

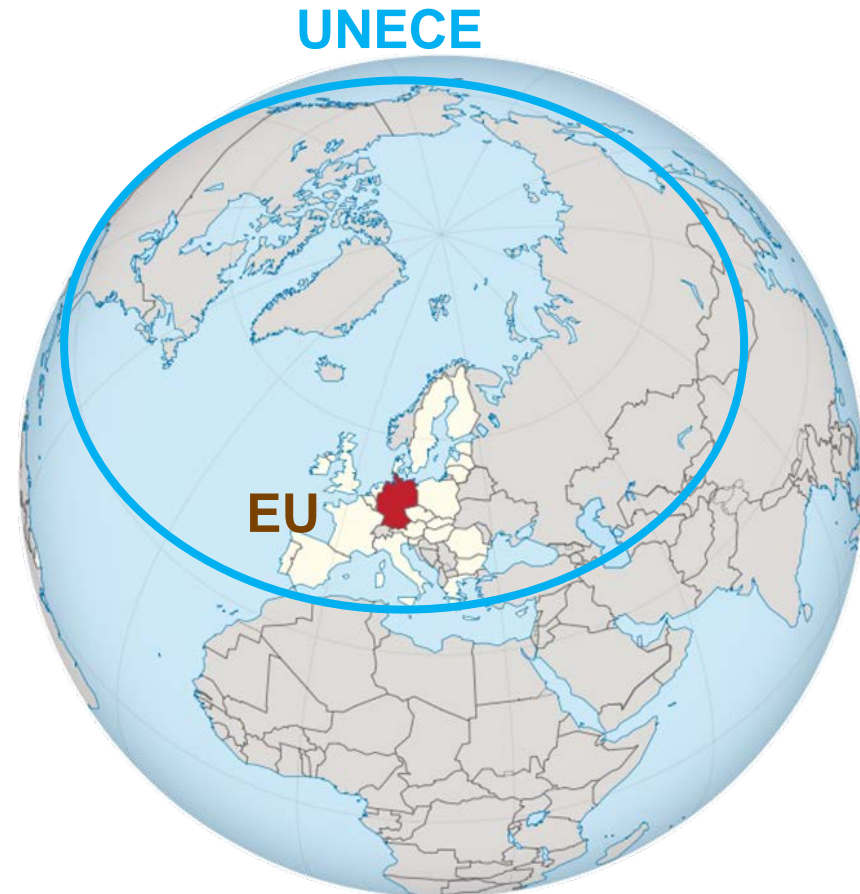


Air quality policy at different governance levels – Germany and Europe

Dr. Till Spranger

*German Federal Ministry for the Environment, Nature Conservation
and Nuclear Safety*

*with special thanks to
Susanne Lindahl (EU COM)*





Local/regional, 1960s:

Poor ambient air quality in the Ruhr Area

Smog episode 3 - 7 Dec 1962

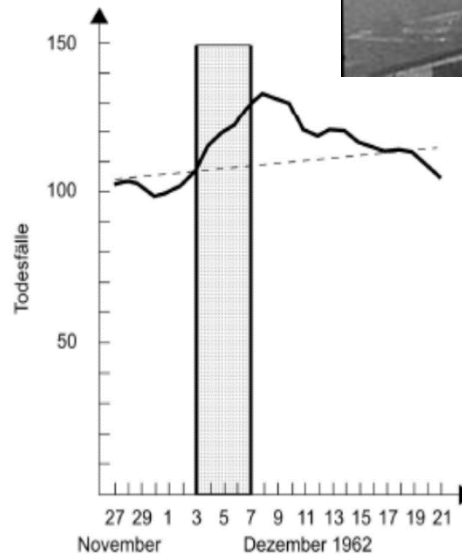
SO₂ (24h): 5 mg/m³

(Bochum, 6 Dec. 1962)

TSP (24h): 2400 µg/m³

(Bochum, 5 Dec. 1962)

Increase of deaths by 30 %



Deaths in Ruhr Area
27 Nov. - 21 Dec. 1962
(moving average over 7 days;
source: Brockhaus, 1966)

Willi Brandt, later W German
Chancellor (1961):

“Ruhrgebiet skies must become
blue again”

Further smog episodes:
1/1979; 1/1982; 1/1985, 1/1987



Germany: Regional and national regulations

- **Federal state** regulations
 - Smog ordinance (1963) in Northrhine-Westphalia (including Ruhr Area) with 3 amendments
 - Reduction of emissions from certain industry sectors and domestic heating
 - Clean air plans (from 1975 →)
- **National** legislation
ambitious emission limit values and ambient air quality standards
 - **Clean Air Act** (BImSchG, 1974): **federal regulations but state level implementation**
 - 1st (1964) to 4th (2002) Technical Instruction on air quality control (**TA Luft**), presently under comprehensive review again
 - More than 40 **ordinances** on all relevant sources, inter alia on small combustion installations, large combustion plants, and waste incineration
 - **Further development of regulations increasingly determined by EU legislation**



Principles of air pollution control in Germany

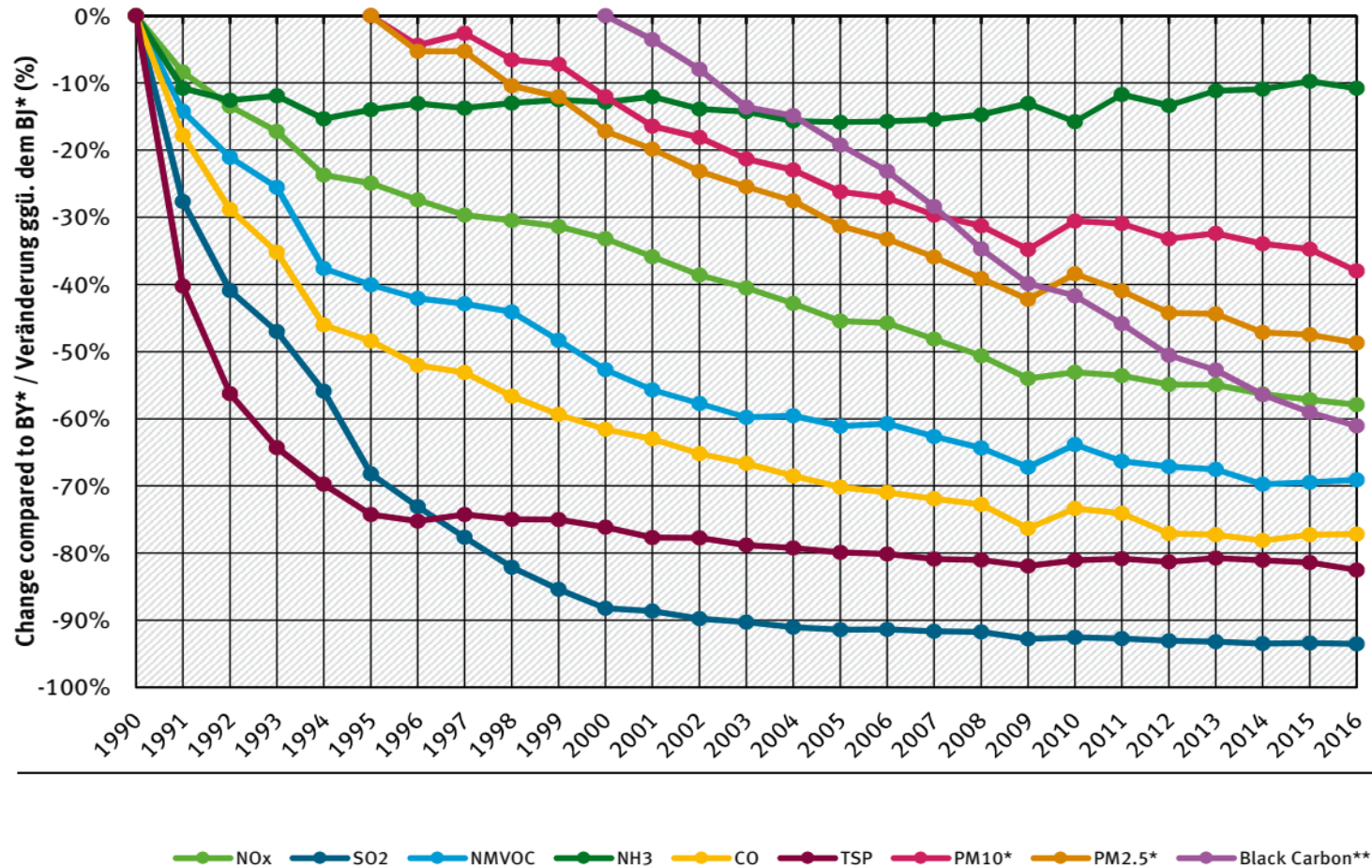
1. Description of **protection levels** – ambient quality requirements
(maximum tolerable levels of pollutants in different media) **EU / National**
2. Setup of **permitting scheme**
(not only for major installations) **National**
3. Description of **best available technology** – prevention requirements
(Emission limit values, methods for compliance) **EU / National**
4. Highly competent **implementing administration** **State / Local**
5. Transparent **procedures**
(strong momentum to achieve acceptance for installations) **EU / National**
6. Involvement of **stakeholders** and **general public** in plans and projects
National / State / Local
7. Right of recourse to the **courts**
(for operators and other parties, e.g. environmental NGOs)
National / State / Local



German air pollutant emissions 1990-2016 (index)

Air Pollutants / Luftschadstoffe

Emission Trends / Emissionstrends



* Base Year (BY) 1990, 1995 for PM10/PM2.5 /
Basisjahr (BJ) 1990, 1995 für Feinstaub

** Black Carbon emissions from 2000 / Black
Carbon Emissionen erst ab 2000



Air quality is strongly impacted by transboundary pollution

(1) German emissions deposited outside Germany (%)

SO_x	NO_y	NH_x	PM_{2,5}
55	76	50	ca. 50

(2) Deposition of air pollutants in Germany caused by emissions from outside Germany (%)

SO_x	NO_y	NH_x	Primary PM_{2,5}	Secondary PM_{2,5}
48	57	26	ca. 50	ca. 60

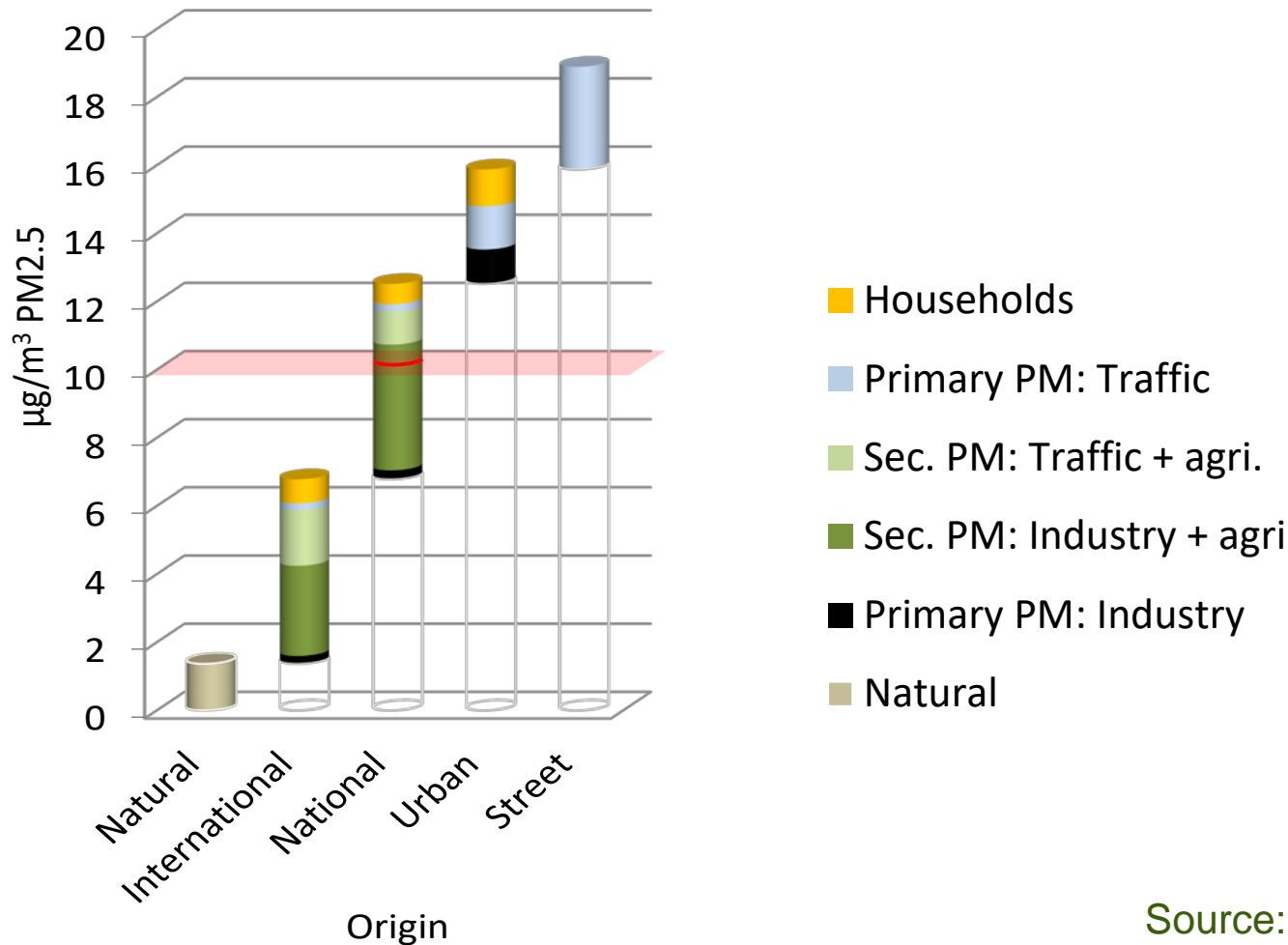
Source: MSC-West



(3) Origin and source of local PM_{2.5} concentrations

2009

Germany (urban stations)



Source: IIASA
GAINS

EU air policy framework



Ambient Air Quality Directives

Maximum concentrations of air polluting substances

(PM₁₀, PM_{2.5}, SO₂, NO₂, CO, O₃ + 6 more)

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)



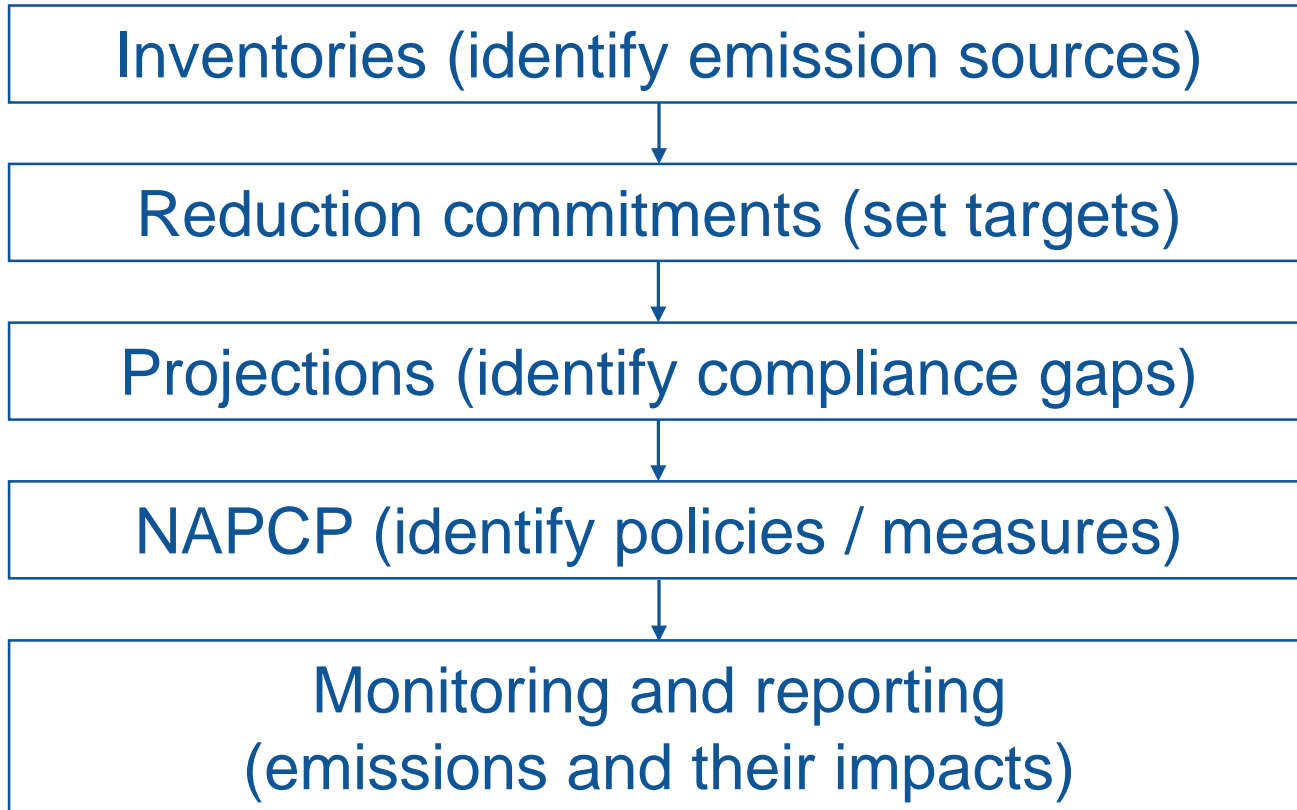
EU-28 reduction commitments
2005 - 2030

Source-specific emission standards

- Industrial Emissions Directive
- MCP Directive
- Eco-design Directive
- Energy efficiency
- Euro and fuel standards



Implementation of the NEC Directive





International AP governance

The UNECE Air Convention

- Framework Convention (1979) with 8 Protocols (1985 - 2012)
- Protocol annexes with technical standards, emission reduction commitments etc. for several pollutants
- Close cooperation between science and policy
- Effects-based approach; multi-pollutant, multi-effect
- Provides inputs (methods, data) inter alia into EU air policy



UNEA Resolution 3/8

“Preventing and reducing air pollution to improve air quality globally” (2017)

- Detailed recommendations to UN member states, other stakeholders (including the World Bank) and UN Environment, inter alia
 - establishing national monitoring, legislation, implementation
 - using synergies across sectors and policies
 - regional and interregional/global cooperation.

In support of this UNEA Resolution, the UNECE Air Convention’s Executive Body will launch the

- **Forum on International Cooperation on Air Pollution** on 11/12 December 2019 in Geneva, Switzerland

General conclusions / recommendations

- 1) A useful definition of „airshed“ depends on the spatial scale of the air pollution problem
 - From a European perspective, this means that for **PM_{10/2,5}** **the most relevant airshed is supranational (Europe)**
*...and for long-term background tropospheric ozone, POPs, Hg = (Europe/)
hemispheric*
- 2) The airshed should define the main governance level
 - In Europe, the main air pollution governance focus has moved from local/regional to national to transnational.
 - Implementation depends on the measures, instruments and legal setting, and can be mainly local / regional.
- 3) Consider UNEA Resolution 3/8 when designing national and international policies on air pollution abatement
- 4) Consider joining the Forum on International Cooperation on Air Pollution



Thank you for your attention!

till.spranger@bmu.bund.de