

# 14<sup>th</sup> International Conference on Harmonization within Atmospheric Dispersion Modelling for regulatory purposes

Kos Island, Greece 03/10/2011

## Review of the EU Air Quality Policy

Industrial Emissions, Air Quality and Noise Unit, DG ENV



# Why do we need a review?

- **Continued wide-spread exceedances** (PM, NO<sub>x</sub>/2, Ozone,...)
- **NO<sub>2</sub>/x and road transport**
  - Real world emissions of NO<sub>x</sub> much higher than measured
  - Higher proportion of total NO<sub>x</sub> emitted directly in the form of NO<sub>2</sub>
- **New (long-term) objectives**
  - NEC objectives “ended” in 2010, most Air Quality objectives will “end” in 2015
  - Key related sectors have set 2050 roadmap – what does this mean for air quality
- **Latest scientific information**
  - Increasing evidence of impacts (health, climate change, biodiversity...)
  - WHO guidance, SOER report...

# Thematic Strategy on Air Pollution

National Emission Ceilings Directive

Transport

Energy

Agriculture

Industry

Households

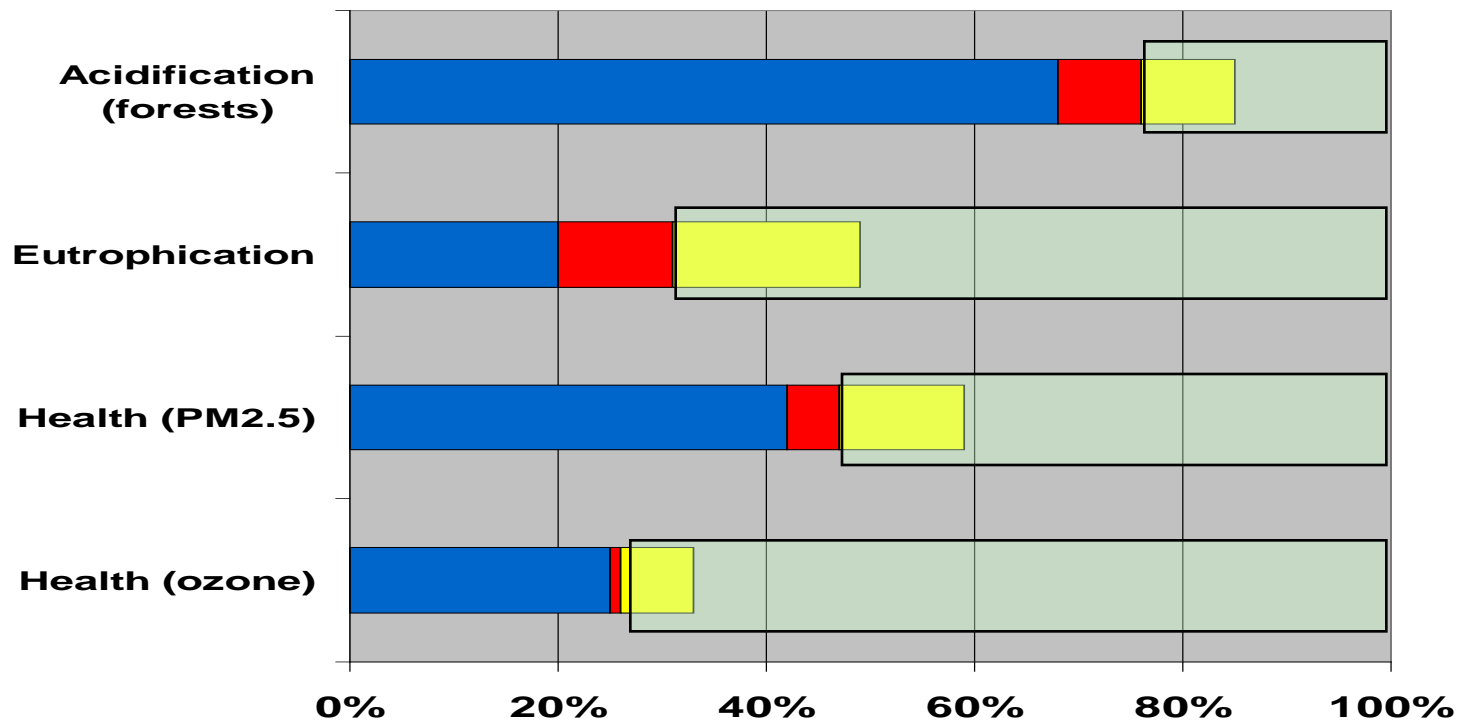
Waste

Ambient Air Quality Directives

# Thematic Strategy on Air Pollution (2005)

## *Towards 6EAP via Interim Objectives*

Percent improvement (gap-closure) in 2020 compared to situation in 2000.



Air emission control policies in place before 2005



Cost-effectiveness policies and measures selected in the 2005 Thematic Strategy on Air Pollution



Maximum technical abatement potential in 2005, irrespective of cost-effectiveness



Gap towards 6EAP objectives: no health and ecosystem impacts due to air pollution.

# The Role and Limitations of EU Air Policies

## *The Thematic Strategy on Air Pollution (2005)*

### ■ Updated Health and Environment Standards

→ Review of existing ambient air quality legislation (PM2.5)

→ Review of national emissions ceilings (2020, PM)

### ■ New Actions to Reduce Emissions for Meeting Interim Objectives

→ Measures on Industrial Emissions (VOC, IED) (small combustion plants...)

→ Measures in the Energy Sector (Renewable Energy, Energy Efficiency)

→ Measures in the Transport Sector (vehicle EURO standards, Fuel Standards)

→ Measures in the Agricultural Sector (Ammonia)

→ Measures at the International Level (IMO, CLRTAP, ...)

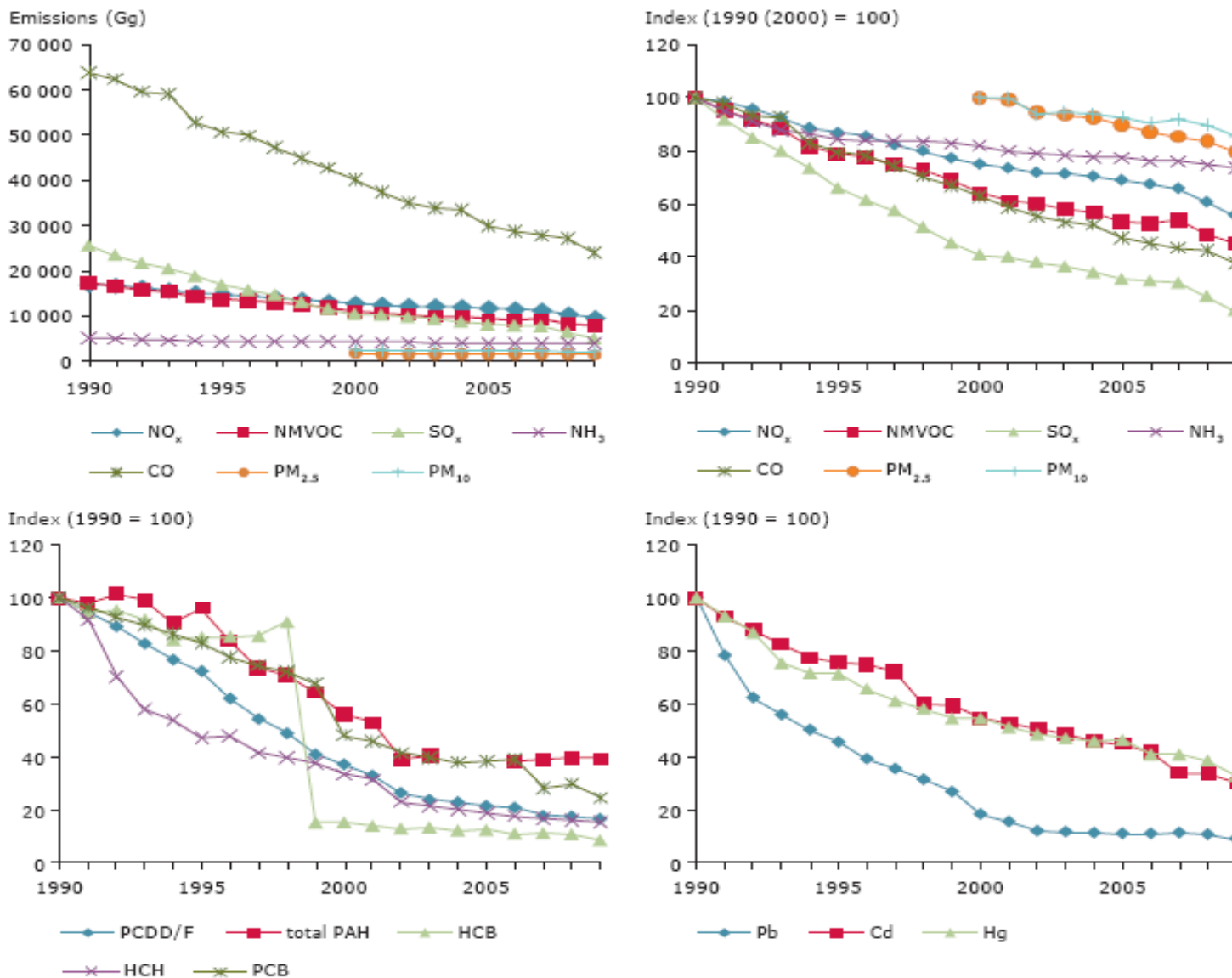
### ■ Cost & Benefits

→ Health Benefits: ca. €42 billion per annum

→ Additional benefits from avoiding damage to ecosystem, reduced damage to crops, buildings, heritage, ...

→ Implementation Costs: ca. €7.1 billion per annum.

**Figure ES.1 EU-27 emission trends for the main air pollutants, particulate matter, heavy metals and POPs**



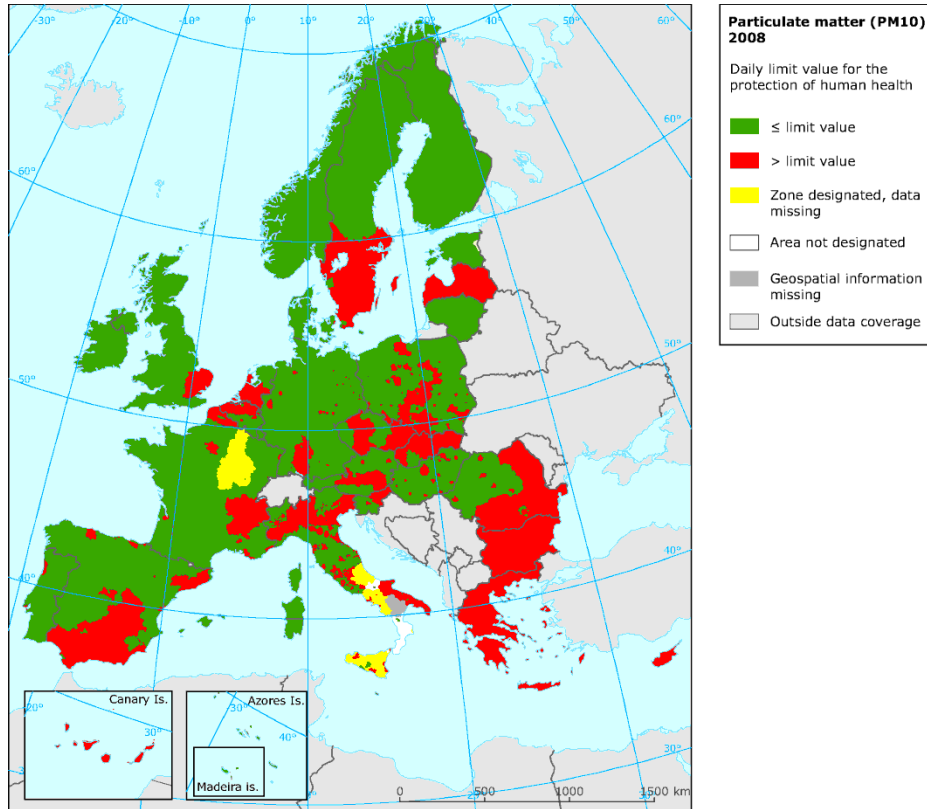
# Achievements and Remaining Challenges

## *EU Air Quality Standards*

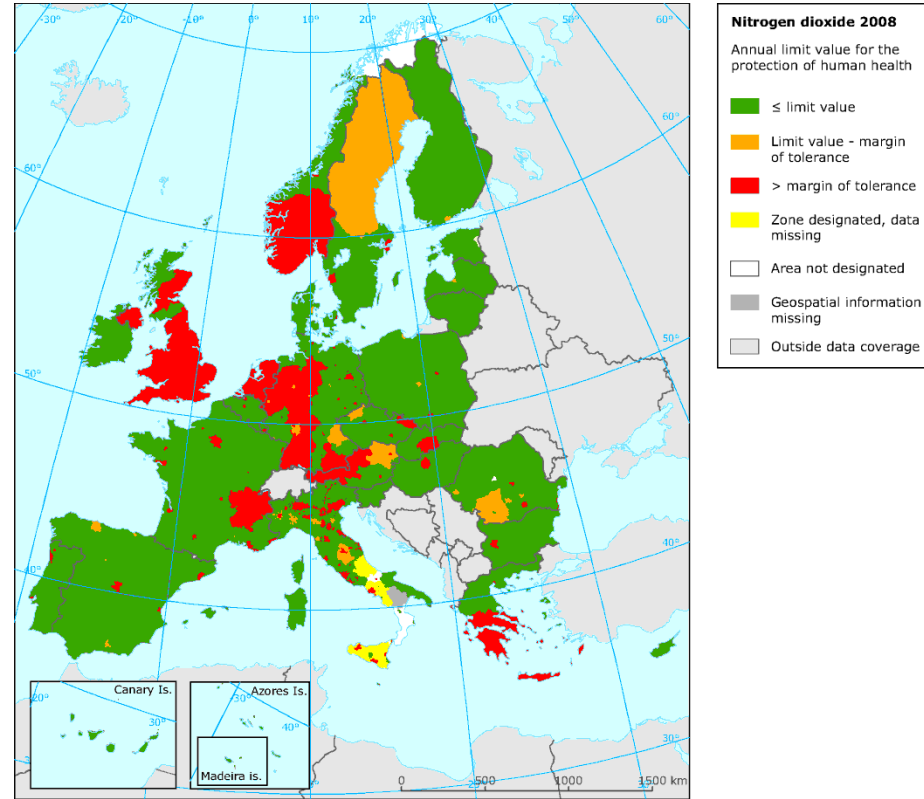
<i>Pollutant</i>	<i>Concentration</i>	<i>Averaging period</i>	<i>Legal nature and deadline</i>	<i>Permitted exceedences each year</i>
Fine particles (PM <sub>2.5</sub> )	25 µg/m <sup>3</sup> ***	1 year	Target value by 01.01.2010 Limit value by 01.01.2015	n/a
Sulphur dioxide	350 µg/m <sup>3</sup>	1 hour	Limit value by 01.01.2005	24
	125 µg/m <sup>3</sup>	24 hours	Limit value by 01.01.2005	3
Nitrogen dioxide	200 µg/m <sup>3</sup>	1 hour	Limit value by 01.01.2010	18
	40 µg/m <sup>3</sup>	1 year	Limit value by 01.01.2010	n/a
PM <sub>10</sub>	50 µg/m <sup>3</sup>	24 hours	Limit value by 01.01.2005	35
	40 µg/m <sup>3</sup>	1 year	Limit value by 01.01.2005	n/a
Lead (Pb)	0.5 µg/m <sup>3</sup>	1 year	Limit value by 01.01.2005	n/a
Carbon monoxide	10 mg/m <sup>3</sup>	Max daily 8-hr mean	Limit value by 01.01.2005	n/a
Benzene	5 µg/m <sup>3</sup>	1 year	Limit value by 01.01.2010	n/a
Ozone	120 µg/m <sup>3</sup>	Max daily 8 hour mean	Target value by 01.01.2010	25 days averaged over 3 years
Arsenic (As)	6 ng/m <sup>3</sup>	1 year	Target value by 31.12.2012	n/a
Cadmium (Cd)	5 ng/m <sup>3</sup>	1 year	Target value by 31.12.2012	n/a
Nickel (Ni)	20 ng/m <sup>3</sup>	1 year	Target value by 31.12.2012	n/a
Polycyclic Aromatic Hydrocarbons	1 ng/m <sup>3</sup> (expressed as concentration of Benzo(a)pyrene)	1 year	Target value by 31.12.2012	n/a

# The air quality situation

## PM<sub>10</sub> daily limit value exceedances in 2008



## NO<sub>2</sub> annual limit value exceedances in 2008

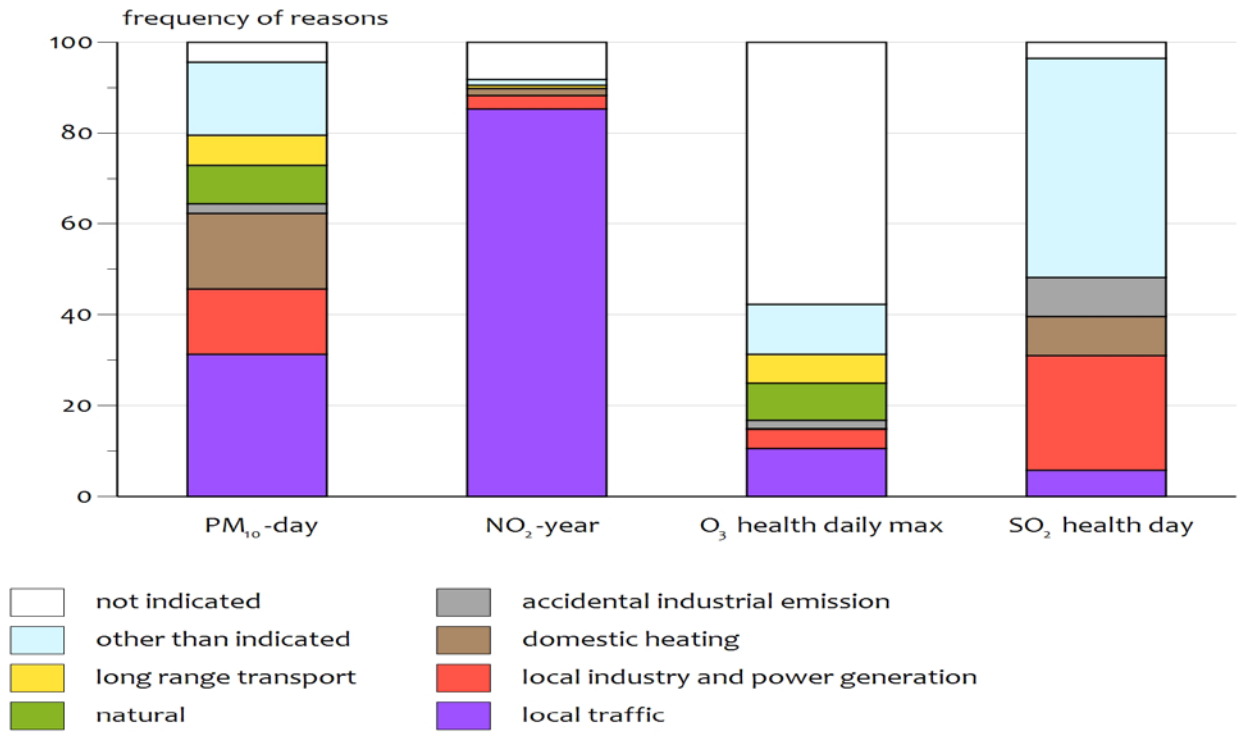




# The air quality situation

## Main reasons for exceedances of LV's in 2008

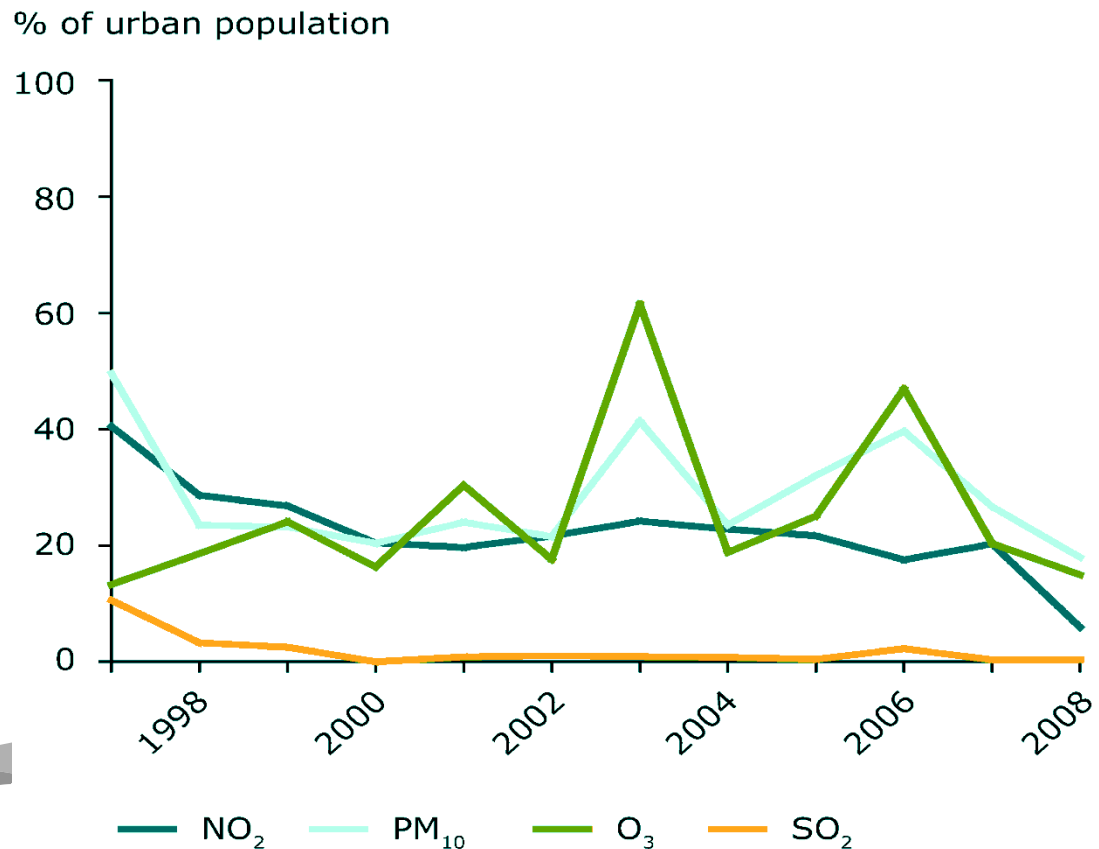
Main reasons for exceedances of LVs (& MOT) in 2008



# Achievements and Remaining Challenges

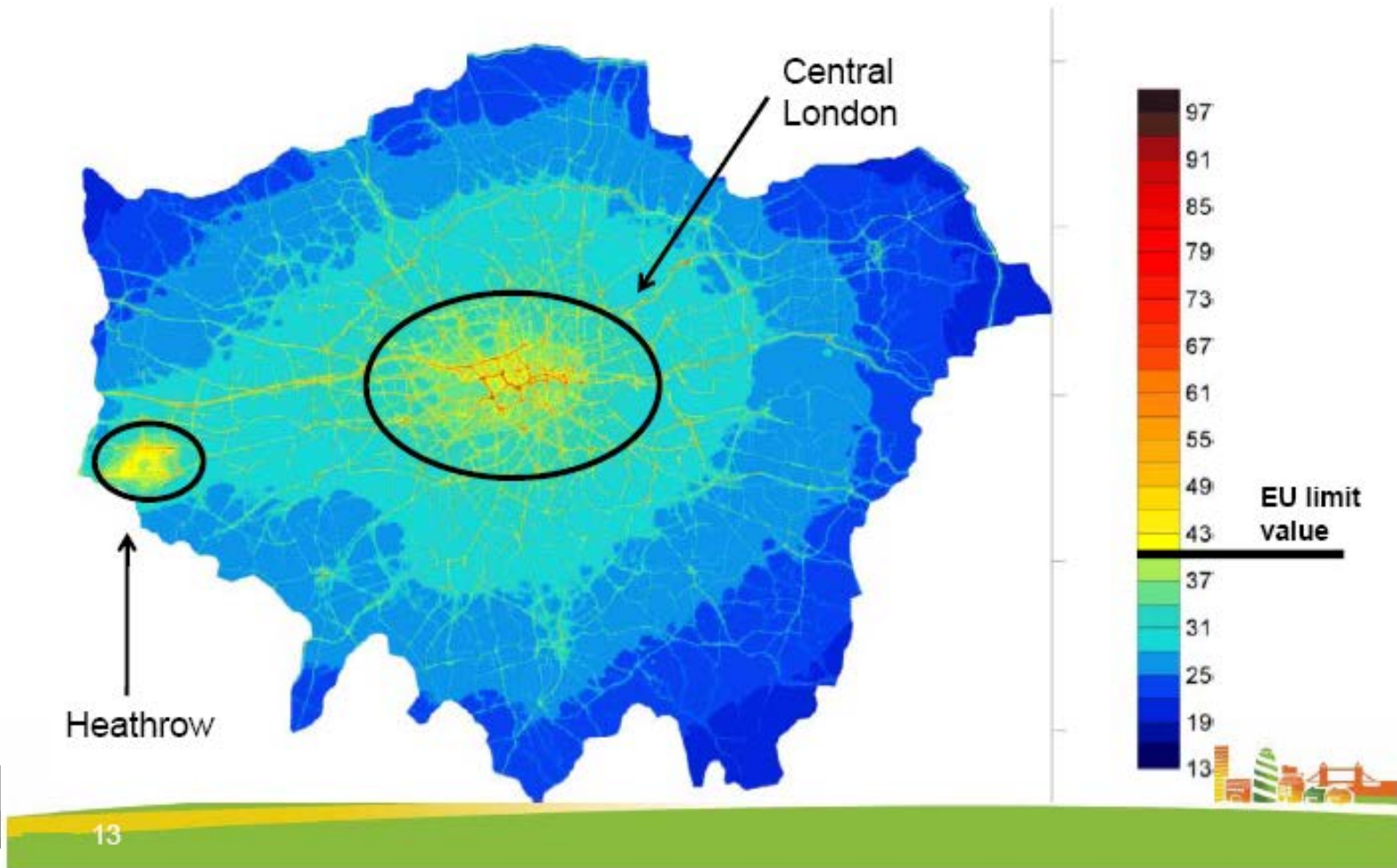
## *Remaining Challenges*

Percentage of urban population exposed to pollutant concentration levels exceeding selected limit/target values, EEA member countries, 1997-2008



Source: Copyright EEA, Copenhagen, 2009  
[www.eea.europa.eu](http://www.eea.europa.eu)

# NO<sub>2</sub> exceedences of EU Limit Value in 2015



# Introduction Review

- **Review of 2005 Thematic Strategy on Air Pollution**
- **Article 32 of Directive 2008/50/EC**
  - *Review by 2013 of PM<sub>2.5</sub> and, as appropriate, other pollutants*
  - *For PM<sub>2.5</sub> , review with the view to “establishing a legally binding national exposure reduction obligations” taking into account several elements (latest WHO information, air quality situation and reduction potential, revision of NEC directive, progress in implementation) amongst others*
- **Article 8 of Directive 2004/107/EC (4<sup>th</sup> Daughter Directive)**
  - *Review of heavy metals (As, Cd, Hg, Ni) and PAHs target values (trends, effects, exposure, measurement, measures, etc.)*
- **Article 10 of Directive 2001/81/EC (NEC Directive) – originally foreseen since 2006**
- ⇒ **Commission Work Programme 2011 (COM(2010) 623 final) foresees review for 2013**
- ⇒ **College Debate 18/01/2011 (SEC(2011) 342 final)**

# Outcome College debate

**Positive response and outspoken support by the President and the whole College on:**

- **Comprehensive review of EU Air Quality Policy in 2012/2013**
- **Revised NEC directive latest as part of the review**
- **Immediate action in specific policy areas (sulfur in shipping fuels, vehicles and non-road emissions, international negotiations eg. Gothenburg Protocol but also energy, cohesion, agriculture, research)**
- **Co-operation with Member States, assisting in achieving compliance (not stopping infringements)**
- **Co-benefits with climate change agenda**
- **Link to Europe 2020 objectives, e.g. Innovation**

# Key elements

- **Review of the current air quality legislation** (including reasons for non-compliance)
- **Review of the current air quality limits and targets**
  - PM<sub>2.5</sub> as required by Directive
  - Latest scientific evidence of air pollution impacts for ozone, PM<sub>10</sub>, heavy metals, PAHs, others?
  - new targets – long term objectives (2020 – 2030 – 2050?)
- **Possible new measures**
- **Link to climate change** (eg. co-benefits, short lived climate species)
- **Integration into sectorial policies** (transport, energy, vehicle emissions, etc.) – already 2011 (White Paper and 2050 roadmaps)
- **Simplification / smart regulation / streamlining**

# Thematic Strategy on Air Pollution - Review

## Revision of National Emission Ceilings Directive

vehicles, non road  
machinery, ...

fuels (shipping),  
biomass, ...

fertiliser, ...

~~Industry~~

solid fuel burners, ...

~~Waste~~

## Revision of Ambient Air Quality Directives

## Ammonia (NH<sub>3</sub>) emission (EC4MACS, 2010)

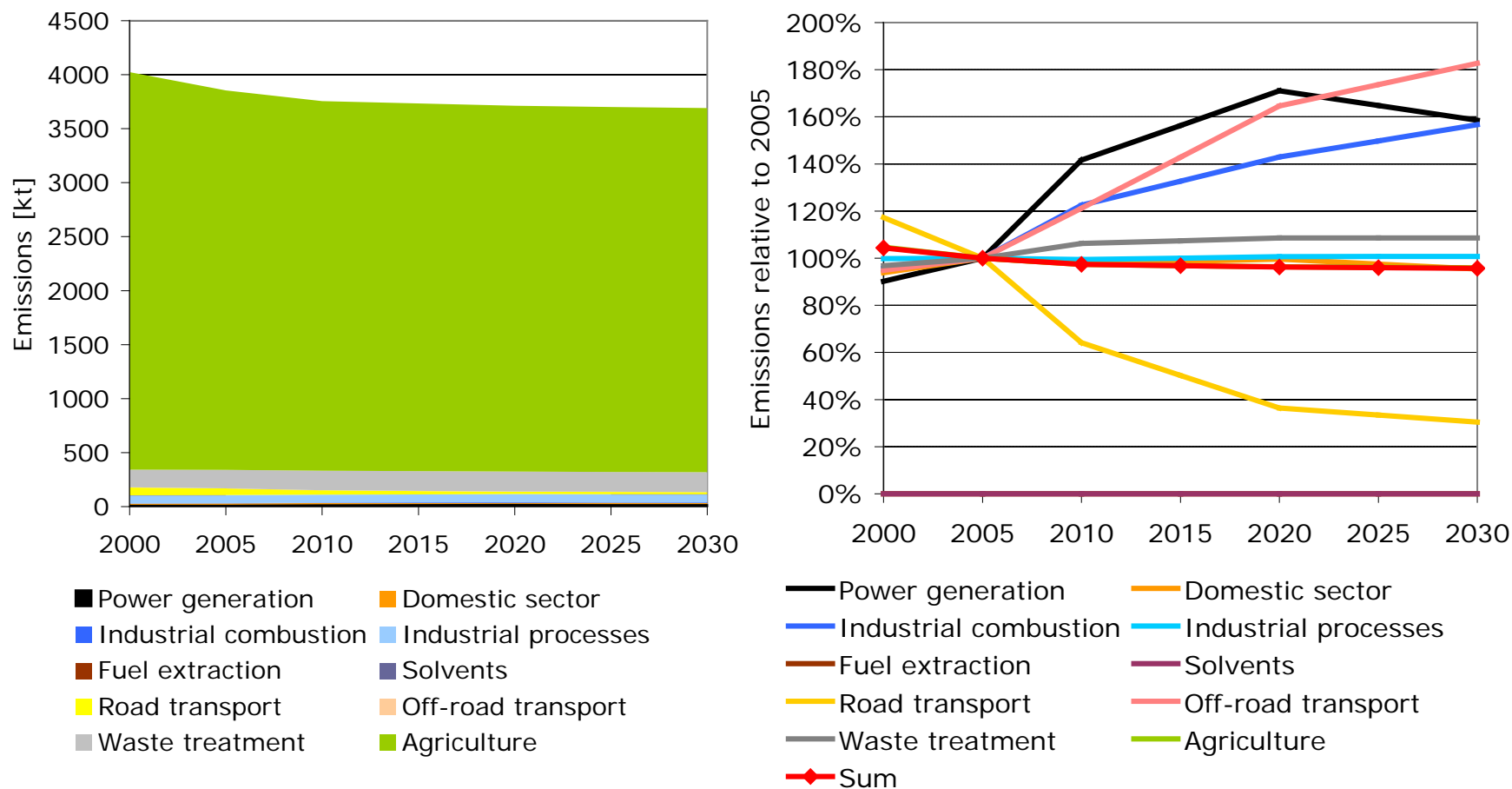
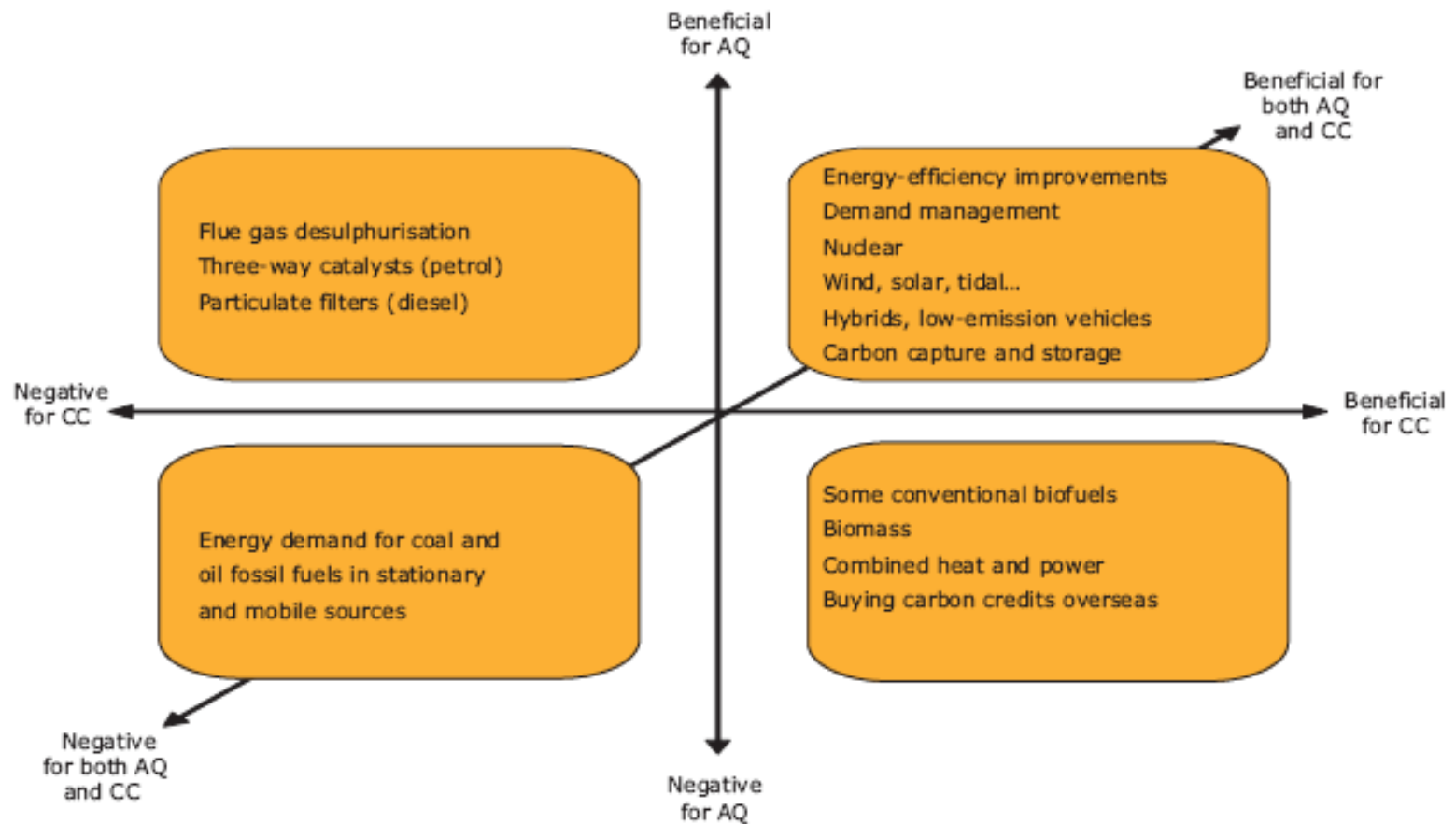


Figure 3.20: Baseline emissions of NH<sub>3</sub> in the EU-27 by sector, total amounts (left panel) and changes relative to 2005 (right panel)

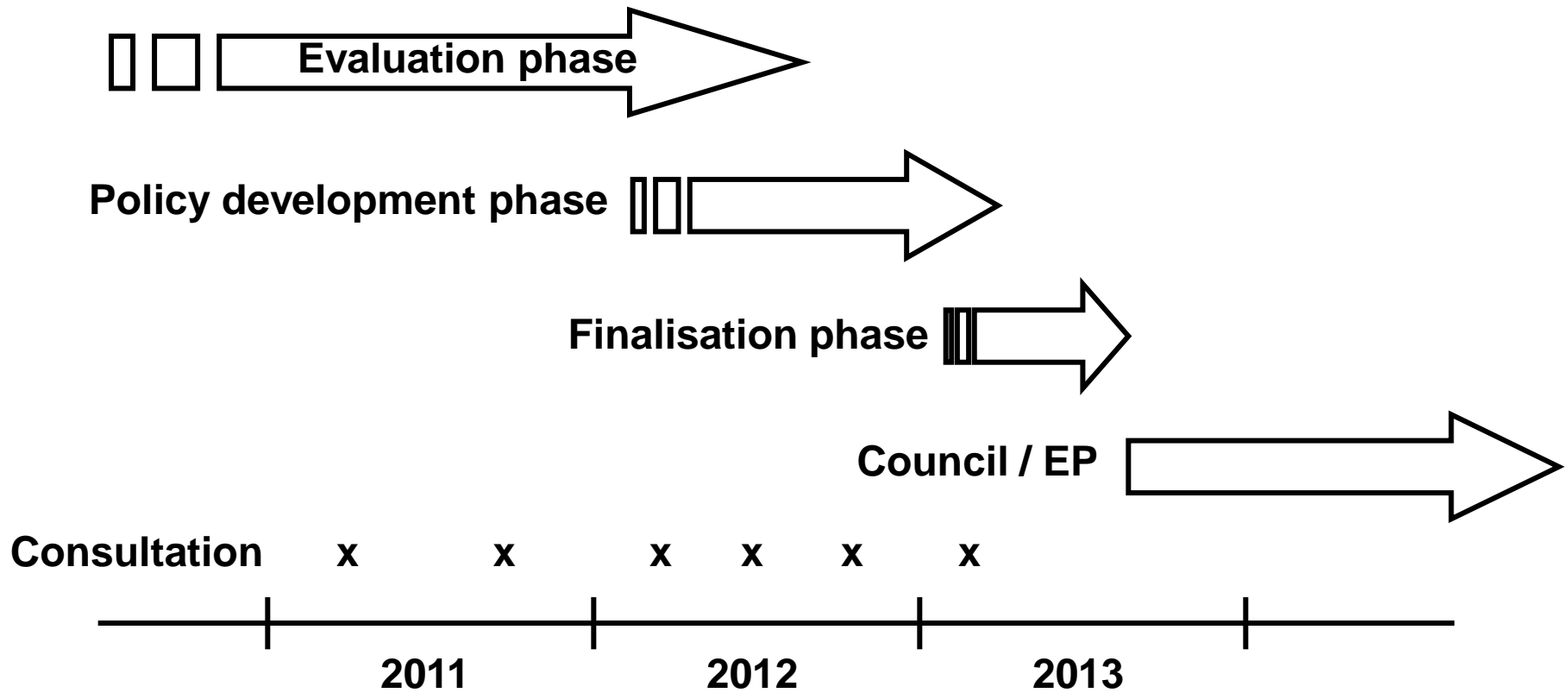


**Figure 4.1 Air quality (AQ) and climate change (CC) synergies and tradeoffs**



Source: Adapted from Defra, 2010.

# Process and timetable



# Consultation

**Various inputs and consultation processes envisaged:**

- **Ambient Air Quality Committee and dedicated networks (FAIRMODE, AQUILA)**
- **Stakeholder group(s)**
- **Input from relevant international organisations (eg. WHO, CLRTAP, etc.), existing fora and networks**
- **Dedicated workshops**
- **Studies and projects (eg. through questionnaires, workshops, etc.)**
- **Online consultations**
- **Inter-service group and ENV contact group**

**First meeting of Stakeholder Expert Group on 6/7 June 2011**

**Second meeting foreseen for January 2012**



**Thank you for your attention!**

**Questions?**

**More information:**

**Scott.BROCKETT@ec.europa.eu**

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