



clean air

Ecological assessment of EU regulation on air pollution in ports



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NABU e.V.



- German Nature and Biodiversity Conservation Union
- 540.000 members
- Member of Birdlife International
- Denmark: DOF



Air pollution in ports: What is the problem?



- Particulate Matter (PM)
- Black Carbon (BC)
- Sulfur dioxides (SO_2)
- Nitrogen oxides (NO_x)



Consequences of air pollution for Europe

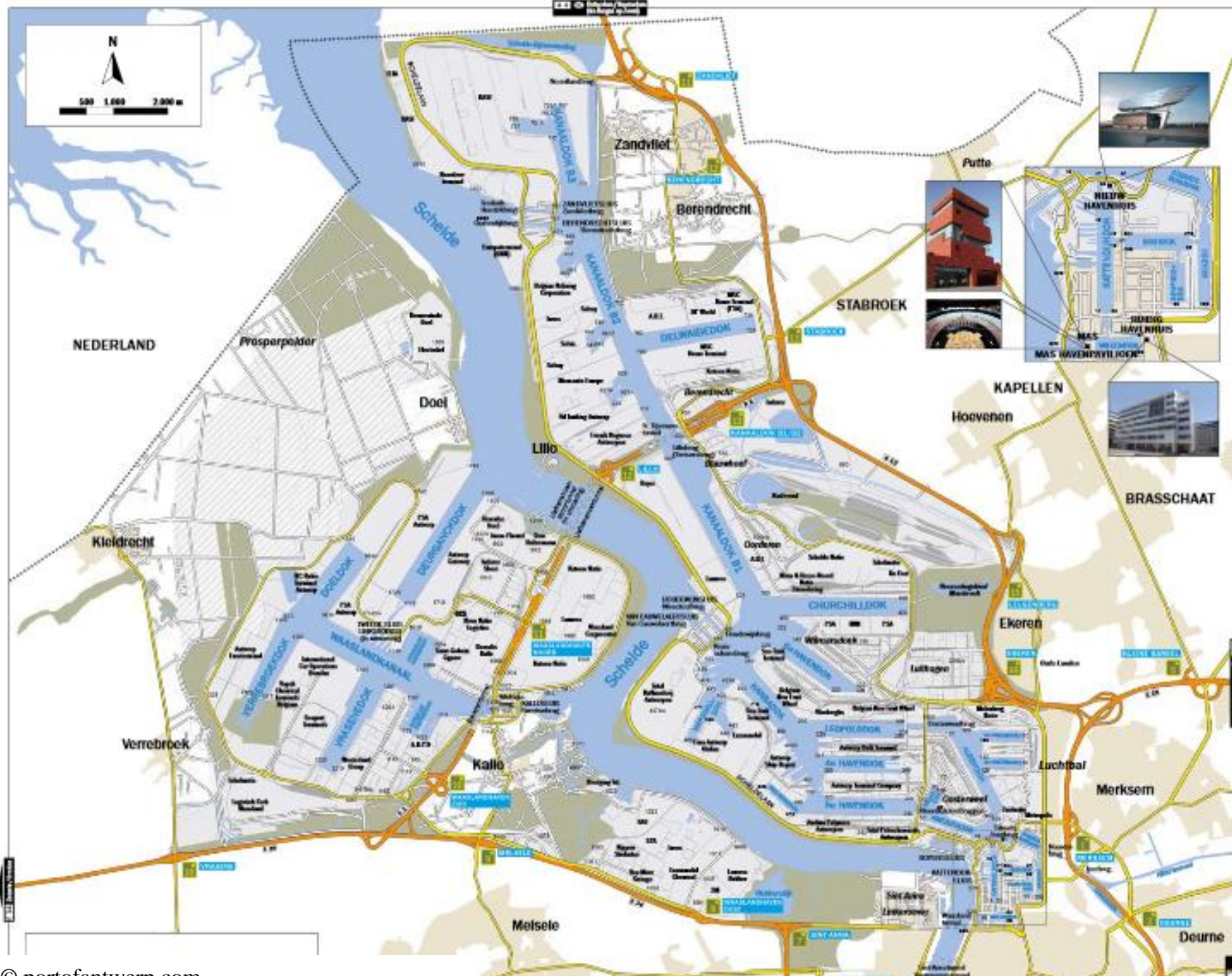
- Health
- Climate
- Environment

Air pollution in Europe



- 90% of people living in European cities exposed to extremely harmful air pollution levels
- EU: 400,000 premature deaths p. a. due to poor air quality
- estimated health cost €766 billion

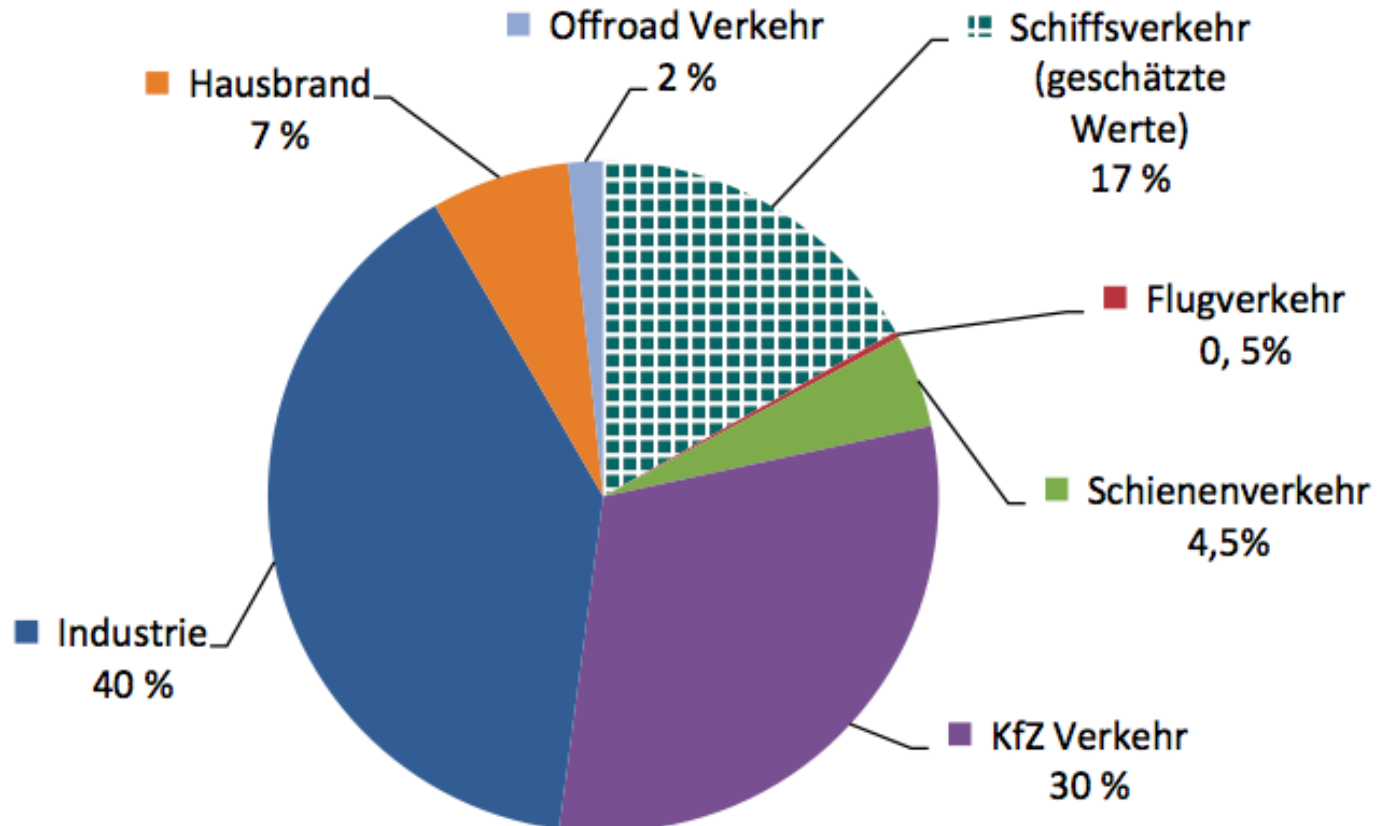




Hamburg: Sources of Emissions



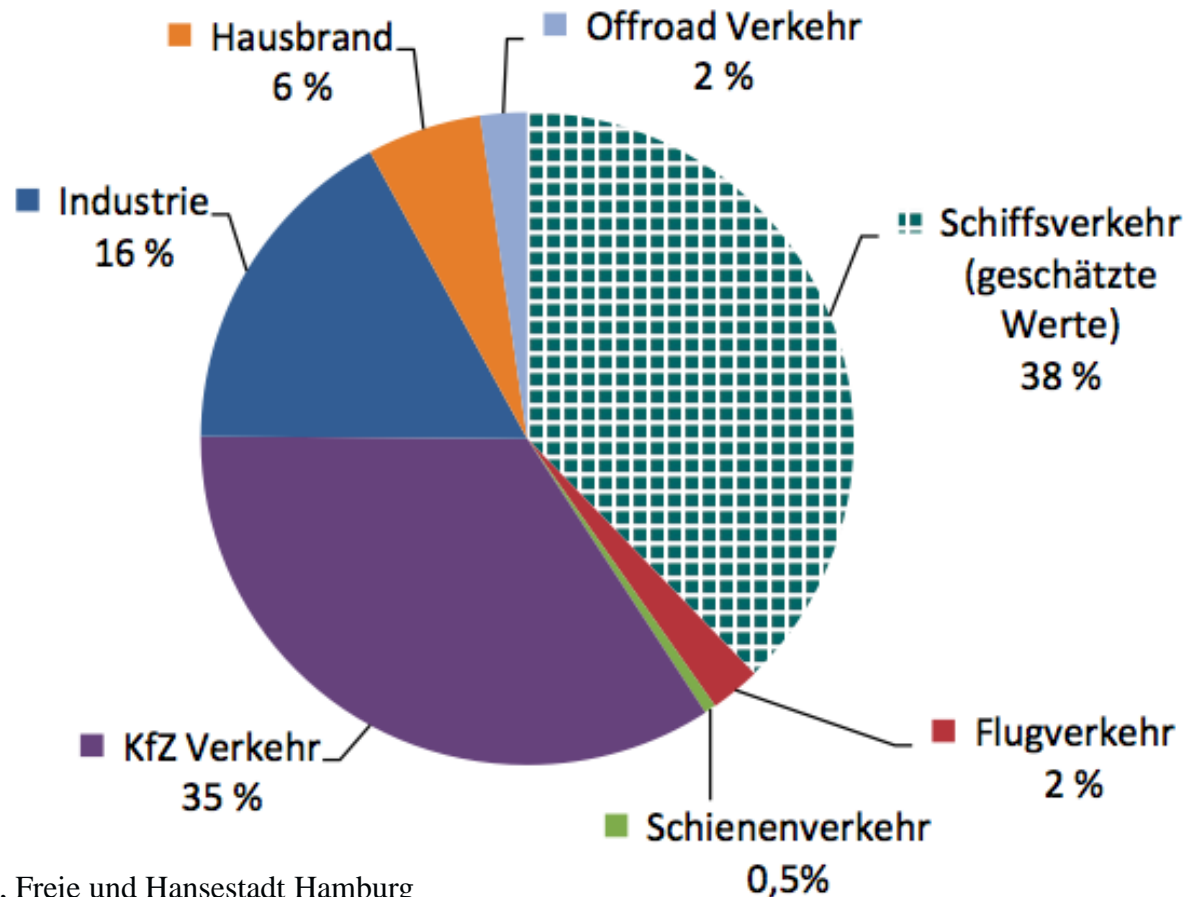
Feinstaub (PM₁₀)



Hamburg: Sources of Emissions



Stickoxide (NOx)



Stakeholders in Ports



- Administrations
- Port authorities
- High sea shipping companies
- Terminal operators
- Logistic companies
- Industry
- Public transport
- Utilities



EU legislation for clean air



The European Ambient Air Quality Directive

AQD (2008/50/EC)

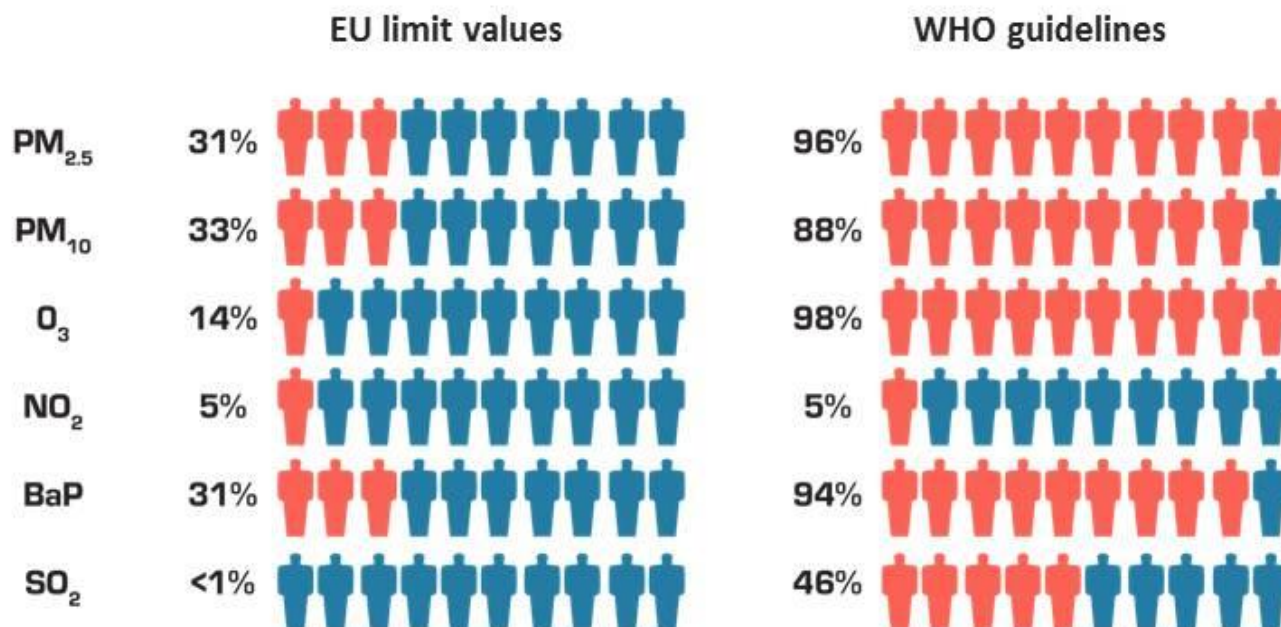


- sulphur dioxides
 - nitrogen dioxide and oxides of nitrogen
 - PM10
 - PM2.5
-
- lead
 - benzene
 - carbon monoxide



Europeans' exposure to harmful levels of air pollution

EU urban population exposed to harmful levels of air pollution in 2011, according to:



Up to a third of Europeans living in cities are exposed to air pollutant levels exceeding EU air quality standards. And around 90 % of Europeans living in cities are exposed to levels of air pollutants deemed damaging to health by the World Health Organization's more stringent guidelines.

Air pollution data for Denmark (2010)



- **Aggregated health damage
€ 2,5 – 7,5 billion/year**
- **Premature deaths from air pollution in 2010:
3165**
- **Premature deaths in the year 2030 after
implementation of the Commission's proposal:
2029**

Source: Cost-benefit Analysis of Final Policy Scenarios for the
EU Clean Air Package, March 2014



The European Ambient Air Quality Directive



- sulphur dioxides
- nitrogen dioxide and oxides of nitrogen
- PM10
- PM2,5
- lead
- benzene
- carbon monoxid

Limits lack ambition and still get breached

Revision needed



The European National Emission Ceilings Directive



- sulphur dioxides
 - nitrogen dioxides
- volatile organic compounds
 - ammonia



The European National Emission Ceilings Directive



- sulphur dioxides
- nitrogen dioxides
- volatile organic compounds
- ammonia

**Emission reduction targets too low
Postponement to 2030**



EU legislation for clean air

☹ Air Quality Package

Emission reductions not ambitious enough

Many member states do not comply
and face legal consequences



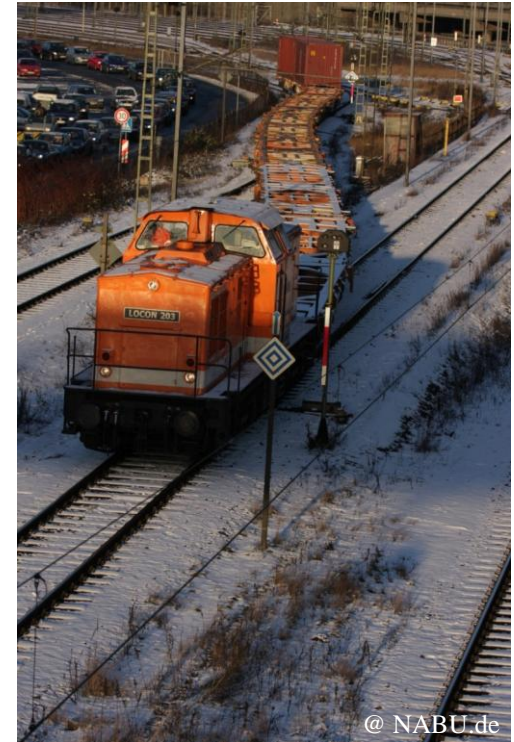
EU legislation for clean air: single emitters



Emitter	Directive on
Ocean going vessels	Sulfur content of marine fuels
Port equipment	Emissions of non-road mobile machinery
Trains	Emissions of non-road mobile machinery
Inland ships	Emissions of non-road mobile machinery
Trucks	Emission of gaseous and particulate pollutants from compression-ignition engines
Cars	Emissions from light passenger and commercial vehicles



EU on Non Road Mobile Machinery



EU homework: NRMM

Strict PN limits

Alignment with EURO VI



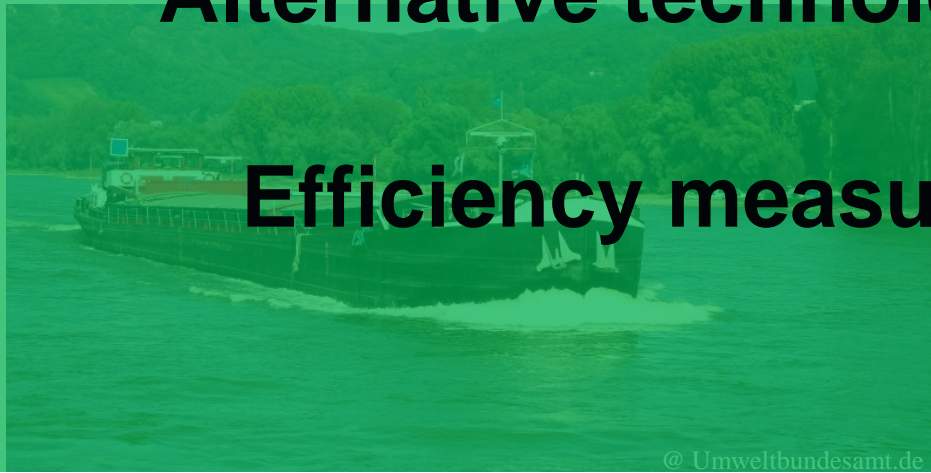
What ports can do: NRMM

Incentives for/ demand diesel particulate filters

Alternative energies

Alternative technologies

Efficiency measures



EU on Trucks



EU homework: Trucks

**Test cycle and
real world emissions must match**



What ports can do: Trucks

Incentives for clean trucks / ban dirty trucks

Test cycle and real world emissions don't match

Optimize traffic flow

Optimize arrival and departure

EU on ocean shipping



EU homework: Ocean shipping

Enforcement of 2015 limits

Speed limits

PM and BC control

Reduction to 0.005 percent sulfur

SECAs / NECAs all around Europe

What ports can do: Ocean shipping

Ecological Port Fees

Restrictions

LSF

Slow steaming

OPS

Take – home message



- Overall EU strategy too weak
- Some good EU directives and legislation
- Ports can do more
- Many measures are cost efficient
- More support by politics





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Thank you for your attention!

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