

Air quality management in the EU

EPPA project, air quality component

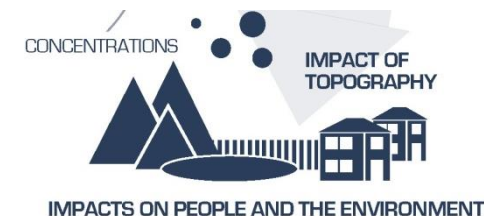


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Clean air for all ... EU policy framework



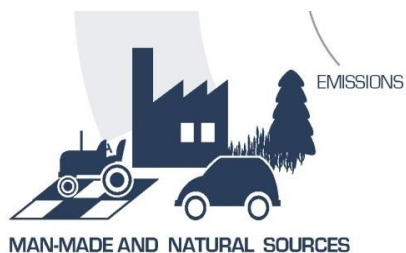
Ambient Air Quality Directives

Maximum concentrations of
air polluting substances
(PM₁₀, PM_{2.5}, SO₂, NO₂, CO, O₃ + 6 more)

→ Air quality plans, Article 23 AAQD

SETTING OBJECTIVES FOR GOOD AIR QUALITY

REDUCING EMISSIONS OF POLLUTANTS



National Emission Ceilings Directive

National emission totals
(SO₂, NO_x, VOC, PM_{2.5}, NH₃)



EU-28 reduction targets btw.
2005 and 2030

Source-specific emission standards

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

AIR QUALITY IN THE EU

- Main problems:

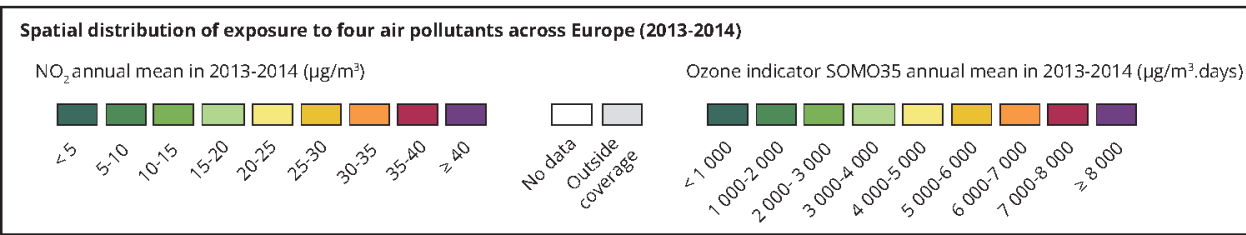
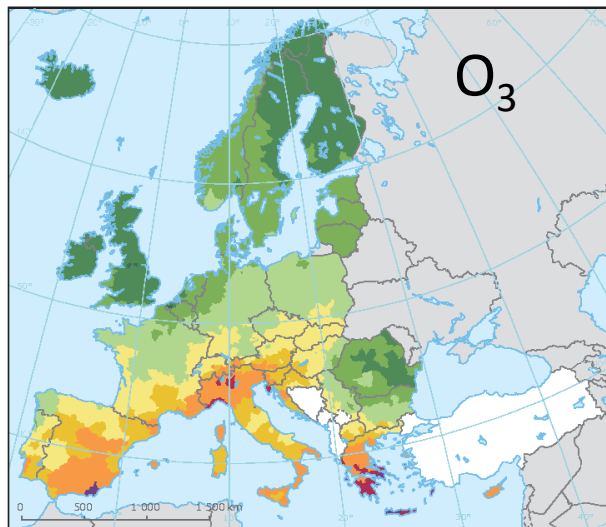
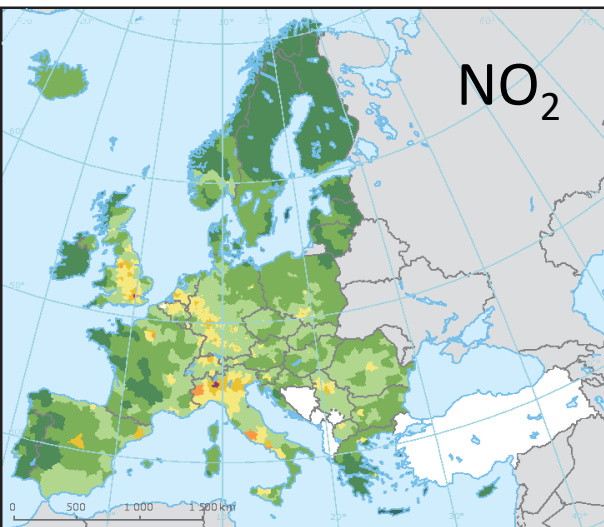
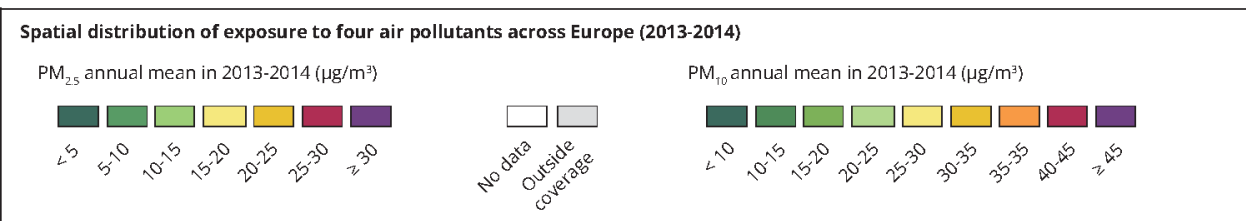
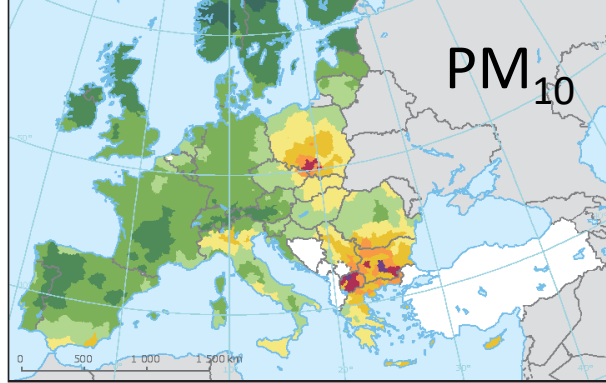
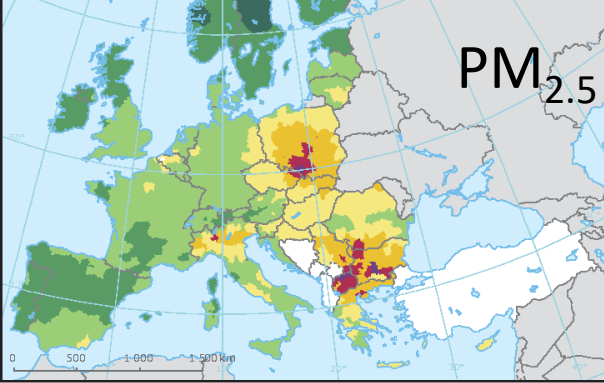
- NO₂
- PM₁₀
- Benzo(a)pyrene
- O₃

- locally:

- SO₂, heavy metals

➔ most air quality plans for PM₁₀, NO₂

➔ health benefits of measures much larger than costs



Guiding principles

1. • reduce emissions at the source
2. • reduce concentrations
3. • reduce exposure



Best practice examples - traffic

1. avoid, 2. shift, 3. improve

- Integrated transport policies including
 - Public transport
 - Walking and cycling
 - Land use
 - Vehicle technologies
 - Fuel technologies
 - see [EEA Report 18/2019](#)

SUPPORTING INSTRUMENTS

- Low emission zones (see [urban access regulations](#))
- Inspection schemes, import ban for old vehicles
- Congestion charges
- Diesel tax schemes
- Bicycle strategies
- Redistribution of public space (e.g. [Paris](#))
- Tourism strategies (e.g. [last mile project](#))
- Parking management
- Public transport
- Integrated urban freight transport
- Sulphur, Nitrogen Control Areas for ships

➔ shift from traffic to mobility needs



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Best practices – domestic heating

DOMESTIC HEATING...

- Often underestimated by public
- Data quality much worse compared to traffic
- Main PM source in many Central, Northern European regions
- Long renewal cycles for heating systems
- Clear health improvements if strict measures implemented

BEST PRACTICES

- Awareness campaigns for proper operation
- Improved maintenance, regular inspection
- Building renovation
- Ban of solid fuel / fuel switch / zero emissions technologies (Dublin, Krakow)
- see UNECE draft code good practice for solid fuel burning and small combustion installations ([ECE/EB.AIR/WG.5/2019/4](#))
- see DG ENV Clean Air Outlook: [domestic heating](#)



Best practices – industry

INDUSTRY...

- Industrial Emission Directive builds framework for large installations
- no major contribution to air pollution in many parts of EU anymore
- see [EPPA IED workshop](#)

BEST PRACTICES

- Well established permitting procedure
- proper permitting → proper control
- regular inspections
- well trained personnel
- polluter pays principle
- see [IMPEL network](#)



Best practices – agriculture

AGRICULTURE...

- Contributes to regional background PM levels by ammonia (secondary particle formation by NH_3)
- Open burning of residues (often underestimated source)
- Stagnant / slowly declining trend of NH_3 emissions in Europe
- Cost effective also for reducing PM in cities

BEST PRACTICES

- Banning of open burning of agricultural residues (incl. training, enforcement)
- Integrated manure management
- Optimised use of mineral fertilizers
- See DG ENV report “[Agriculture and air quality](#)”



Best practices – construction work

CONSTRUCTION WORK...

- Difficult to quantify contribution to PM levels
- Construction related traffic important in cities (old trucks, emissions in cities)
- Guidance documents available from several countries (see [AIRUSE guidebook](#))

BEST PRACTICES

- Proper planning
 - minimize use of material, high energy efficiency buildings
 - central logistics
 - reuse of material at the site
 - incentives to reduce traffic, distances travelled
- Proper construction site management
- Requirements for emission standards
- Diesel particle filters for machinery and trucks



Best practices – integrated approaches

INTEGRATED APPROACHES...

- Measures in many cases not only implemented for air quality but also for:
 - Energy
 - Climate protection / adaptation
 - Transport
 - Quality of life
 - Public health
 - Smart cities

BEST PRACTICES

- Zero-emission housing developments
 - zero:e park Hannover
 - Stockholm Royal Seaport
 - Hunziker district Zurich
 - Vienna Aspen
 - ...



Best practices – awareness raising

AWARENESS RAISING...

- Strong public and political support needed for the implementation of effective measures
- Participation of public and stakeholders is a key element for success
- New technologies offer new possibilities

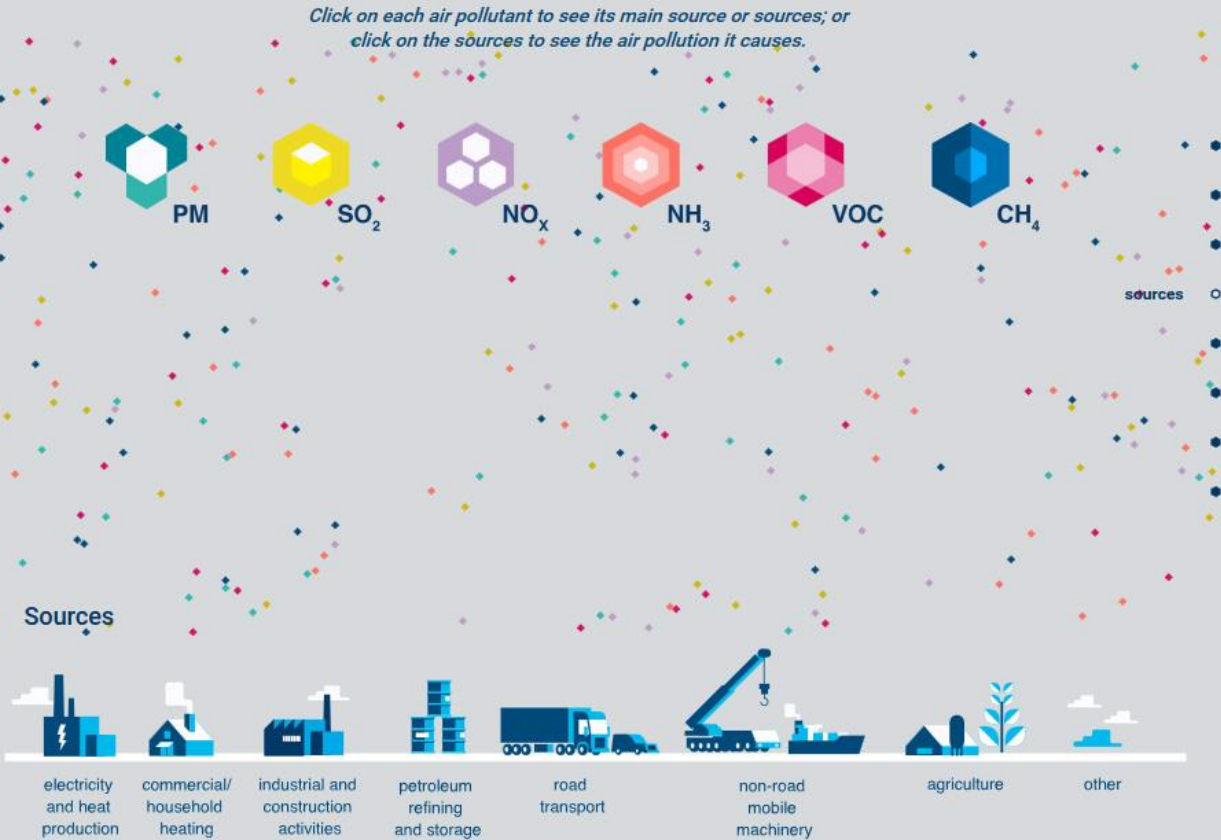
BEST PRACTICES

- Antwerp citizen science project [“curieuze neuzen”](#) to monitor NO₂
- Referendum for congestion charge in Stockholm
- EU LIFE programme
- Public participation projects to develop climate strategies



sources of air pollution

What are the main sources of primary air pollutants?



% = EU average amount in the atmosphere emitted by source.

Sources: [European Union emission inventory report 1990–2013, European Environment Agency](#). Sector split of emissions of ozone precursor pollutants, [European Environment Agency](#).

EU MEASURES

- Medium Combustion Plant Directive (2015/2193)
- Industrial Emissions Directive (2010/75/EU)
- Vehicle legislation
- Ecodesign
- National emissions (NECP, NAPCP)
- Fuel standards
- COM (2018)330 – [“A Europe that protects: Clean air for all”](#), [Cleaner air for all](#) website
- Clean Air Dialogue, [Clean Air Forum](#)
- [Catalogue of Air Quality Measures](#)

© European Commission, http://ec.europa.eu/environment/air/cleaner_air/index.html#toolbox

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Recommendations – general I

- Consider and tackle different pollutants together
- Learn from existing projects, measures
- Measures should be taken at level where most efficient
- Coherent approaches between different policies (climate change, transport, energy, noise, quality of life,...) are needed
- Cost-benefit-analysis, health data important for political support
- Main goal: to improve public health (i.e. not only compliance with limit values at station)
- Reduction of regional background levels
 - NH₃ emissions from agriculture
 - Ban of open burning of agricultural waste
 - Domestic wood burning
 - Coordination of transport policies with surroundings



Recommendations – general II

- Strong political commitment needed
- Cooperation between different authorities needed
- Communication, awareness raising, participation of stakeholders during planning and implementation → important for implementation
- “Leading by example”
- “Polluter pays” principle should be applied
- Monitoring of implementation of measures
- Use of suitable indicators to track progress



Summary & conclusions

- Vast amount of information material publicly available
- Different approaches needed for different cities, regions
- Integrated approaches most effective
- Strong political & public support need for successful implementation



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Introduction to EPPA



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EPPA project

- EU Environment Partnership Programme for Accession
- Funded by European Union
- Beneficiaries:
 - Albania
 - Bosnia and Herzegovina
 - Kosovo*
 - Montenegro
 - North Macedonia
 - Serbia
 - Turkey
- February 13, 2019 – February 13, 2022 (36 months)
- Working groups:
 - Waste
 - Water
 - Air
 - Nature
 - EU Environment Policy
 - Compliance Checking
 - Civil Society Organisations



OVERVIEW

- Component 4 of [EPPA project](#) addresses four directives to improve air quality
 - Air Quality Directive and its 2015 amendment
 - Industrial Emissions Directive
 - National Emission Ceilings Directive (strongly linked to UNECE Gothenburg Protocol)
 - Sulphur Directive (ship fuels)
- Instruments: mainly regional workshops
- Further assistance possible



TASK 4.1 - Objectives

- **Air Quality Directive capacity building**
 - 2 regional workshops
 - 1st workshop tentatively 24-25 September 2019, Podgorica
 - 2nd workshop tentatively October 2020
 - [Workshop report](#) summarizes the results
 - Presentations available at [EPPA website](#) and [TAIEX website](#)



TASK 4.2 - objectives

- **NEC Directive capacity building**
 - **2 regional workshops**
 - 1st workshop 16-17 January 2020, Vienna, Austria
 - 2nd workshop tentatively March 2021
 - Presentations available at [EPPA website](#) and [TAIEX website](#)
 - Workshop reports will summarize results



TASK 4.3 - objectives and current status

- **Sulphur Directive capacity building**
 - 2 regional workshops
 - Focus will be on fuel for ships
 - 1st workshop 2-3 December 2020, Podgorica



TASK 4.4 - objectives

- **Industrial Emissions Directive capacity building**
 - **3 regional workshops**
 - 1st workshop 18-20 November 2019, Ankara, Turkey
 - 2nd workshop tentatively June 2020
 - 3rd workshop tentatively April 2021
 - [Workshop report](#) summarizes results
 - Presentations available at [EPPA website](#) and [TAIEX website](#)



TASK 4.5 – objectives and current status

- **Other assistance developed in cooperation with the beneficiaries**
 - Support to beneficiary countries as requested
 - ad hoc assistance (legislation amendments)
 - regional, national workshops (if requested and approved by EC)

