



*Sustainable Urban Energy - Low-Level Emission Reduction*

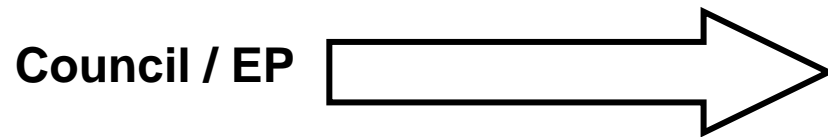
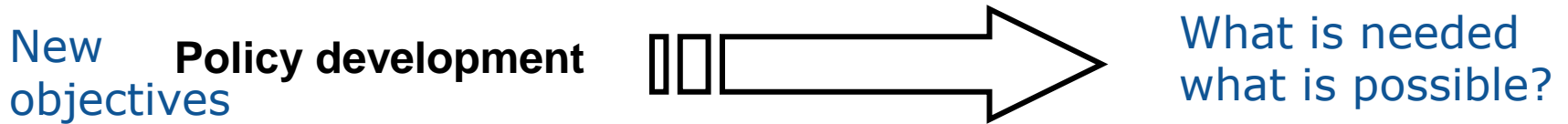
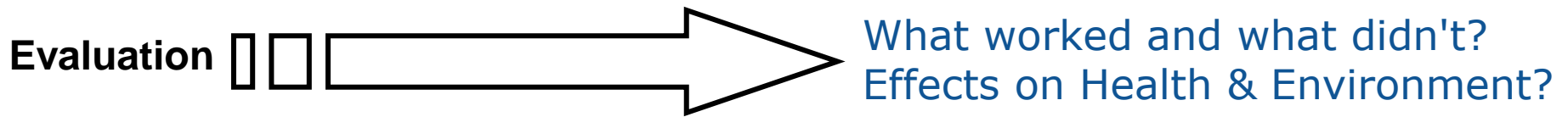
# **Air Quality policies and initiatives at EU level**

*From a perspective of PM emissions in Poland and Silesia*

*Guido DE WILT  
Policy officer  
ENV.C3 Industrial Emissions and Air Quality*

*EU Sustainable Energy Week,  
Committee of the Regions,  
27 June 2013, Brussels*

# The Air Quality policy review process



**Online consultations**



**Stakeholder meetings**

x

x

x

x

x

2011

2012

2013

# What is the current policy framework?

## ***The International Air Quality Policy Framework***

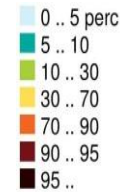
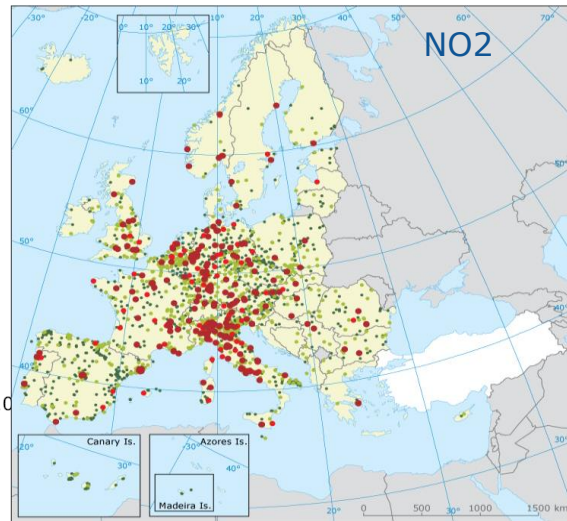
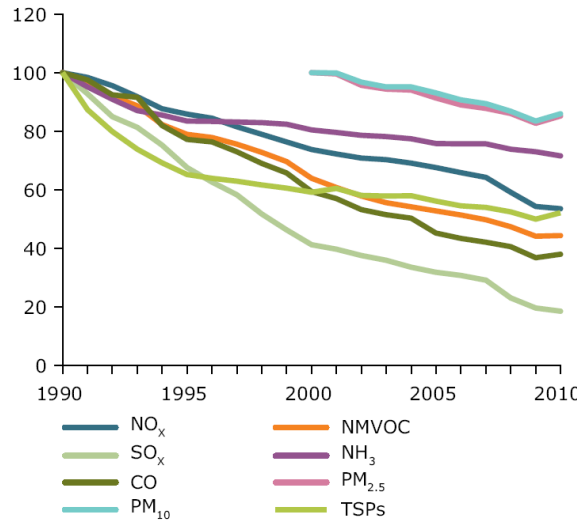
- Convention on Long-Range Transboundary Air Pollution (CLRTAP)
- CLRTAP Protocols (EMEP, Gothenburg, Heavy Metals, POPs,...)
- ...

## ***The EU Air Quality Policy Framework***

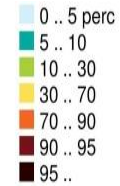
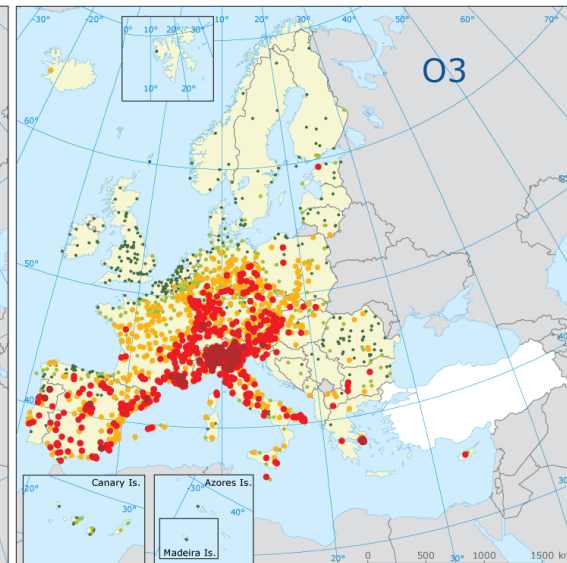
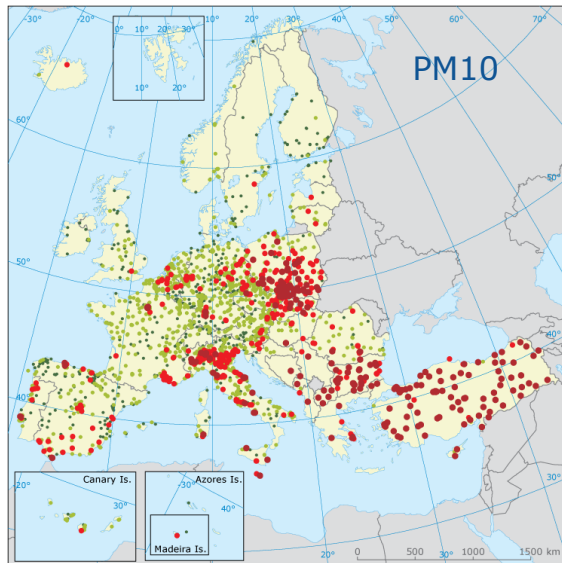
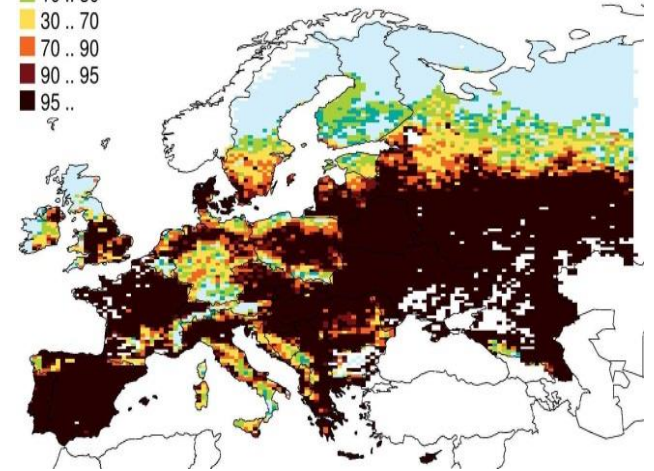
- The Thematic Strategy on Air Pollution
- The National Emission Ceilings Directive
- The Ambient Air Quality Directives
- The EU Air Pollution Source Abatement Policy Framework
- National and Local Air Pollution Abatement Measures

# Trends in emissions and Air Quality

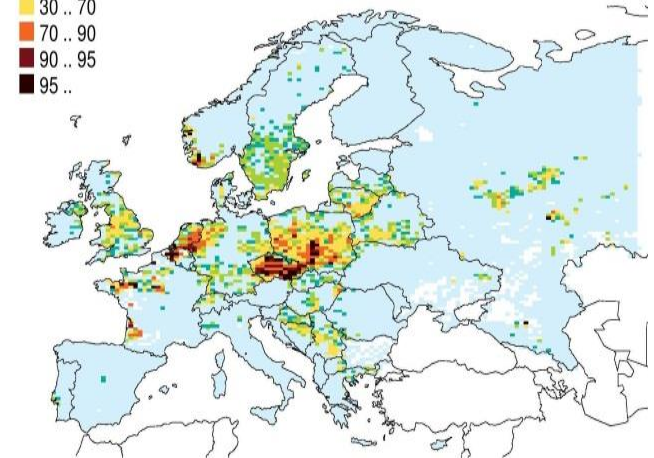
Index (1990 (2000) = 100)



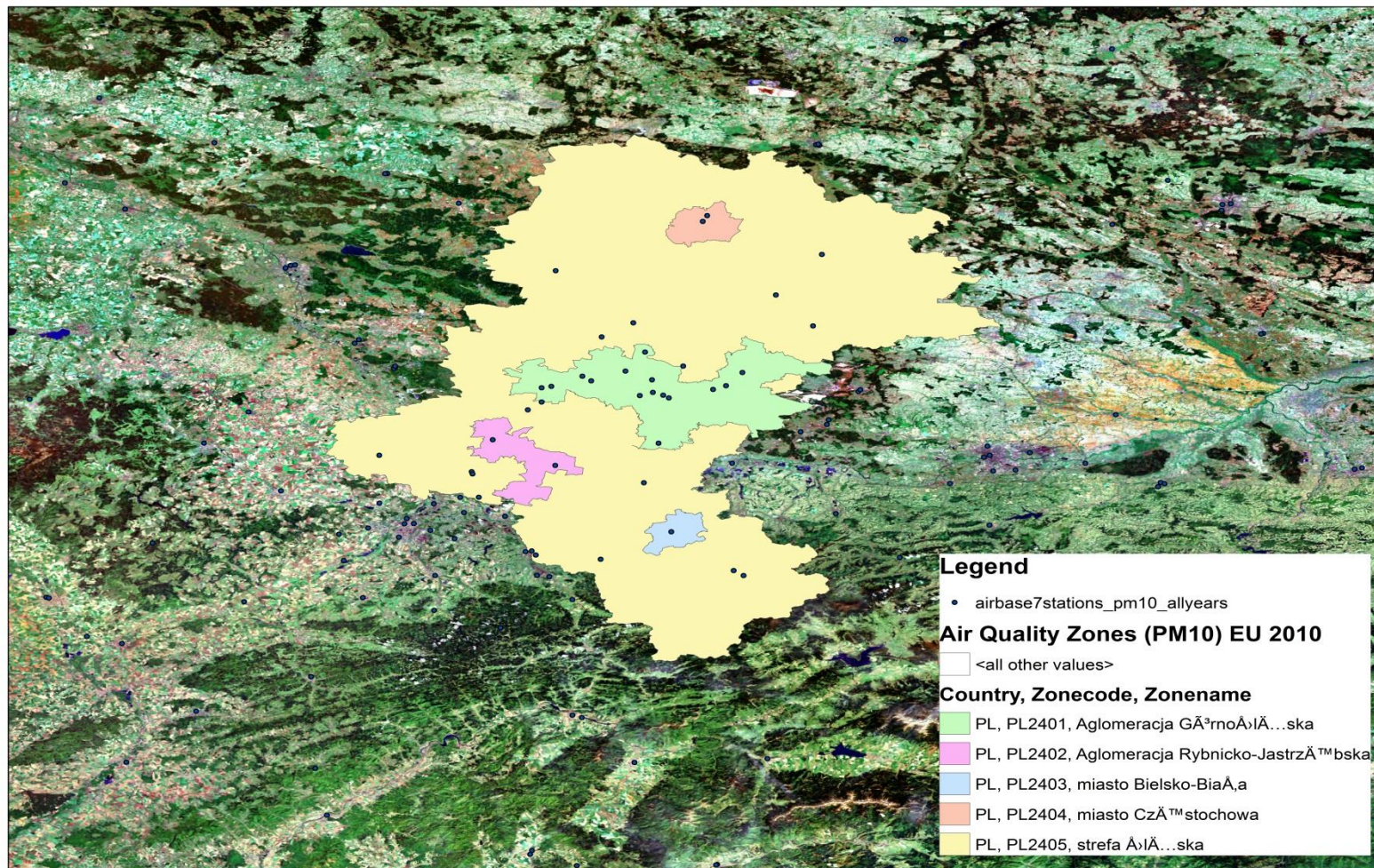
Eutrophication



Acidification



# Air Quality zones in Silesia



# Air Quality in Poland and Silesia

## PM10 in Poland

PL	Art. 22	>LV+MOT	1	112.00	0.0%	222,496	0.6%
		>LV; <LV+MOT	0		0.0%		0.0%
		<LV	0		0.0%		0.0%
	NO art. 22	>LV	41	312,259.50	99.9%	37,456,238	98.0%
		<LV	4	309.00	0.1%	528,523	1.4%
	<b>all Zones</b>		<b>46</b>	<b>312,680.50</b>		<b>38,207,257</b>	

## PM10 in Silesia (selection of stations for long term modeling)

MS	Stationcode	zonecode	type	area	pop	2010	2015	2020	2025	2030
PL	PL0008A	PL2401	ag	1218	1961225	41.75	39.09	37.25	33.5	30.84
PL	PL0020A	PL2401	ag	1218	1961225	43.23	40.16	38.15	34.5	31.89
PL	PL0237A	PL2401	ag	1218	1961225	37.93	34.66	32.75	29.89	27.8
PL	PL0240A	PL2401	ag	1218	1961225	32.97	31.39	30.07	26.74	24.4
PL	PL0242A	PL2401	ag	1218	1961225	47.75	44.42	42.26	38.5	35.79
PL	PL0239A	PL2402	ag	298	296382	51.41	48.27	46.04	41.92	38.96
PL	PL0234A	PL2403	nonag	125	175402	39.87	36.97	34.99	31.89	29.66
PL	PL0184A	PL2404	nonag	160	239319	30.84	27.92	26.07	23.94	22.37
PL	PL0029A	PL2405	nonag	10532	1968397	36.93	34.79	32.94	30.49	28.55
PL	PL0236A	PL2405	nonag	10532	1968397	30.42	28.16	26.35	24.65	23.16
PL	PL0241A	PL2405	nonag	10532	1968397	50.77	48.03	45.73	41.51	38.49
PL	PL0243A	PL2405	nonag	10532	1968397	23.25	20.53	18.95	17.69	16.71
PL	PL0450A	PL2405	nonag	10532	1968397	41.66	39.66	37.85	34.46	32.07

# What is the problem?

Downward trends in (estimated) emissions do not match trends in (measured) air quality improvements: PM, NO<sub>2</sub>, O<sub>3</sub>

Significant compliance issues (AAQD, NECD) despite additional time granted in 2008: PM, NO<sub>2</sub>/x, ...

**Too many EU citizens are exposed to hazardous air quality levels causing ca. 400.000 premature deaths, millions of work days lost, reduced crop yields (PM, O<sub>3</sub>)**

**Deposition of nitrogen is exceeding critical loads of eutrophication in almost the entire EU area thereby significantly impacting biodiversity and ecosystems**

Transport (road and off-road diesel), small scale combustion installations (including domestic heating), agricultural emissions and other "background" (industry, transboundary effects, ...)

Certain EU air quality standards appearing too weak (WHO)....

# Why do we have a problem?

## **Particulate Matter (PM)**

- *Road transport (diesel tail pipe and non-exhaust)*
- *Small & medium scale combustion (smoky fuels, biomass, diesel)*
- *Ammonia and NO<sub>x</sub> emissions (secondary PM formation)*
- *Hemispheric air pollution (ABC, TFHAP, UNEP), ...*

## **Nitrogen Dioxide (NO<sub>2</sub>)**

- *Diesel vehicles (Real World Emissions)*
- *Other diesel engines (Non-Road Mobile Machinery, Small and Medium Scale Stationary Combustion installation and applications), ...*

## **Ground Level Ozone (O<sub>3</sub>)**

- *Nitrogen Oxides (NECD)*
- *Ozone precursors (Methane, CO, International)*

## **General**

- *Uneven technical capacity across MS and MS Competent Authorities*
- *Competence barriers, policy coherence consistency problems*
- *Insufficient intra-EU cross border dialogue and actions, ...*

# Our objectives and options?

## **Objectives**

- *Pursue AQ levels that do not cause significant impacts on health and environment (EU long-term objective)*
- *Resolve present compliance problems asap (**Objective 1**)*
- *Define targets and actions for the period up to 2030 (**Objective 2**)*

## **Options**

- Reinforced national/local action?
- Reinforced NEC and/or AAQD?
- Reinforced EU source legislation?
- Non-regulatory options?
- ...

# Where is the solution?

## **Ensure baseline implementation**

- *Transport (Euro VI, Euro 6a, Euro 6b, ScFD-IMO Marpol Annex VI,...)*
- *Energy & Industry (Ecodesign, Industrial Emissions Directive and BAT permitting)*
- *National and Local Action (greening/renewing fleets, traffic management, low emission zones, green taxes, clean fuel standards, national ELVs, ...)*

## **Remaining cost-effective options (National and EU)**

- *Transport (management, sulev?, SECA/NECAs)*
- *Energy & Industry (small & medium scale combustion)*
- *Agriculture (burning, manure management, efficient fertilization,...)*
- *...*

## **Remaining synergies to tap**

- *Climate & energy (Low Carbon (biomass!), Short-Lived Climate Pollutants)*
- *Integrated Nitrogen Management (water, soil, ...)*
- *Sustainable Mobility & Cities*
- *Productivity, Innovation, Jobs, Growth, Exports*
- *Enhanced intra-EU and international co-operation*
- *Enhanced public awareness and support*
- *...*

# What seems the preferred solution?

Cost-Benefits Summary (EU28, 2030)	2010	Baseline	Optimized	MTFR
Premature deaths (PM and ozone)	406 000	294 000	254 000	228 000
Working Days Lost (PM and ozone, million)	79	54	43	39
Reduced crop yields (O3, selected crops, €M)	~3000	1957	1845	1406
Health impacts reduction beyond baseline ( Ref 2005)			30%	43%
Eutrophication impact reduction beyond baseline (Ref 2005)			52%	83%
Monetized health benefit vs. baseline (avoided external costs) (€M, MIN)			41 545	59 483
Monetized health benefit vs. baseline (avoided external costs) (€M, MAX)			143 759	206 036
Other direct benefits			566	1 169
Costs (€M, relative to baseline)		--	4 118	52 924
GDP impact taking into account productivity gains			-0,007%	-
Benefit Cost-Ratio (LOW)			10	1,1
Benefit Cost-Ratio (HIGH)			35	3,9

# What will we deliver (tentative)

## ***Updated interim objectives for 2025 and 2030***

- *New Health & Environment Impact Reduction Targets*
- *New National (and Sectoral ) Emission Reduction Targets*
- *New Monitoring and Evaluation provisions*

## ***Regulatory Action Plan***

- *Proposal for amending the National Emission Ceilings Directive [2013]*
- *Proposal for regulating medium scale combustion installations [2013]*
- *Proposal for amending the Ambient Air Quality Directives [TBD]*
- *Other [TBD]*

## ***Non-Regulatory Action Plan***

- *Urban Clean Air Programme*
- *Agriculture Clean Air Programme*
- *International Clean Air Programme*
- *Clean Air Research and Innovation Agenda*
- *European Clean Air Forum*
- *...*

# Actions supporting compliance (tentative)

## ***Continued focus on implementation & review of EU measures***

- *Euro 6(2014), and Euro 6b (2017 latest) for light duty vehicles*
- *Implementing 2015 and 2020 provisions of new Sulphur Directive (IMO)*
- *Implementing updated BAT conclusions under new IED*
- *Adapting NECD to the new Gothenburg Protocol*
- *Eco-design Directive (small, and medium scale combustion installations)*
- *[Non-Road Mobile Machinery Directive]*
- *[Fertiliser Directive]*

## ***Renewed support for local/national actions***

- *Reinforced national and local action and related capacity-building (new LIFE+,...)*
- *Reinforced national and local action toolbox (retrofitting, NECA/SECA, ...)*
- *Reinforced impetus for sustainable urban mobility and energy plans?*
- *Enhanced public and stakeholder awareness?*
- *Special targeted actions (fuel switching, structural funds)*
- *Database of Air Quality measures*

## More information

[http://ec.europa.eu/environment/air/review\\_air\\_policy.htm](http://ec.europa.eu/environment/air/review_air_policy.htm)

## Contact

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

## Thank you