international competitiveness,** with innovation potential, especially for clean air technologies

Social

- **Sensitive population groups** (children, pregnant women, elderly citizens) are more susceptible to air pollution
- **Inequalities and social sustainability**, as groups of lower economic status tend to be more negatively affected
- Measures to address air pollution may have effects on **employment**

→ *policy options will need to be assessed against their ability to address the consequences of air pollution (i.e. our 'impact assessment criteria')*

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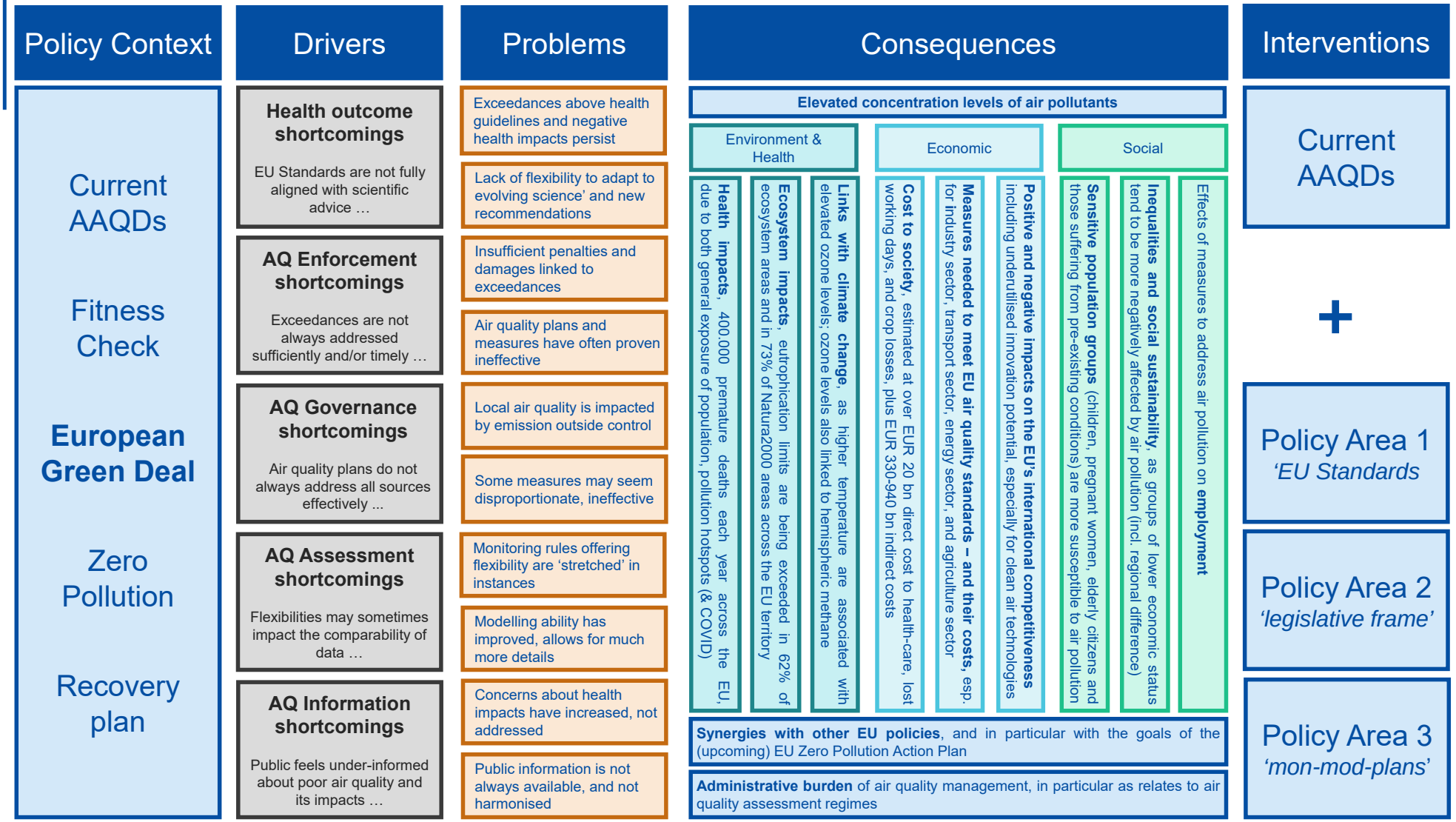
Policy Context
Current AAQDs
Fitness Check
European Green Deal
Zero Pollution
Recovery plan
Drivers
Health outcome shortcomings
EU Standards are not fully aligned with scientific advice …
AQ Enforcement shortcomings
Exceedances are not always addressed sufficiently and/or timely …
AQ Governance shortcomings
Air quality plans do not always address all sources effectively ...
AQ Assessment shortcomings
Flexibilities may sometimes impact the comparability of data …
AQ Information shortcomings
Public feels under-informed about poor air quality and its impacts …
Problems
Exceedances above health guidelines and negative health impacts persist
Lack of flexibility to adapt to evolving science' and new recommendations
Insufficient penalties and damages linked to exceedances
Air quality plans and measures have often proven ineffective
Local air quality is impacted by emission outside control
Some measures may seem disproportionate, ineffective
Monitoring rules offering flexibility are 'stretched' in instances
Modelling ability has improved, allows for much more details
Concerns about health impacts have increased, not addressed
Public information is not always available, and not harmonised
Consequences
Elevated concentration levels of air pollutants
Environment & Health
Economic
Social
Health impacts, 400.000 premature deaths each year across the EU, due to both general exposure of population, pollution hotspots (& COVID)
Ecosystem impacts, eutrophication limits are being exceeded in 62% of ecosystem areas and in 73% of Natura2000 areas across the EU territory
Links with climate change, as higher temperature are associated with elevated ozone levels; ozone levels also linked to hemispheric methane
Cost to society, estimated at over EUR 20 bn direct cost to health-care, lost working days, and crop losses, plus EUR 330-940 bn indirect costs
Measures needed to meet EU air quality standards – and their costs, esp. for industry sector, transport sector, energy sector, and agriculture sector
Positive and negative impacts on the EU's international competitiveness including underutilised innovation potential, especially for clean air technologies
Sensitive population groups (children, pregnant women, elderly citizens and those suffering from pre-existing conditions) are more susceptible to air pollution
Inequalities and social sustainability, as groups of lower economic status tend to be more negatively affected by air pollution (incl. regional difference)
Effects of measures to address air pollution on employment
Synergies with other EU policies, and in particular with the goals of the (upcoming) EU Zero Pollution Action Plan
Administrative burden of air quality management, in particular as relates to air quality assessment regimes
Interventions
Current AAQDs
+
Policy Area 1
'EU Standards
Policy Area 2
'legislative frame'
Policy Area 3
'mon-mod-plans'

Air quality – revision of EU rules

Air policy revision: focus on three policy areas

Our timeline – clean air milestones 2020 to 2023

European Commission

Air policy revision: focus on three policy areas

Augment the current Ambient Air Quality Directives for three policy areas

- **Policy area 1: closer alignment of the EU air quality standards with scientific knowledge including the latest recommendations of the World Health Organization (WHO)**.
- **Policy area 2**: improving the **air quality legislative framework**, including provisions on penalties and public information, in order to enhance effectiveness, efficiency and coherence.
- **Policy area 3**: strengthening of **air quality monitoring, modelling and plans**.

→ *to be further developed into more detailed options/scenarios for each policy area, also based on inception impact assessment*

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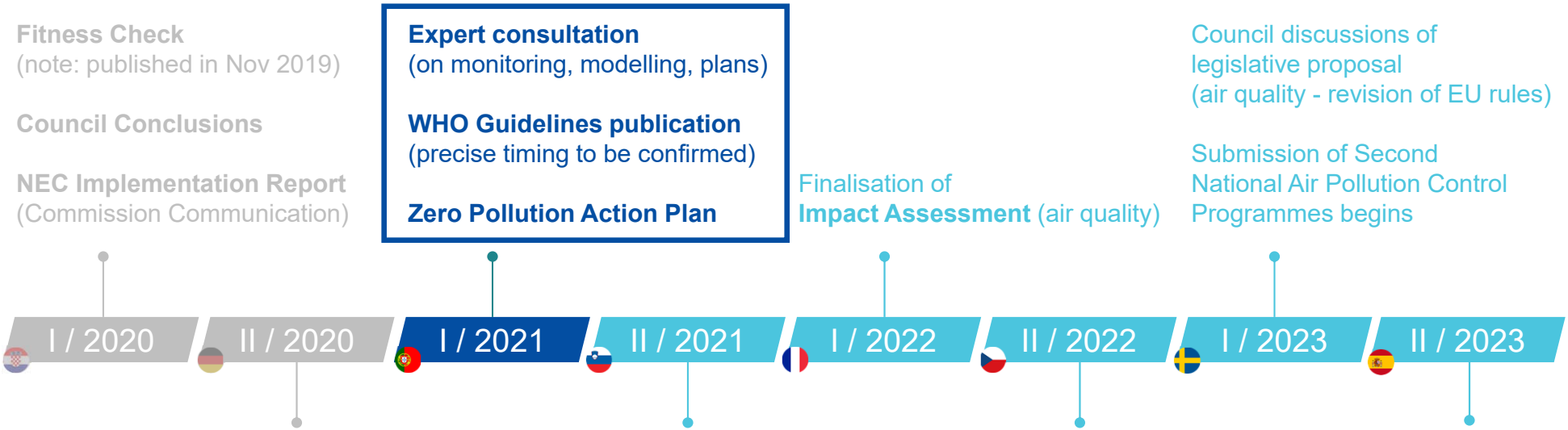
Clean Air Milestones 2020 to 2023 (indicative)



Fitness Check
(note: published in Nov 2019)

Council Conclusions

NEC Implementation Report
(Commission Communication)

Expert consultation
(on monitoring, modelling, plans)

WHO Guidelines publication
(precise timing to be confirmed)

Zero Pollution Action Plan

Finalisation of
Impact Assessment (air quality)

Council discussions of
legislative proposal
(air quality - revision of EU rules)

Submission of Second
National Air Pollution Control
Programmes begins

EEA Air Quality Report 2020

Inception Impact Assessment
(revising the Air Quality Directive)

Second Clean Air Outlook
(Commission Report)

EEA Air Quality Report 2021

Public consultation: air quality
(air quality - revision of EU rules)

3rd EU Clean Air Forum
(in Madrid)

EEA Air Quality Report 2022

Adoption: legislative proposal
(air quality - revision of EU rules)

Review Gothenburg Protocol
(Air Convention)

Third Clean Air Outlook
(Commission Report)

EEA Air Quality Report 2023

4th EU Clean Air Forum
(location to be determined)

European Commission

Contact us:

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Have your say:

https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12677-Revision-of-EU-Ambient-Air-Quality-legislation

Thank you