Air quality in Europe

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DG ENV C.3
Air

Air pollution is still a problem across Europe

Europe's air quality is slowly improving, but fine particulate matter and ground-level ozone in particular continue to cause serious impacts on health.

Estimates point to well above 400.000 premature deaths in EU-28 each year due to particulate matter; more than 70.000 due to nitrogen dioxide.

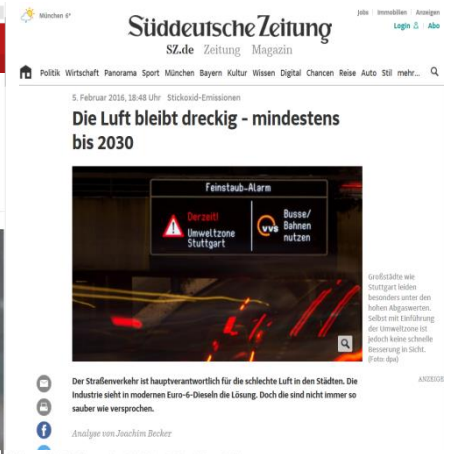
3 out of 10 of the urban population citizens are exposed to particulate matter above EU standards; with 9 out of 10 exposed above WHO guidelines.

63%

Air pollution exceeds eutrophication limits in 63% of ecosystem area, and in 73% Natura2000 area.

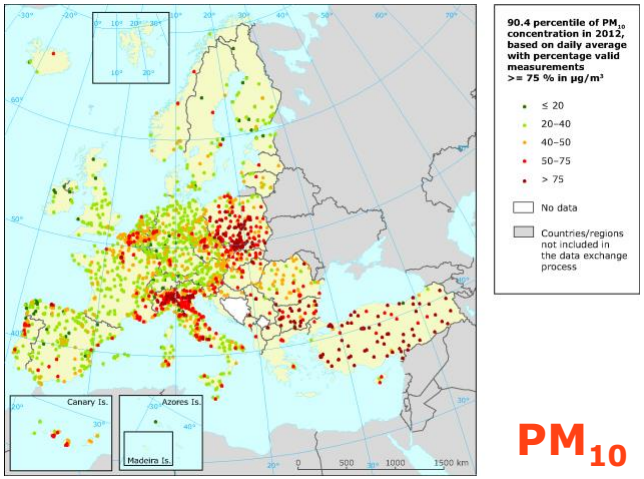
Source(s): EEA, Air Quality in Europe (2015) und SOER (2015)

Increasing awareness of air quality urgencies

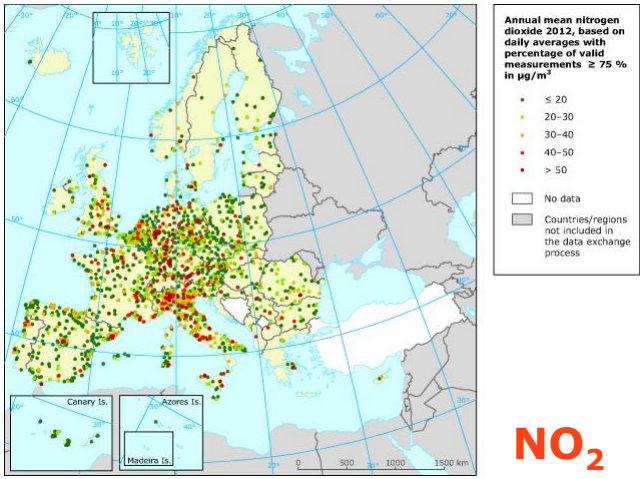


Source(s): Various online and print media

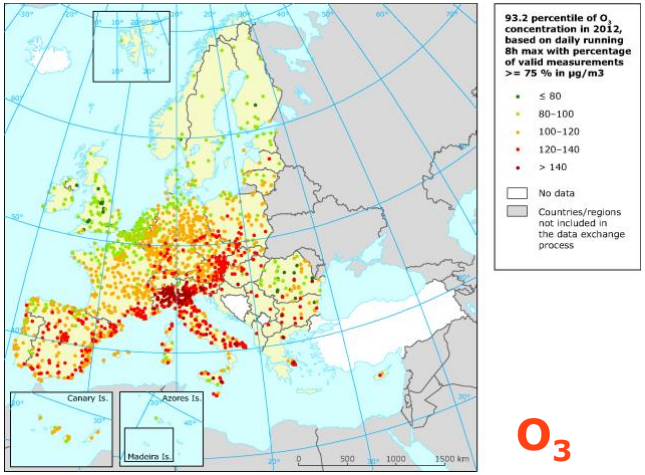
Where is air pollution a problem?



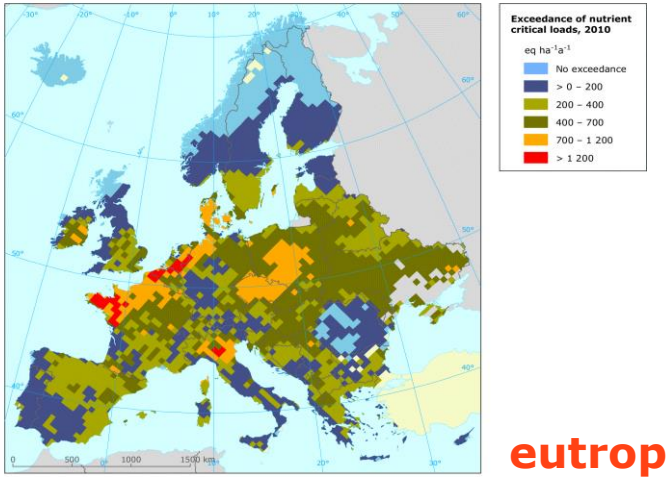
PM_{10}



NO_2



O_3

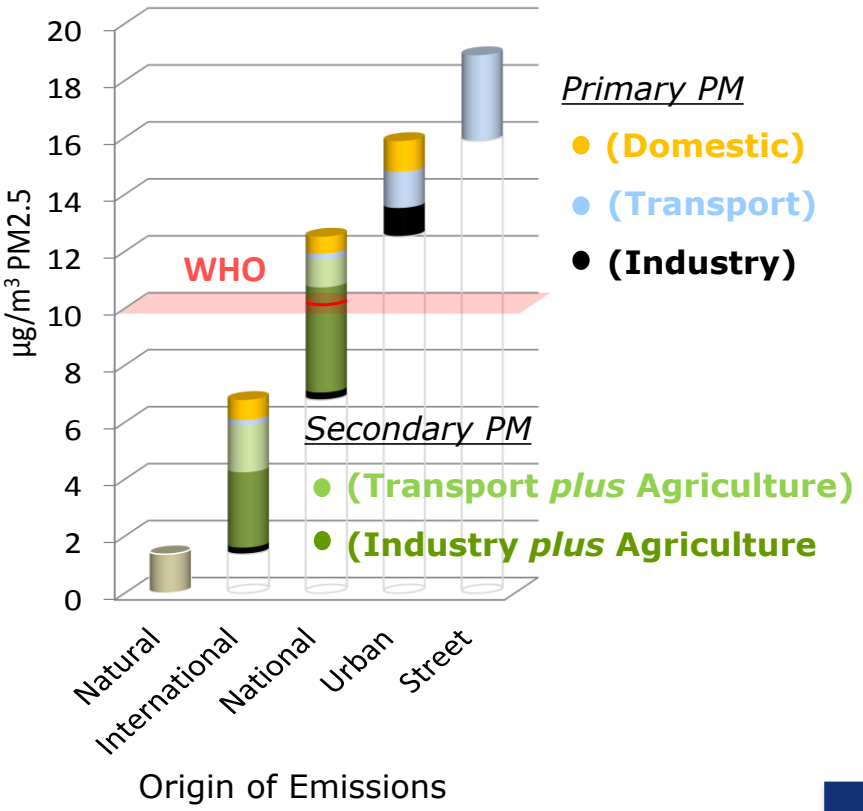


eutrophication

Who and what causes air pollution?

Particulate Matter ($PM_{2.5}$)

e.g. Germany, 2009 -



Sulphur dioxide (SO_2)

- Energy sector, Transport, …

Nitrogen oxides (NO_x)

- Transport, Energy, Industy, …

Ammonia (NH_3)

- Agriculture (Livestock & Fertilizers), …

Volatile Organic Compounds (VOC)

- Solvents, Paints, Transport, …

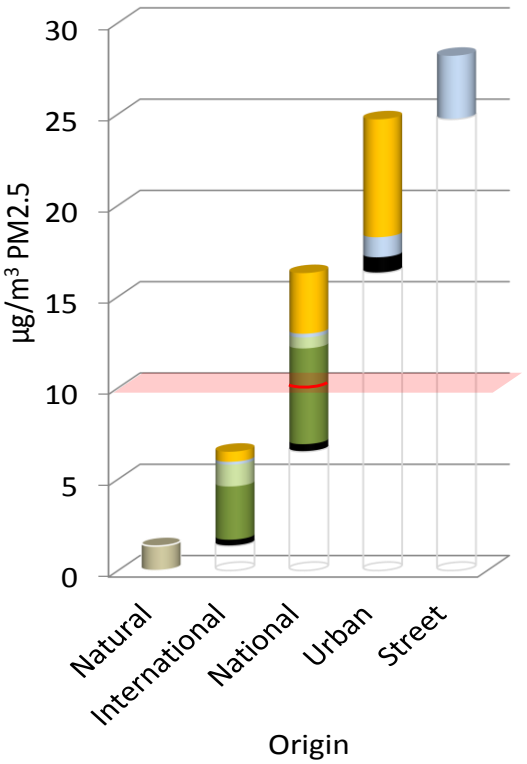
Methane (CH_4)

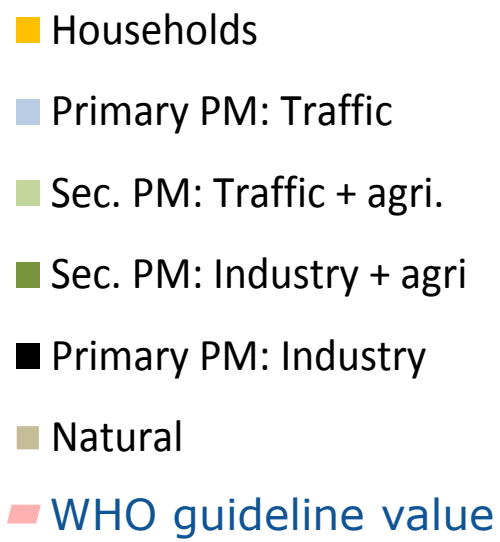
- Agriculture, Waste, Energy, …

Source(s): IIASA TSAP 12 Report (2014)

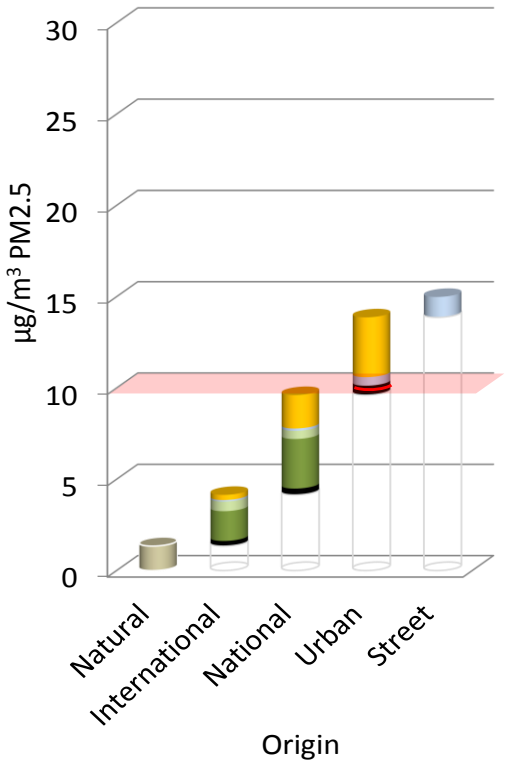
PM2.5 in Poland: average of 142 urban AIRBASE stations modelled in GAINS

2009





2030 Commission proposal



Source: IIASA GAINS (Kiesewetter et al., 2014)

Clean Air Policies in Europe – An Overview

The international context

- **UN ECE Convention on Long-Range Transboundary Air Pollution** (CLRTAP) and its Protocols (e.g. Gothenburg Protocol for 2010 and 2020)

The main European Union air policy instruments

- **Ambient Air Quality Directives** (AAQD): Maximum concentrations to be attained across the EU (SO2, NO2, PM10, benzene, lead, CO, O3, arsenic, cadmium, nickel, PM2.5 and BaP)
- **National Emission Ceilings Directive** (NECD): National emission inventories and caps to limit transboundary pollution (SOx, NOx, NMVOC, and NH3)
- **Source-specific performance standards**: Euro and fuel standards, Industrial Emissions Directive, energy efficiency standards, etc.

The main Member States air policy instruments

- Air Quality Plans & Programmes (AAQD)
- National Emission Inventories, Projections, and Measures (NECD)
- …

Clean Air Programme 2013 - Strategic Ambitions

Year	Health impact (premature deaths) reduction vs 2005	Ambient air quality standards and compliance
2020	33%	**Full compliance with existing ambient air quality legislation** (including NO2, PM10 and PM 2.5)
2030	**52%**	Most Member States would reach PM 2.5 levels below or close to the WHO guidelines of 10 µg/m3

Source(s): Clean Air Programme

Ambient Air Quality Directives

The Ambient Air Quality Directives requires Member States to have Air Quality Plans to keep exceedance periods as short as possible.

Regarding NO2: 19 Member States have reported excess levels in 2014, and infringement proceedings have already been opened against 9 Member States.

Regarding PM10: 16 Member States are facing infringement actions at various stages. First cases have been brought to Court.

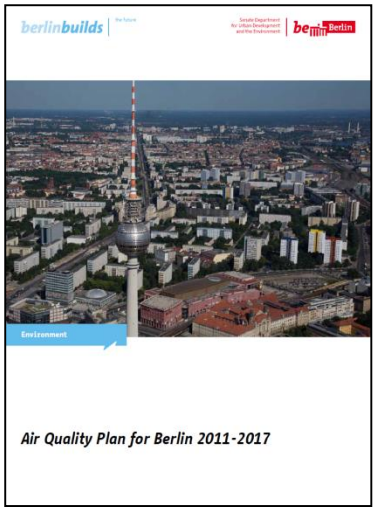
Regarding PM2.5: Annual limit value applies as of 1 January 2015.

Directive 'kept under review', with a view to revision once the NECD is agreed.

Source(s): AQ Portal, Clean Air Programme

Air Quality Plans and Air Quality Measures

Air quality plans are to be developed where there are exceedances, and shall include the following:



- General information and details on measuring stations
- Nature and assessment of pollution (incl. trends)
- Techniques used for air quality assessments
- Origin of pollution (incl. source apportionment)
- Details of measures and estimate of improvement of air quality planned, and the expected time required

Improving Air Quality

Emission sources: heating, transport, agriculture, industry, power generation

Options: reduction of emissions (preferred) and dispersion

Some important issues:
-subsidiarity
-relation with Air Quality Plans under Directive 2008/50/EC
-correct data on emission sources and concentrations (monitoring, modelling)
-horizontal and vertical coherence in policy development and implementation
-building on existing info, best practices and legislation
(e.g. EEA/ENV Air Implementation Pilot, LIFE projects, Ecodesign)
-dissemination
-quantification of effects (cost-benefit)
-stakeholders (cities, NGOs, citizens, …)

Improving Air Quality and the LIFE IP for Air

Some important characteristics:
-regional, national and international cooperation and dissemination
-excellent mobilisation of additional funding (e.g. from Structural Funds)
-good link with the development and implementation of Air Quality Plans
-building on existing info and best practices
-addressing energy and transport

Points of attention:
-energy efficiency (e.g. reducing heat demand in single houses reduces both PM and NO2)
-role of agriculture
-regional and local competences for addressing air pollution (e.g. LEZ, urban planning, conditional building permits, fuel control/ban, ….)
-tools and willingness to address local and regional hotspots for the best cost-benefit ratio
-synergies with other policies, e.g. urban planning

EU support for improving Air Quality

Financial

Generally co-funding:

-ESIF ("Structural Funds")

-LIFE (traditional projects and Integrated Projects)

-Horizon 2020 (e.g. transport, energy, health, climate action, agriculture)

Loans/financial instruments:

-EIB and EFSI ("Juncker Fund")

Information and dissemination

-EEA

http://www.eea.europa.eu/publications/air-quality-in-europe-2015

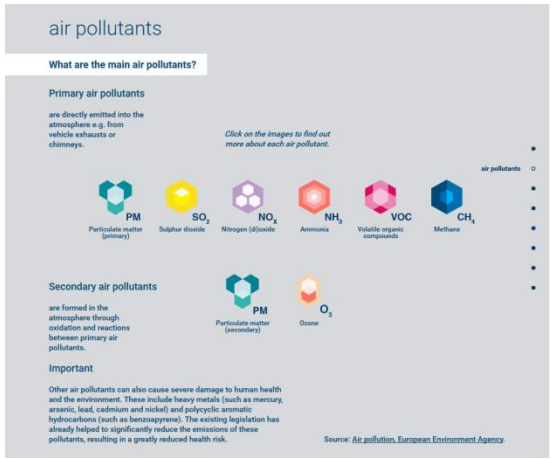
-LIFE and air quality brochure

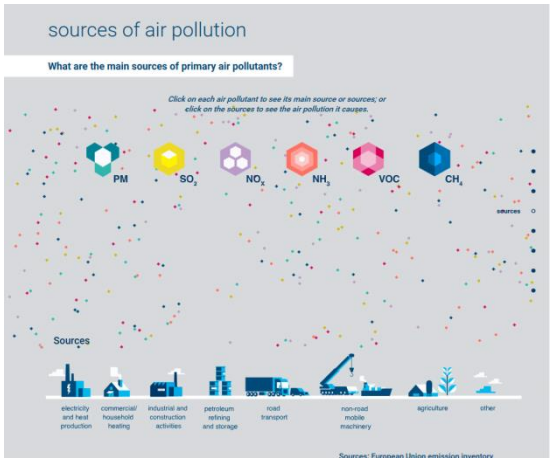
http://ec.europa.eu/environment/life/publications/lifepublications/lifefocus/documents/airquality.pdf

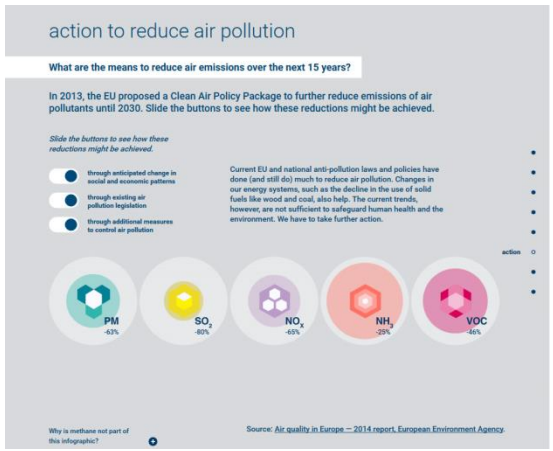
-Database of Air Quality measures (JRC/ENV)

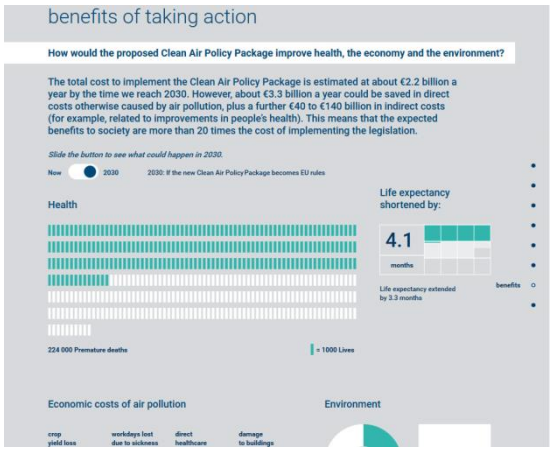
-Clean Air Forum (2017)

Cleaner Air For All Infographic









http://ec.europa.eu/environment/air/cleaner_air/index.html

More Information

http://ec.europa.eu/environment/air/

Feedback

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Thank you!

European Commission

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