



# Ambient Air Quality Directives

## Fitness Check

February 2018

European Commission  
Clean Air



## Air pollution in Europe - Overview

**Europe's air quality** is slowly improving, but fine particulate matter and nitrogen dioxide in particular continue to cause serious impacts on health.













Estimates point to about **400.000 premature deaths** in EU-28 each year due to particulate matter and 75.000 due to nitrogen dioxide

Air pollution is estimated to causes at least **€ 24 billion per year** in direct costs; add to this estimates of €330 billion to € 940 billion per year in indirect costs (e.g. related to reduced life expectancy or broader societal impacts).

63%

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

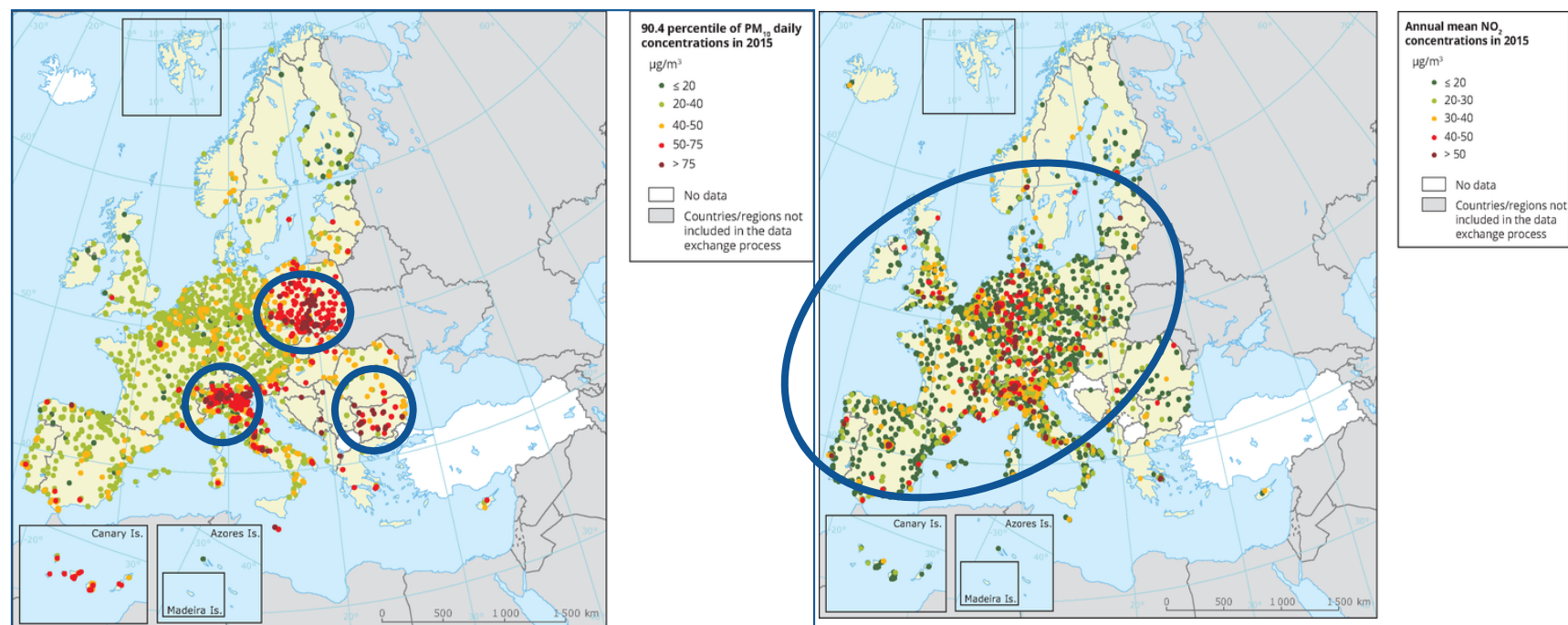
# Air pollution in Europe – Health dimension

	EU urban population exposed to air pollution above EU standards	EU urban population exposed to air pollution above WHO guidelines
<b>PM<sub>2.5</sub></b>	7–8 % 	82–85 % 
<b>PM<sub>10</sub></b>	16–20 % 	50–62 % 
<b>O<sub>3</sub></b>	7–30 % 	95–98 % 
<b>NO<sub>2</sub></b>	7–9 % 	7–9 % 
<b>BaP</b>	20–25 % 	85–91 % 
<b>SO<sub>2</sub></b>	<1 % 	20–38 % 

## Air pollution in Europe – A widespread issue

**PM10 exceedances:** often linked to fuel combustion (i.e. energy, heating)

**NO2 exceedances:** often linked to traffic, in more than 130 cities in EU.



## Improving Air Quality – Effective Measures



Boosting **energy efficiency**  
by refurbishing buildings



**City or district heating**, using  
heat from existing industry or  
renewable energy sources

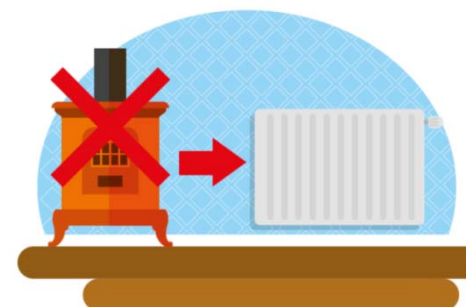
Examples for  
**PM<sub>10</sub>**



Reliable, affordable and clean  
**public transport** such as electric  
buses and trams and new Euro VI



Implementing **cleaner**  
**industrial processes**



Promoting substitution of old, dirty **stoves and**  
**boilers** with clean models, and banning **dirty**  
**fuels for household heating/cooking**



## Improving Air Quality – Effective Measures



Reliable, affordable and clean **public transport** such as electric buses and trams and new Euro VI



**Traffic restrictions** such as low-emission zones, reduced speed limits and congestion charges

### Examples for **NO<sub>2</sub>**



Extensive and safe **cycling networks**, abundant bike-parking facilities with easy access to public transport



Implementing **cleaner industrial processes**



**Cleaner transport** such as electric cars or buses and **retrofitted dirty vehicles and ships**

## Improving Air Quality – Success Stories

### Example – **Urban vehicle access restrictions (UVARs)**

- Low emission zones or other types of UVARs in several cities limit access for polluting cars
- So far, focussed on PM<sub>10</sub> emissions; they have been successful
- **Option also for NO<sub>2</sub>?**

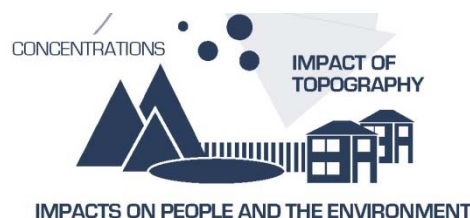
### Example – **Retro-fitting (or new) city bus fleets**

- Several cities achieved NO<sub>x</sub> emission reductions with new electric buses or retrofitted buses
- Simple, cost-effective solutions exist (e.g. by adding special filters)
- **Option for more cities?**

### Example – **Promoting more efficient boilers**

- EU funding is available and being used to replace thousands of boilers every year
- This measure helps improve air and reduce heating cost for citizens
- **Option to accelerate?**

# EU Clean Air Policy – The policy framework

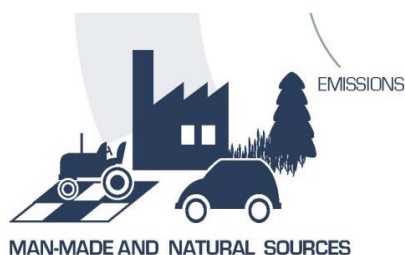


## Air Quality Directives

Maximum concentrations of air polluting substances

CONCENTRATIONS

EMISSIONS



### National Emission Ceilings Directive

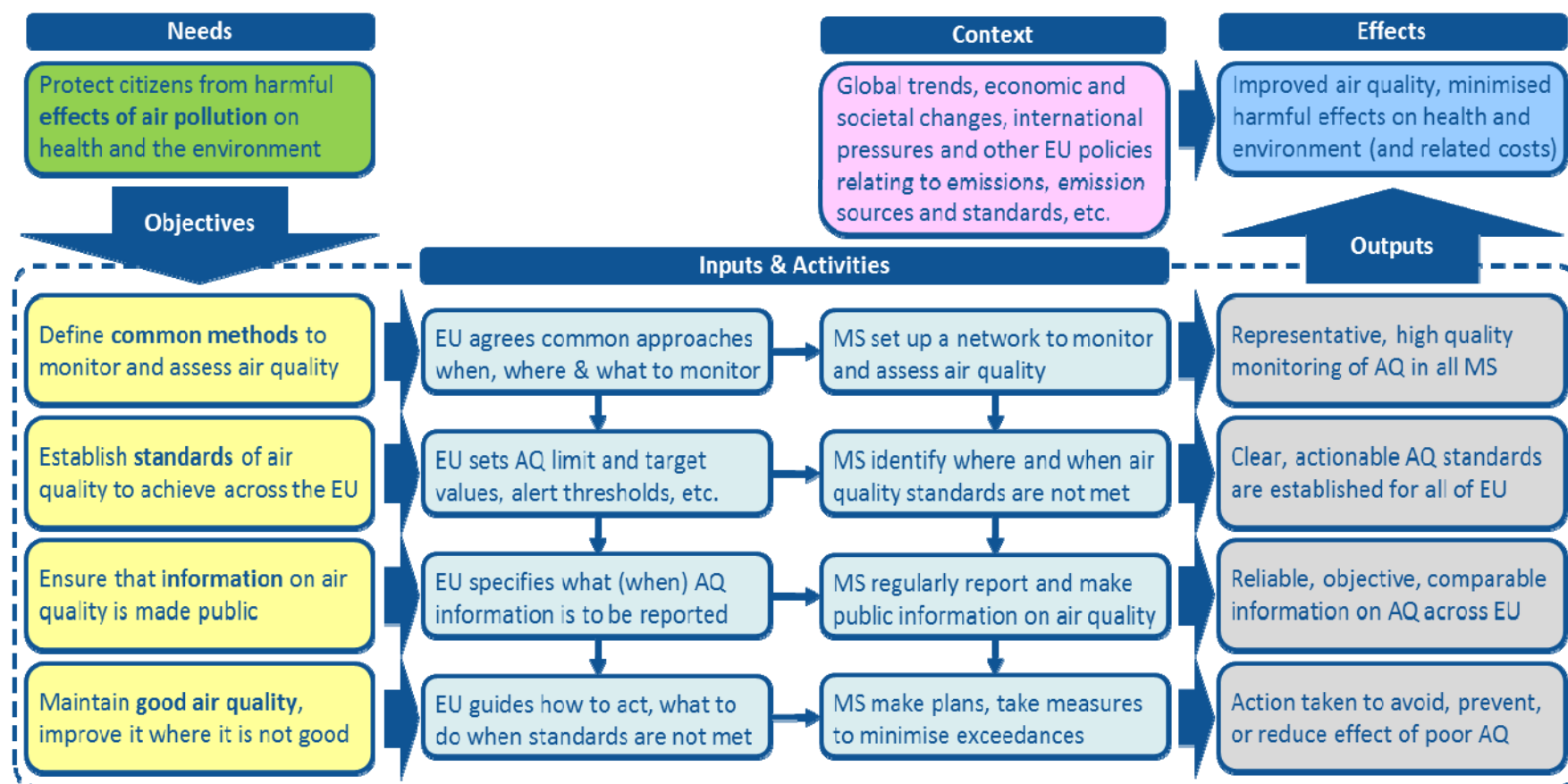
National emission totals  
(SO<sub>2</sub>, NO<sub>x</sub>, VOC, PM<sub>2.5</sub>, NH<sub>3</sub>)

### Source-specific emission standards

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



# EU Clean Air Policy – The Air Quality Directives





## Fitness Check – Focus

This fitness check will look at two complementary EU Ambient Air Quality Directives, i.e. **Directives 2008/50/EC** and **2004/107/EC** – see Roadmap of August 2017.

*Important:* A fitness check is a **retrospective exercise** – to assess what has happened and looks at what caused any change and how much might reasonably be credited to EU action. This particular fitness check will focus on the period **2008 to 2018**.

Key question of this **evidence-based critical analysis** is whether EU actions are fit for purpose and delivering as expected – to identify learning points to guide future action.





## Fitness Check – Five evaluation criteria

**Relevance:** e.g. to what extent do the Directives (still) set appropriate objectives, and set air quality standards to protect health in accordance with scientific understanding?

**Coherence:** e.g. to what extent are the Directives coherent internally, between each other, as well as with the overarching EU air quality policy approach?

**Effectiveness:** e.g. to what degree have the Directives acted as an incentive to implement effective and cost-effective measures to improve air quality?

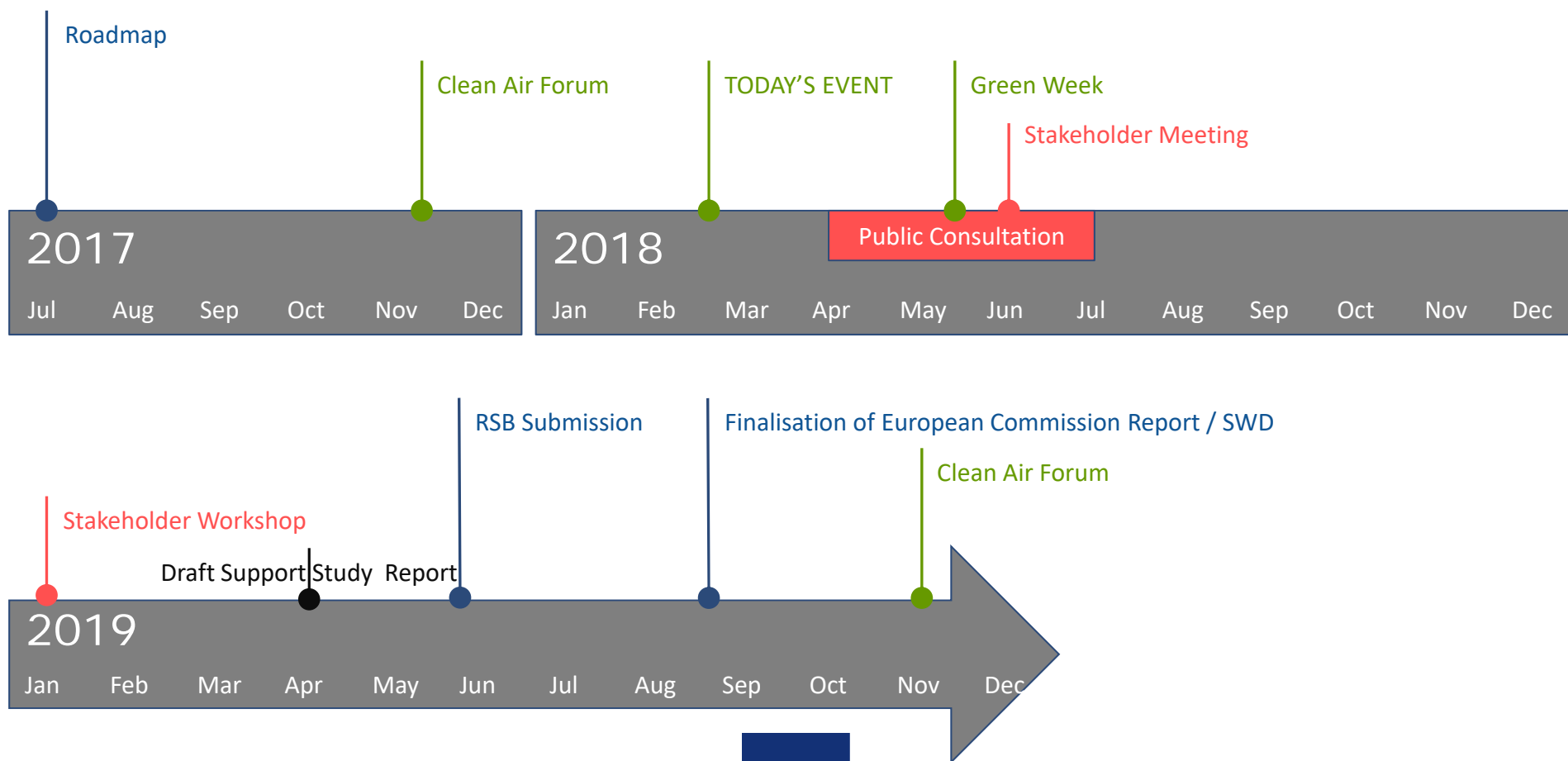
**Efficiency:** e.g. to what degree do the benefits of improved air quality justify the costs, and have been significant differences in costs (or benefits) between actors?

**EU value added:** e.g. to which degree have common EU air quality standards and comparable monitoring, reporting and assessment regimes enabled better action?





# Fitness Check – Our timeline





## Some concluding reflections

Public (and political) awareness of **air quality challenge** has increased – but substantial implementation and compliance gaps remain across the EU.

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

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

With the on-going Fitness Check we are seeking to understand what works well, and what could work better: **whether the Directives are fit for purpose.**





## More Information

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

## Feedback

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

**Thank you!**

European Commission  
Clean Air