



# Clean Air in the EU: degassing

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# Air pollution in the EU

Why is it a problem?

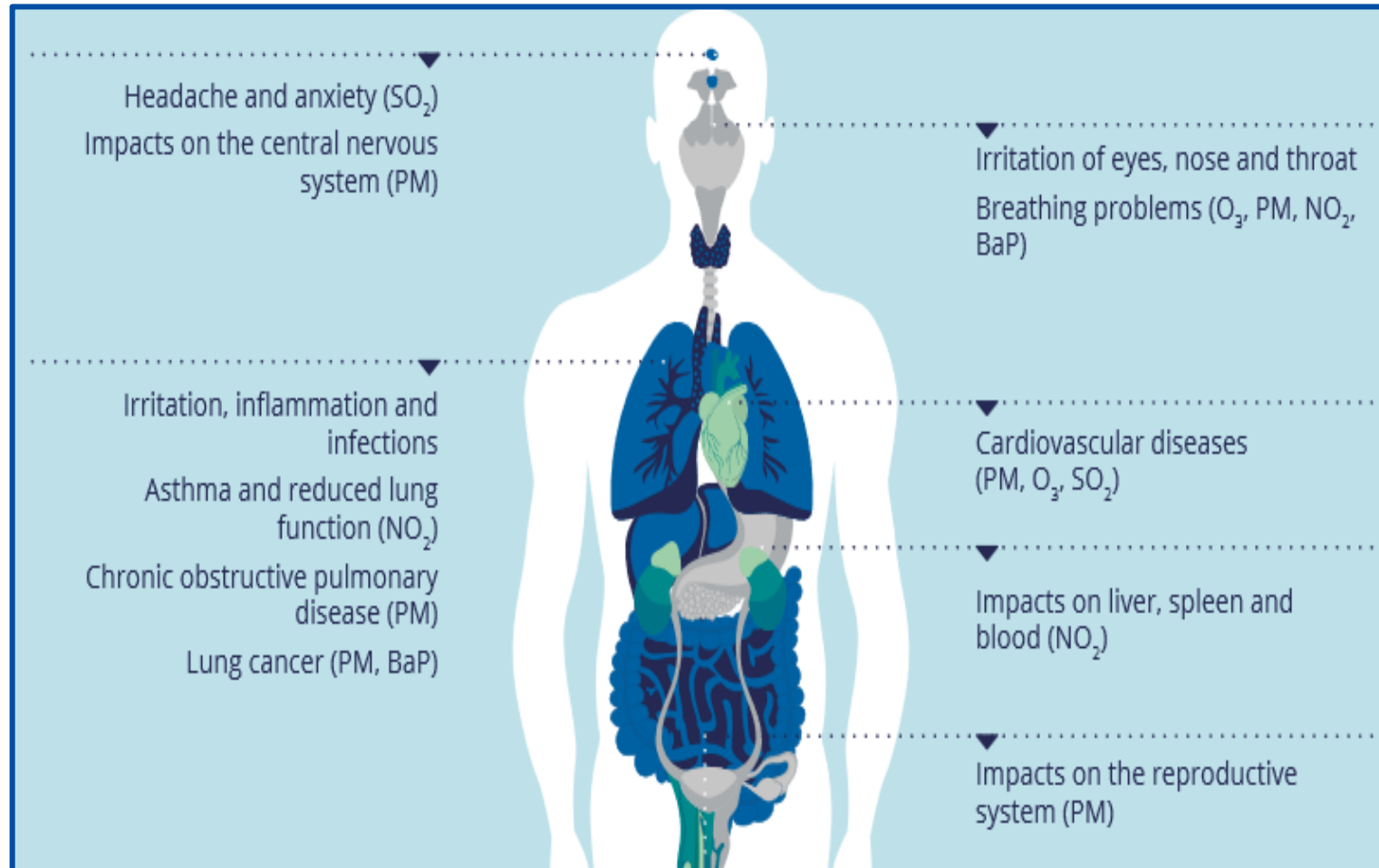
Where is it a problem?

What are we doing about air pollution?

Support for clean air

Funding and steps forward

# 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):

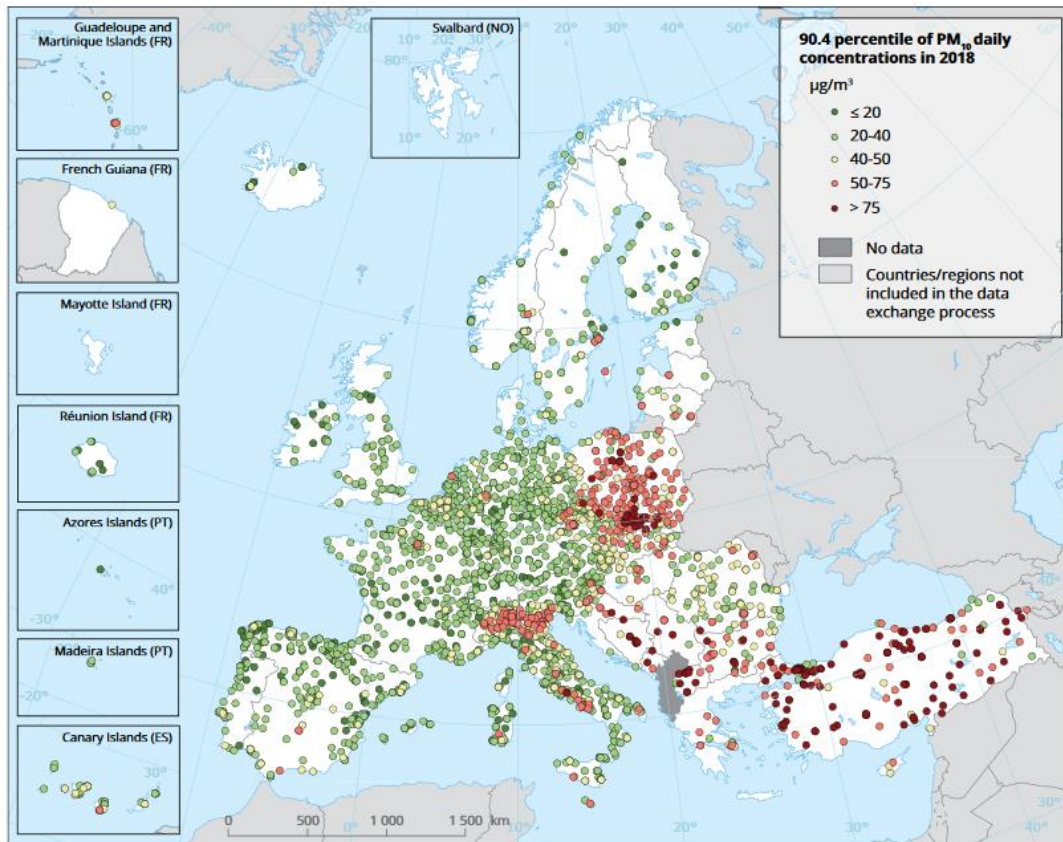
- More than € 20 billion per year in 'direct costs'
- plus € 330 to € 940 billion per year in 'indirect costs'

## Environmental impacts (EU):

- Eutrophication limits exceeded in 62% of ecosystem

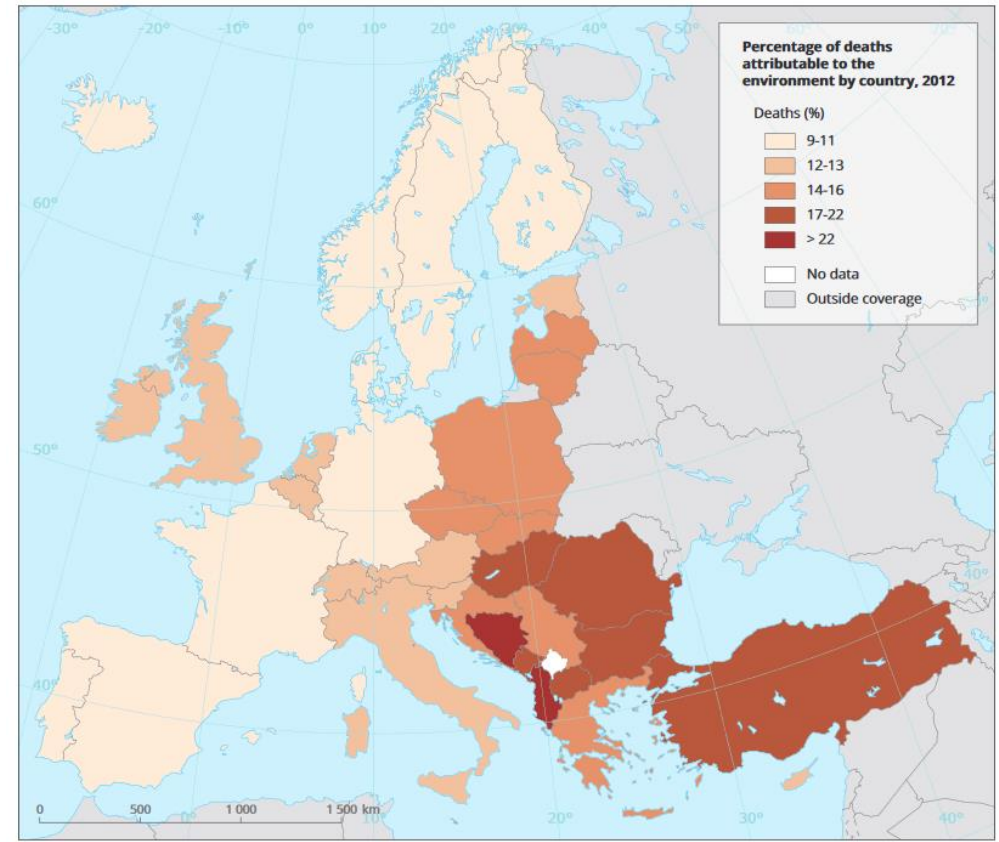
# Air pollution - where is it a problem?

**PM<sub>10</sub> exceedances** are often linked to fuel combustion (i.e. heating, transport).



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

**Percentage of deaths** attributable to environment by country (2012).



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

# Air pollution – who and what causes it?

**Air pollution has multiple sources ...**

**... and originates across all scales**

**PM<sub>2.5</sub>:** Households (54%), Energy & Industry (21%),  
Transport (13%),...

**NO<sub>x</sub>:** Transport (47%), Energy (15%), Industry (15%),  
Households (8%), ...

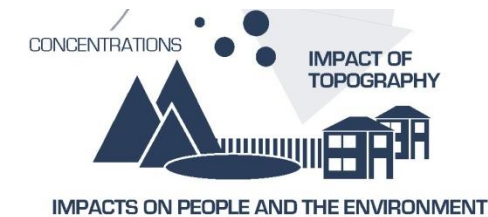
**SO<sub>x</sub>:** Energy (47%), Industry (33%), Households (15%),  
Transport (3%), ...

**NH<sub>3</sub>:** Agriculture (93%), ...

- 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?

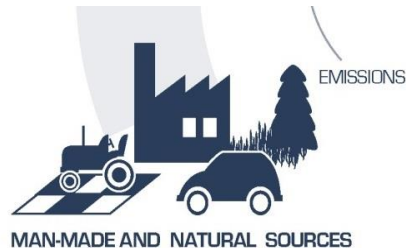


## Ambient Air Quality (AAQ) Directives

Maximum concentrations of  
air polluting substances  
(PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>2</sub>, O<sub>3</sub> + 8 more)

SETTING OBJECTIVES  
FOR GOOD AIR QUALITY

REDUCING EMISSIONS  
OF POLLUTANTS



## National Emission reduction Commitments Directive

National emission totals  
(SO<sub>2</sub>, NO<sub>x</sub>, NMVOC, PM<sub>2.5</sub>, NH<sub>3</sub>)

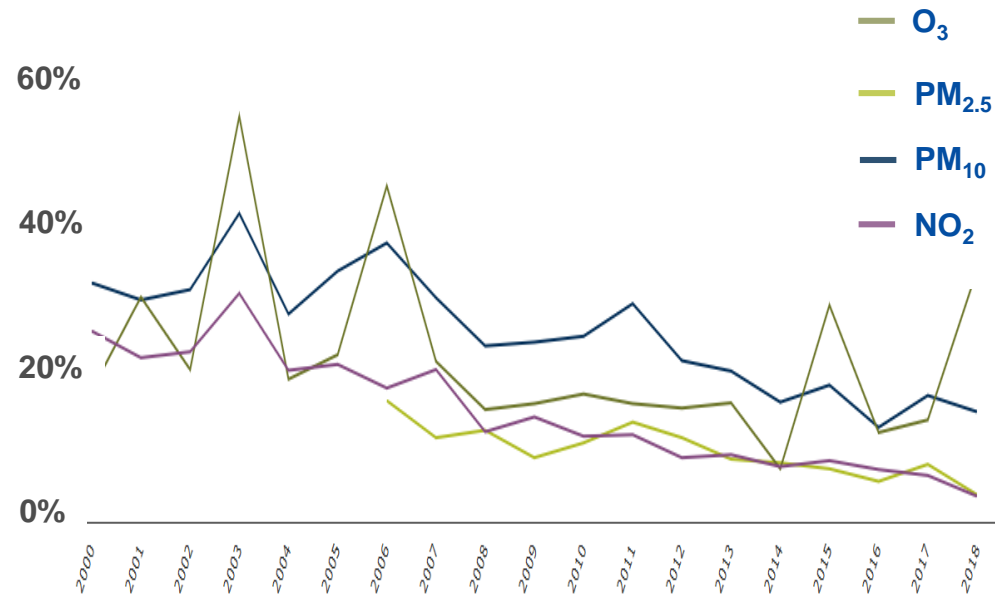
## Source-specific emission standards

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

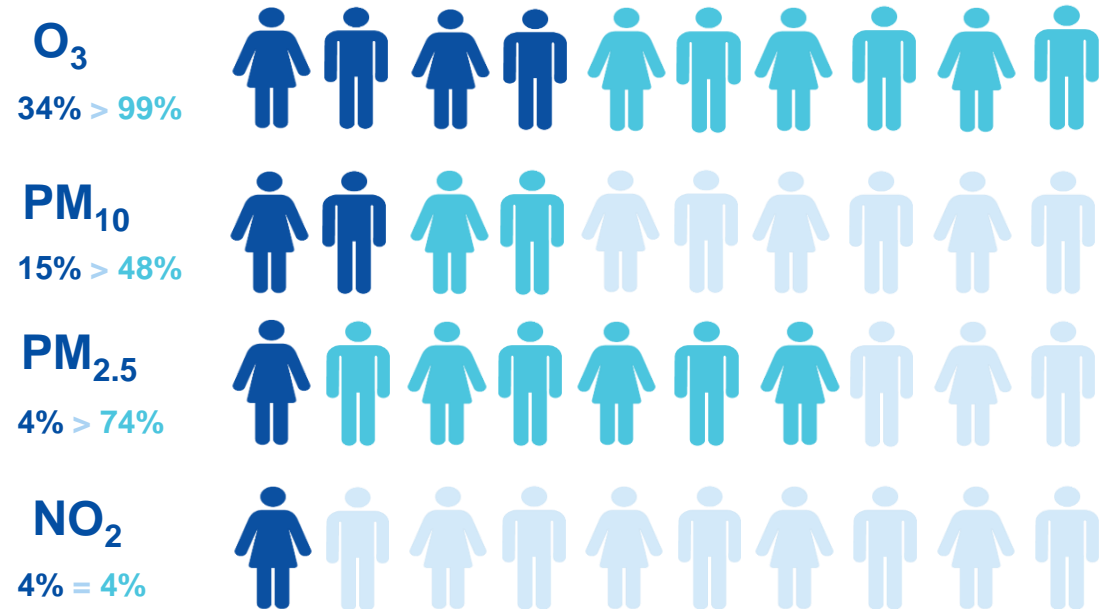
European Green Deal &  
Zero Pollution Ambition

# Clean air policy works ... but ...

EU urban population exposed to air pollution above **EU standards 2000 to 2018**



EU urban population exposed to air pollution above **EU standards** > **WHO guidelines** in 2018





# EU Clean Air Policy Framework (1)

## **The international context**

- UN ECE Convention on Long-Range Transboundary Air Pollution (CLRTAP) and its Protocols (e.g. Gothenburg Protocol, linked with NECD + source-specific legislation)

## **The main European Union air policy instruments**

- Ambient Air Quality Directives (AAQD): Maximum concentrations to be attained across the EU (SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub>, benzene, lead, CO, O<sub>3</sub>, arsenic, cadmium, nickel, PM<sub>2.5</sub> and BaP)
- National Emission Ceilings Directive (NECD): National emission inventories and commitments to reduce emissions of pollution (SO<sub>2</sub>, NO<sub>x</sub>, NMVOC, PM<sub>2.5</sub> and NH<sub>3</sub>) including transboundary pollution
- Source-specific performance standards: NRMM, Euro and fuel standards, VOC Solvents Directive, Industrial Emissions Directive, Medium Combustion Plants Directive, Ecodesign standards, etc.



# EU Clean Air Policy Framework (2)

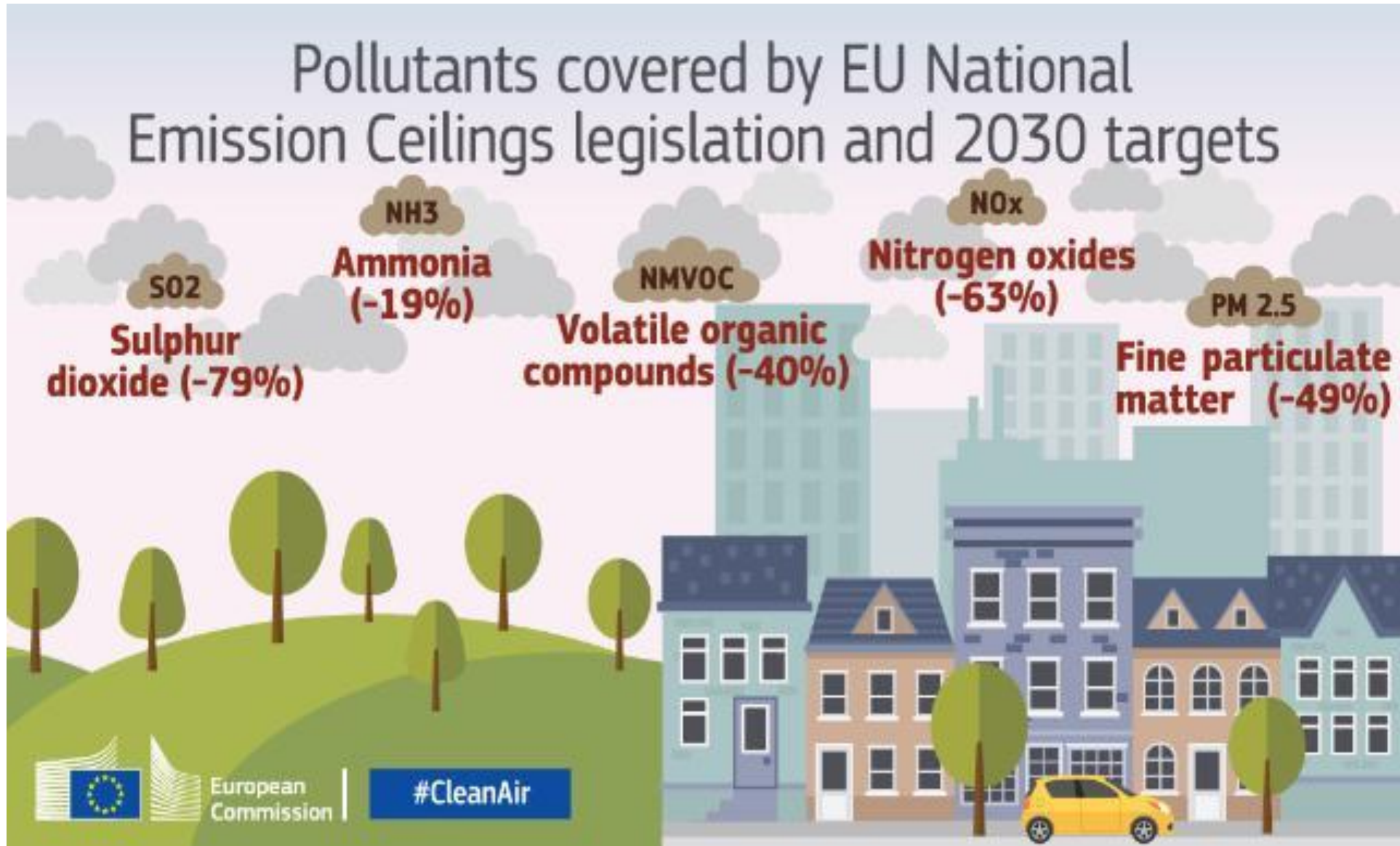
## **The main Member States air policy instruments**

- Air Quality Plans & Programmes (AAQD), National Air Pollution Control Programmes (by April 2019, NECD)
- National Emission Inventories, Projections, and Measures (NECD)
- Fiscal measures, urban mobility measures (e.g. LEZ), market surveillance, ...

# Ambient Air Quality Directives (3)

- Limit Values for i.a. benzene and ozone.
- Annex X lists VOC which are ozone precursors: "The main objectives of such measurements are to analyse any trend in ozone precursors, to check the efficiency of emission reduction strategies, to check the consistency of emission inventories, and to help attribute emission sources to observed pollution concentrations".
- Exceedances of benzene are rare, of ozone quite common -> Air Quality Plans.
- VOC are precursors for PM, and for PM10 and PM2,5 there are Limit Values which in many countries are exceeded -> Air Quality Plans.

# EU Clean Air Policy Framework (4)



# European Green Deal (1)



# European Green Deal (2)

## Timetable (key actions)

First Zero Pollution Monitoring and Outlook (2022)

- Revision of **Air Quality Directive**
- Revision of the **Urban Wastewater Treatment Directive**
- Revision of **water pollutants list** (Environmental Quality Standards and Groundwater Directives)
- Revision of the **Mercury Regulation**
- Implementation Report of **Environmental Noise Directive**
- Establish EU priority watch list for **soil**

Second Zero Pollution Monitoring and Outlook (2024)

- Recommendations on implementation of **polluter pays principle**

2021

Launch of the Zero Pollution Stakeholder Platform (2021)

- New emission limit values for motor vehicles (**EURO7**)
- Revision of the **Industrial Emissions Directive** and EU Pollutant Release and Transfer Register (or early 2022)
- Revision of the **Environmental Crime Directive**
- Launch global initiatives, e.g. on **lead batteries recycling**

2022

2023

EEA's European Environment & Health Atlas (2023)

- Review of **Marine Strategy Framework Directive**
- Review of **Bathing Water Directive**
- Fitness Check of **Environment Liability Directive**
- Assess pathways and policy options for **indoor air quality**
- Dedicated nutrient (ammonia) actions contributing to the **Integrated Nutrient Management Action Plan**
- Zero pollution contribution to **European Green Deal Dataspace**

2024



# Support for Clean Air policies (1)

Providing direct or indirect financial support:

- Structural Funds (e.g. PA, OP, RDP, ETC)
- European Fund for Strategic Investments (EFSI/Invest EU) and EIB
- Horizon 2020/Horizon Europe
- Connecting Europe Facility (CEF: Transport, Energy)
- LIFE: traditional projects, Strategic Integrated Projects, Preparatory Projects
- ...

# Support for Clean Air policies (2)

Improving information, communication, awareness and exchange of best practice:

- Database of air quality measures: <http://fairmode.jrc.ec.europa.eu/measure-catalogue/>
- Air Quality index
- Clean Air Fora (2017 Paris, 2019 Bratislava, 2021 Madrid) and Expert Groups
- Country Clean Air Dialogues (i.a. IE, LU, HU, SK, CZ, ES, IT, NL)
- Urban Partnership on Air Quality (Pact of Amsterdam); link with Covenant of Mayors
- Other EU policies, e.g. **Naiades III** (IWT), **Green Ports**



# EU air quality funding opportunities

- **Cohesion policy** (i.e. Regional Development Fund + Cohesion Fund)
  - specific allocations for air quality; € 1.8 billion is available for 2014-2020
  - in addition, further indirect contributions can benefit air quality, e.g. from low-carbon economy (€ 45 billion), environmental protection and resource efficiency (€ 63 billion) and network infrastructure (€ 58 billion) budgets (comparable orders of magnitude are expected for 2021-2027)
- **Connecting Europe Facility** offers a further € 34 billion for indirect benefits, e.g. IWT, railways, intermodality, clean fuel infrastructure
- **LIFE funding** offers a further € 300 million, including for LIFE Strategic Integrated Projects (e.g. for air quality plans), LIFE pilot/demonstration projects or LIFE preparatory projects (e.g. air quality sensors)
- **Invest EU funding** offers a total of € 650 billion, of which 30% have a possible air quality link (e.g. investing in energy and transport, or social infrastructure); in addition **Horizon Europe** indirectly benefits emissions reduction and air quality.
- **Next Generation EU** with National Recovery and Resilience Plans, a total of € 750 billion

# Questions for the meeting from the EC (1)

## Clarifications are needed:

- especially on the kind of infrastructure concerned
- the maturity of the technology
- the profile of the stakeholders involved (public entities, private companies, etc.)
- role of other programmes which might be of interest for the financing of such technology (e.g. LIFE, Horizon Europe or InvestEU (sustainable infrastructure window))
- the amounts needed and possible approaches (grants, soft loans, guarantees, blending, PPP, ...)
- timeline (ratification process CDNI, implementation; ZPAP)
- conditions and requirements from the CDNI process (polluter pays, enforcement, ...)
- next steps
- For CEF: is there an EU dimension?
- For cohesion policy, Operational Programmes are being drafted and informally discussed. Results of a study may be too late for allocating funding in OPs. Can stakeholders liaise with their administrations and Managing Authorities? PO2 (environment and climate) could be used, but Cohesion Policy funding is rather limited in the EU countries in NW Europe.
- For a LIFE Preparatory Project (study):
  - budget needs
  - role and participation of LIFE CLINSH, NGOs, industry, ...
  - timeline

# Questions for the meeting (2)

- IMO-MARPOL: Volatile organic compounds (VOC) – Regulation 15 for maritime degassing; ECAs
- Is there a need for standards?
- How many degassing facilities could be needed for Inland Waterway Transport (NW Europe, Danube area) and for maritime degassing?
- Is there already experience with such installations, and if so, which are the positives and negatives?
- What would be the costs (price per installation)?
- Would there be some competition or regulator or would it result in monopolies?
- What is the role of port authorities, local/regional/national authorities, ...?
- What would be the timeline for IWT degassing (CDNI) and a possible timeline for maritime?
- Which other sectors and stakeholders should be involved?
- Is there a need for research and development projects, for pilot and demonstration projects, or is it mostly implementation of infrastructure?
- If needed, is the sector willing to do a feasibility study (e.g. LIFE Preparatory Project, which requires co-funding)?

More information:

[https://ec.europa.eu/environment/air/index\\_en.htm](https://ec.europa.eu/environment/air/index_en.htm)

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# Thank you

