



# **Air quality & the urban scale: the environmental challenge**

June 2017

European Commission  
DG ENV C.3  
Clean Air

# Increasing awareness of air quality urgencies

**BBC NEWS**

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Science & Environment

## Polluted air causes 5.5 million deaths a year new research says

By Jonathan Amos  
BBC Science Correspondent, Washington DC

© 13 February 2016 | Science & Environment | 04

Städtische Zeitung  
SZ.de Zeitung Magazin

5. Februar 2016, 18:48 Uhr Stickoxid-Emissionen

## Die Luft bleibt dreckig - mindestens bis 2030

Der Straßenverkehr ist hauptverantwortlich für die schlechte Luft in den Städten. Die Industrie sieht in modernen Euro-6-Dieseln die Lösung. Doch die sind nicht immer so sauber wie versprochen.

Analysen von Joachim Becker

EL PAÍS

ESPAÑA · Madrid

## La capital vulnera por sexto año seguido los límites de contaminación

El informe anual de Ecologistas en Acción concluye que en 2015 los niveles de contaminación han sufrido un incremento notable

- Las alertas por contaminación se vuelven cotidianas
- "Intentamos pasar muy poco tiempo al aire libre"

ESTHER SÁNCHEZ | Madrid | 12.ENE.2016 - 21:27 CET

Archivado en: Manuela Carmena, Contaminación atmosférica, Madrid, Comunidad de Madrid, Contaminación, Ayuntamientos, Problemas ambientales, Gobierno municipal

The Economist

World politics Business & finance Economics Science & technology Culture

## Choking on it

While Paris focuses on climate change, air pollution kills 400,000 Europeans a year

16c 5th 2015 | KRAKOW | From the print edition

N WIELICZKA, near Krakow, a handful of locals have gathered in a hotel conference

**M Pollutions** Le Monde.fr

PLANÈTE POLLUTIONS

## Nouveau pic de pollution à Paris

Le Monde | 20.01.2016 à 08h26 • Mis à jour le 20.01.2016 à 10h29

Le stationnement résidentiel est gratuit, mercredi 20 janvier à Paris, en raison d'un nouvel épisode de pollution atmosphérique. Airparif, l'association de

**Wojna ze smogiem** wyborcza.biz

Domonika Wantuch 01.02.2016 01:00

Najgorzej jakości węgiel i przestarzałe piece idą w odstawkę. Po Krakowie uchwał antysmogowych chcą władze Wrocławia i Legnicy, a marszałek Śląska przepisami antysmogowymi zamierza objąć ponad 160 gmin.

the guardian

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## London takes just one week to breach annual air pollution limits

Parts of the capital have already breached EU hourly limits for nitrogen dioxide pollution which causes thousands of premature deaths each year

Adam Vaughan  
@adamvaughan\_uk  
Friday 8 January 2016, 10:58 GMT

**DeMorgen**

Verkoop van wagens vergroent als gevolg van beleidsingrepen

## Vlamming kickt af van DIESEL

Verkoop van wagens vergroent als gevolg van beleidsingrepen

De Vlaamse regering stuurt een nieuw besluit uit dat de verkoop van dieselwagens zal dalen. Dit komt door de hoge kosten van de nieuwe emissie-eisen. De Vlaamse regering heeft ook een plan om de verkoop van wagens te vergroten als gevolg van beleidsingrepen.

## Why is air pollution a problem?

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; and more than 70.000 due to nitrogen dioxide.

1 out of 10 EU citizens in urban areas are exposed to particulate matter concentrations above the EU limit value; with 9 out of 10 above WHO guidelines.

Assessed against EU Limit Value

8-12 %



Assessed against WHO Guidelines

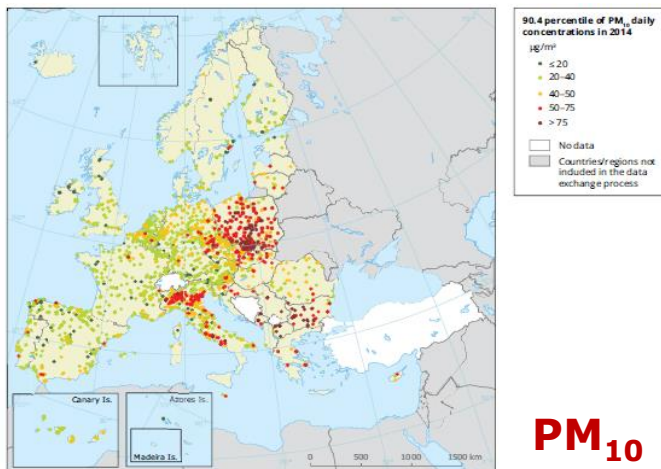
85-91 %



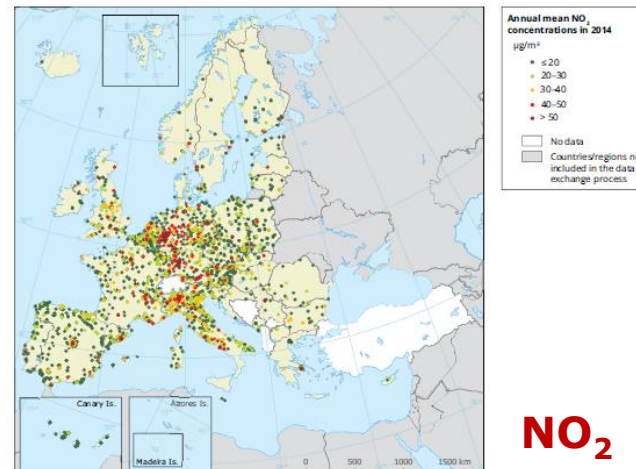
63%

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

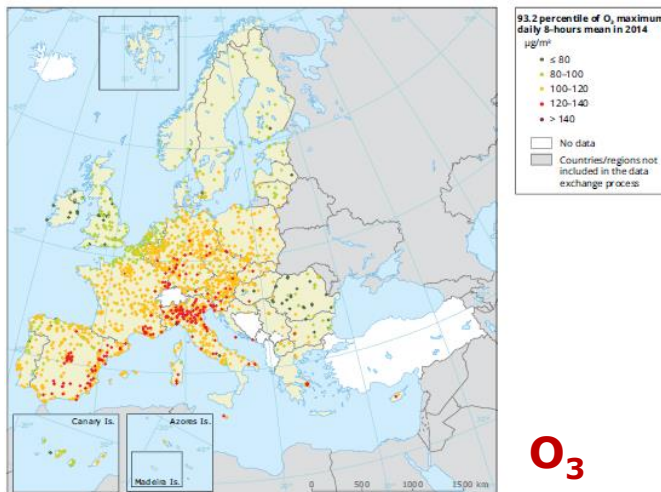
# Where is air pollution a problem?



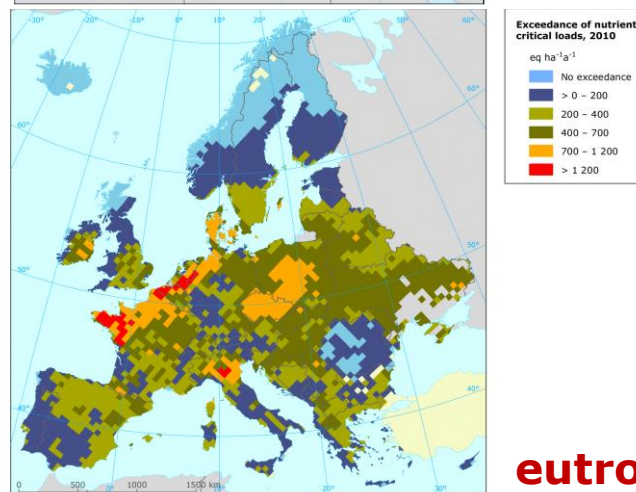
**PM<sub>10</sub>**



**NO<sub>2</sub>**



**O<sub>3</sub>**

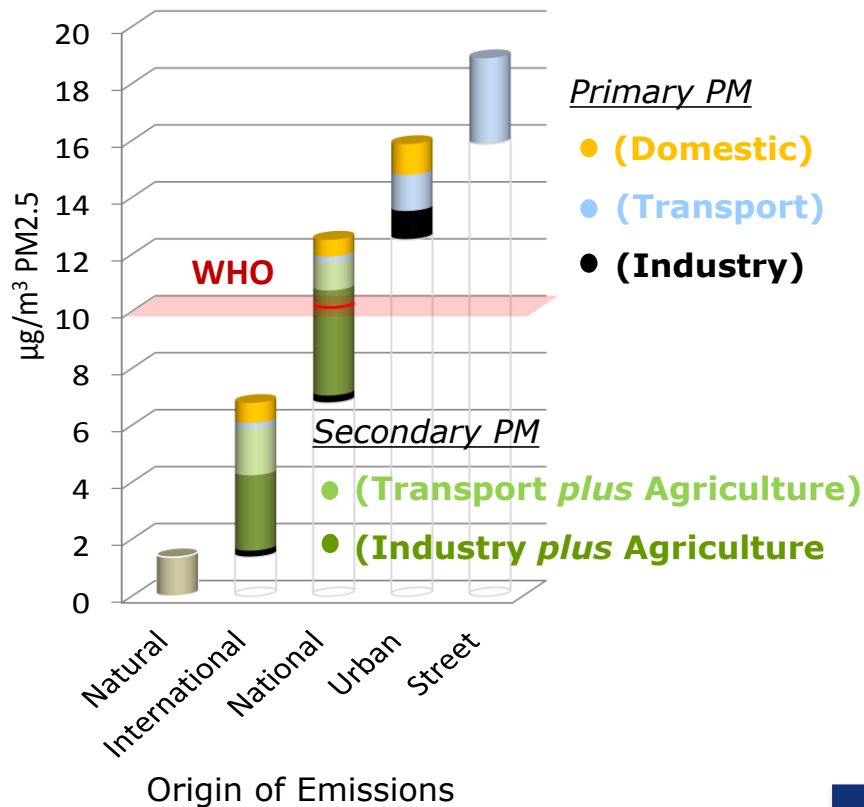


**eutrophication**

# Who and what causes air pollution?

## Particulate Matter (PM<sub>2.5</sub>)

e.g. Germany, 2009 -



## Sulphur dioxide (SO<sub>2</sub>)

- Energy sector, Transport, ...

## Nitrogen oxides (NO<sub>x</sub>)

- Transport, Energy, Industry, ...

## Ammonia (NH<sub>3</sub>)

- Agriculture (Livestock & Fertilizers), ...

## Volatile Organic Compounds (VOC)

- Solvents, Paints, Transport, ...

## Methane (CH<sub>4</sub>)

- Agriculture, Waste, Energy, ...



# Clean Air Policy 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 (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) + Directive EU/2015/1480 (NEW!)
- **National Emission Ceilings Directive (NECD)**: National emission inventories and caps to limit transboundary pollution (SO<sub>x</sub>, NO<sub>x</sub>, NMVOC, and NH<sub>3</sub>)
- **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)
- ...

## Ambient Air Quality Directive(s)

**Compliance gap** persists: in 2015, only 2 countries reporting no exceedance, and only 4 countries indicate compliance with all limit values.

Regarding **NO<sub>2</sub>**: 21 Member States with exceedances (more than 130 cities); infringement proceedings have been opened against 12 Member State.

Regarding **PM<sub>10</sub>**: 18 Member States with exceedances; 16 Member States are facing infringement actions. First cases have been brought to Court.

Regarding **PM<sub>2.5</sub>**: 8 Member States with exceedances.

Regarding **SO<sub>2</sub>**: 2 Member States with exceedances; 1 infringement ongoing.

## Air Quality Plans and Air Quality Measures

The Ambient Air Quality Directive requires Member States to have **air quality plans** to keep exceedance as short as possible:

- 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





## Clean Air Dialogues & Clean Air Forum

First **Clean Air Dialogue** planned with Ireland in Quarter 1 of 2017, others to follow (in 2017: Luxembourg and Hungary).

First **Clean Air Forum** planned for November 2017, likely a two-day event with 300 participants and including a high-level segment in Paris. Focus:

- air quality in cities
- air pollution from the agricultural sector
- clean air business opportunities.

Discussion also cross-cutting topics, such as governance, knowledge base, funding mechanisms, air pollution and climate change, and foresight.



# CLEAN AIR FORUM


16 and 17 November 2017  
Paris, France

REGISTER NOW!



## Clean Air Forum, 16 and 17 November 2017, Paris, France

### About the conference

 [Register here](#)

Clean air is essential for healthy living. The European Union is working to ensure that every citizen can breathe without risking their well-being. Progress has been made over the past decades, but more needs to be done still.

For now, air pollution remains to be the number one environmental cause of premature deaths in the European Union. Estimates show that air pollution is causing more than 400 000 premature deaths each year. Besides this, millions of Europeans suffer from respiratory and cardiovascular diseases caused by air pollution. The economic costs of air pollution in the EU are well over €20 billion a year.

The [European Commission](#) is committed to address air this, and to achieve levels of air pollution which do not give rise to significant negative impacts on or risks to on human health and the environment.

## EU Urban Agenda: Air Quality Partnership

**EU Urban Agenda** key objectives: include urban dimension in policies, involve cities in the design, mobilise cities in the delivery

**Air quality** theme lead by NL, with CZ, HR, PL London, Helsinki, Utrecht, Milano, Constanta + COM & stakeholders (Eurocities, HEAL, URBACT, ...)

### **Focus:**

1. Modelling city specific situation
2. Mapping regulatory instruments and funding in the EU
3. Air quality best practices
4. Guidelines for cities air quality action plans.

## EU Urban Agenda: Air Quality Partnership

The Partnership will formulate **reflections** for policy, for funding and for the underpinning knowledge base.

These reflections **may serve as input** for future evaluation of EU legislation, (financial) instruments and research in the air quality context.





## Ambient Air Quality Directive(s) – a Fitness Check

In 2013, the European Commission carried out a **review of EU air policy**.

This indicated that the Ambient Air Quality Directives and the corresponding EU limit values will be **kept under review**, with a view to revision once the NEC Directive has set background concentrations on the right downwards track.

An **Evaluation / Fitness Check** is a pre-requisite for any review consideration.

We are now looking to initiate a Fitness Check of the two Air Quality Directives and related reporting. But we do not expect to start before the end 2017 with a view to finalise such Fitness Check **by end 2019**.

## Some reflections ...

Public (and political) awareness of **air quality challenge** has increased – but substantial .

Reducing air pollution effectively requires **close cooperation** between different societal actors and across governance levels (EU, national, local).

Dialogue is key: for example via a European Clean Air Forum, bespoke Clean Air Dialogues with Member States and/or platforms like the **EU Urban Agenda**.

Air quality management, spatial planning and traffic management play a key role in improving local air quality – but cities require support to implement.





## More Information

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

## Feedback

[ENV-AIR@ec.europa.eu](mailto:ENV-AIR@ec.europa.eu)

## Thank you!

European Commission

DG ENV C.3

Air