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**The CAFE Program – Thematic strategy and  
revision of air quality legislation  
Workshop, Athens 29 June 2005**

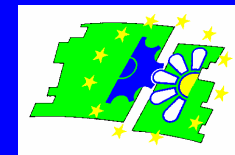
***CAVEAT – The Thematic Strategy  
yet to be adopted by Commission***

**André Zuber  
Clean Air and Transport Unit  
European Commission, DG Environment**

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## Thematic Strategy on Air Pollution is a response to

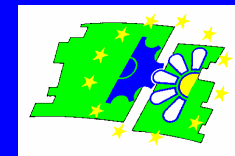


### 6<sup>th</sup> EAP: Objectives for Air Pollution

- *‘achieving levels of air quality that do not give rise to significant negative impacts on and risks to human health and the environment’; (Art 7.1. of 6th EAP)*
- *‘no exceedence of critical loads and levels for acidification or eutrophication’*



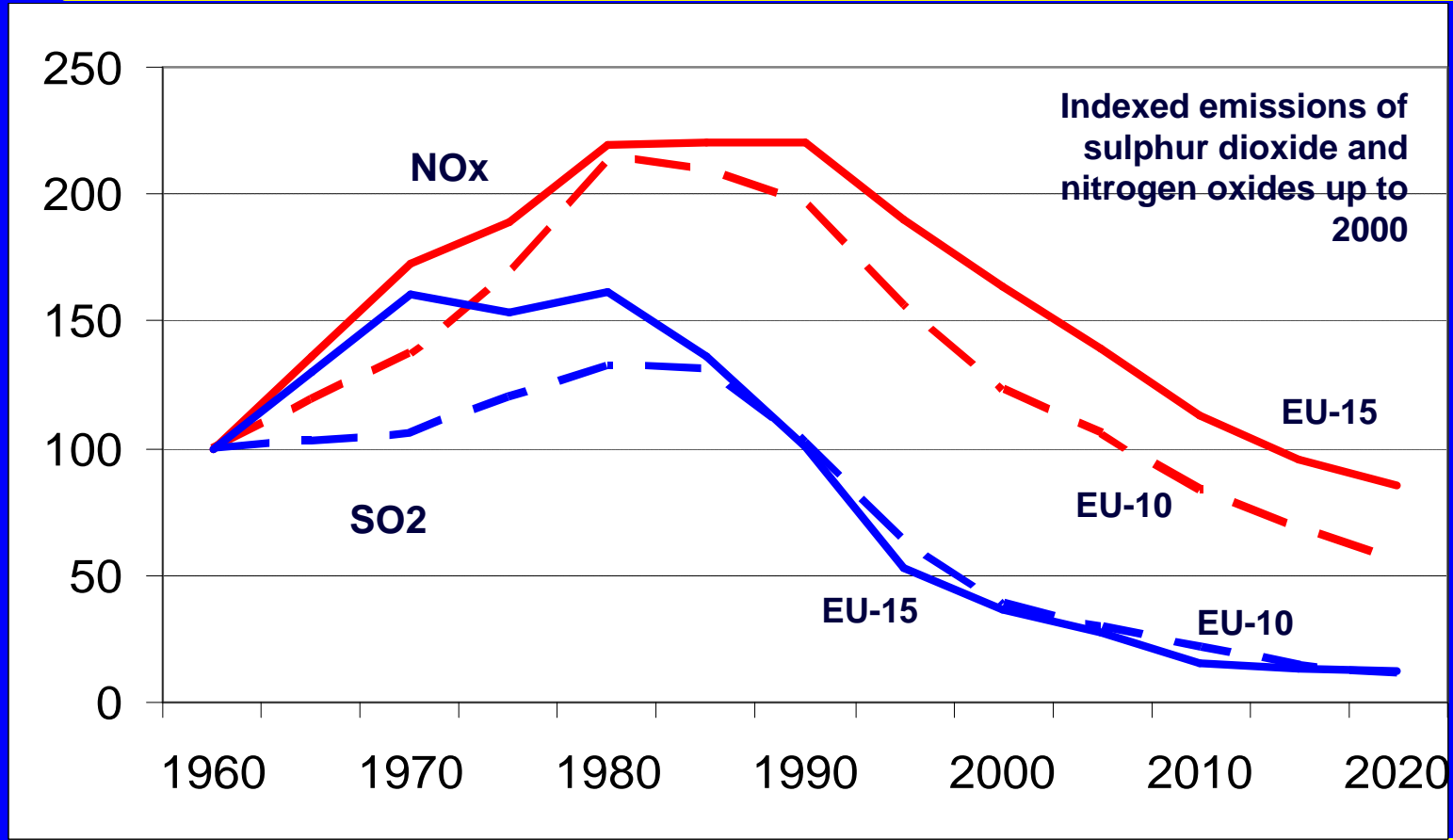
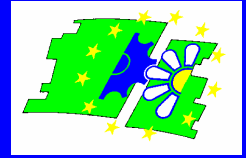
## CAFE programme to deliver the Thematic Strategy through:



- **Scientific knowledge**
  - Independent health advice from WHO and SCHER
  - Individual projects under EC RTD FWP, EEA and national programs
  - Latest scientific knowledge of ecosystem and health effects from Convention of Long Range Transboundary Air Pollution
- **Assessment of the effect of current policies**
- **Integrated Assessment Modelling (IAM)**
  - Cost-effective solutions for multi-pollutant/multi-effects (human health and environment)
- **Cost-Benefit Analysis**
  - Peer-reviewed methodology
- **Stakeholder involvement and consultation**
  - Over 100 stakeholder meetings and over 10.000 responses in Internet based consultation



# Assessment of current policies - CAFE baseline



1.4

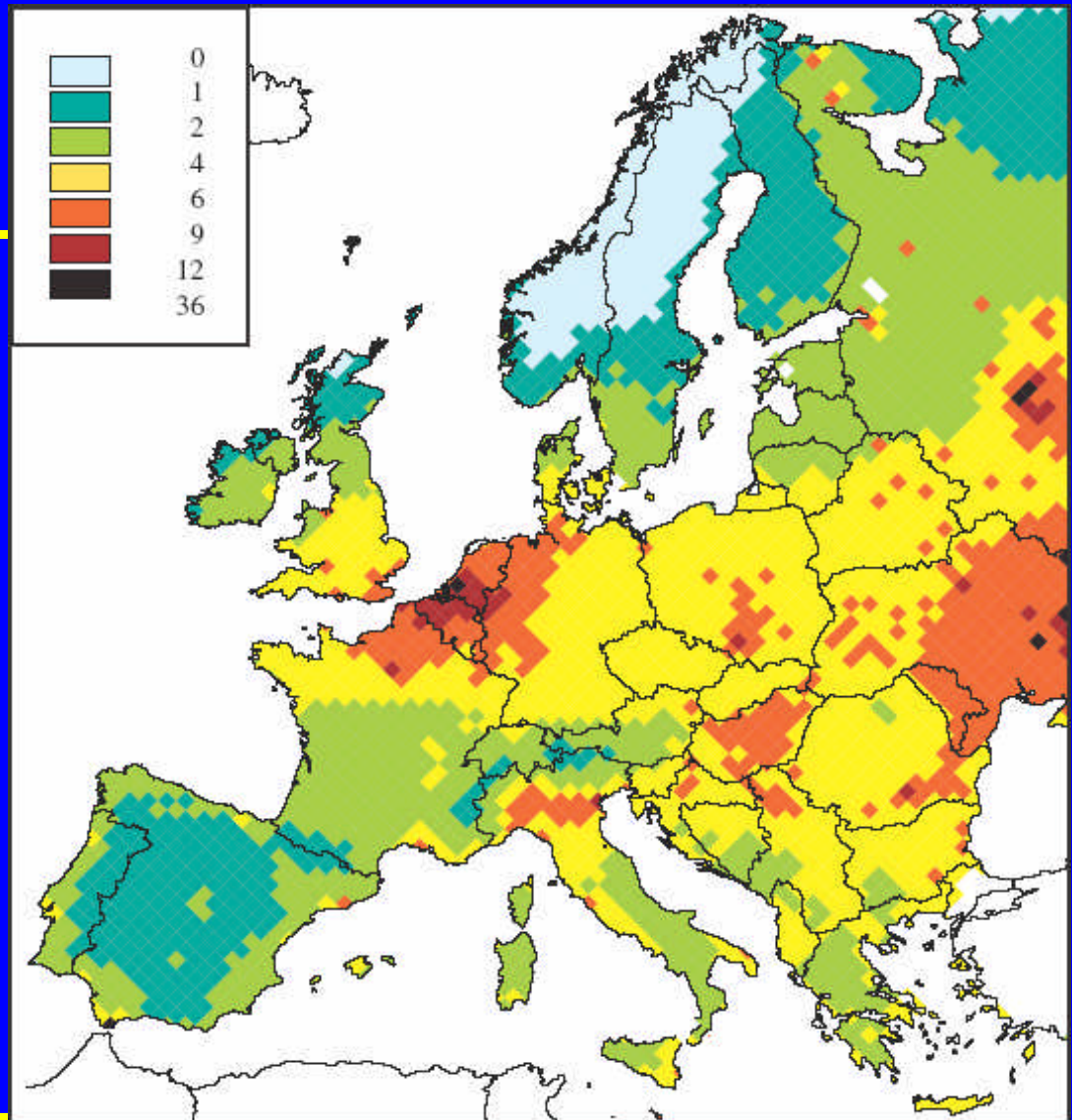
Source: Clean Air for Europe Programme (2005)



## But problems remain

**Example: Reduced life expectancy because of particulate matter in 2020**

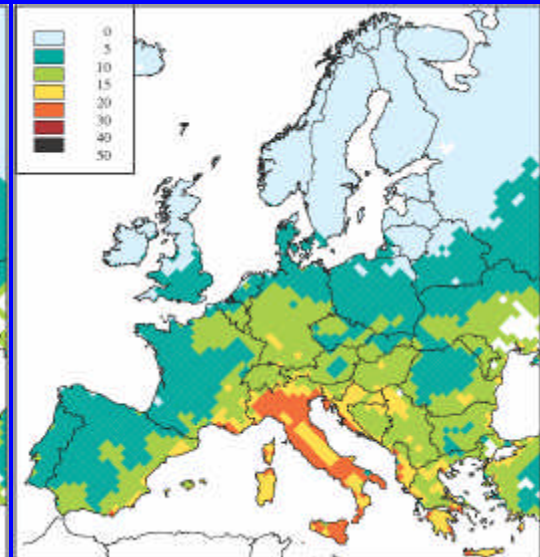
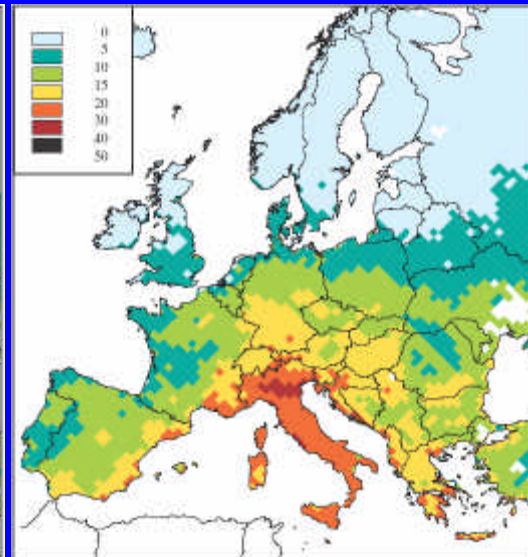
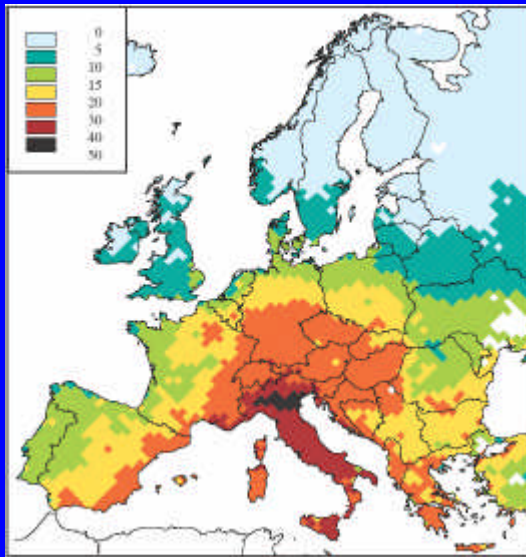
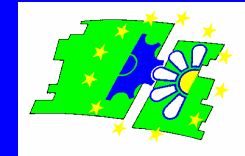
Loss in average statistical life expectancy due to identified anthropogenic PM<sub>2.5</sub>  
Calculations for 1997 meteorology  
(Provisional estimates)



Source: Clean Air for Europe Programme (2005)



## Vegetation-relevant ozone concentrations remains problematic up to 2020



2000

2010

2020

AOT40 [ppm.hours]

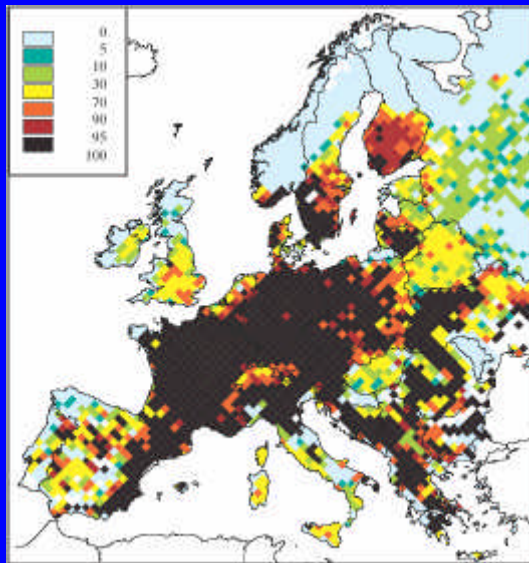
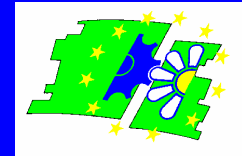
Critical level for forests = 5 ppm.hours

Average of calculations for 1997, 1999, 2000 & 2003 meteorologies

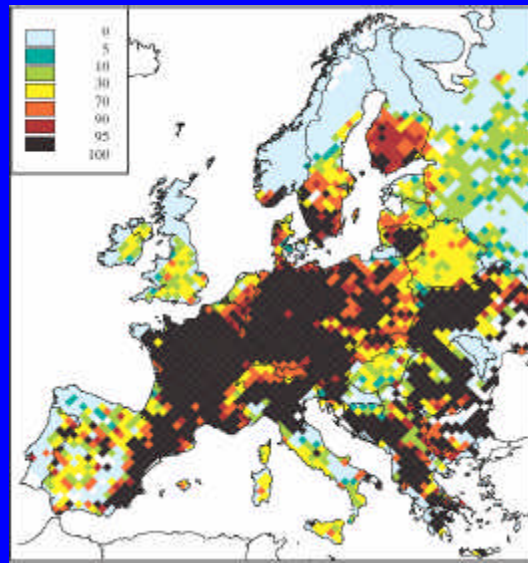
Source: CAFE Baseline, RAINS (2004) 1.5



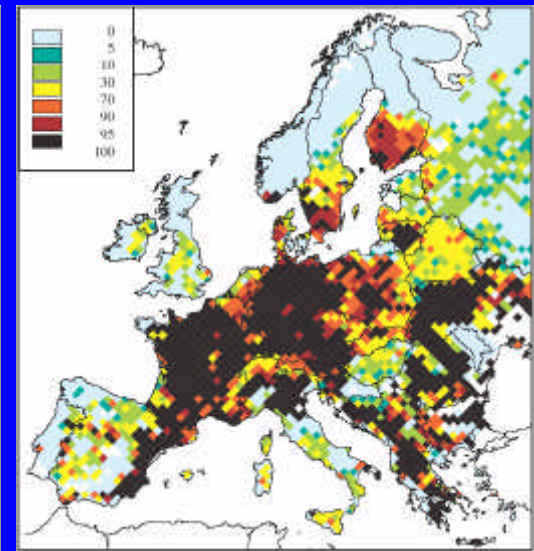
# Eutrophication of ecosystems remains a major problem



2000



2010



2020

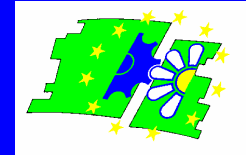
Percentage of ecosystems area with nitrogen deposition above critical loads, using grid-average deposition.

Average of calculations for 1997, 1999, 2000 & 2003 meteorologies

Source: CAFE Baseline, RAINS (2004) 1.6



# CAFE Assessment of the effect of current policies 2020



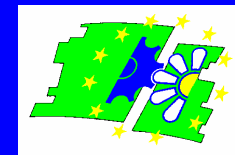
Core estimates of annual health damage due to air pollution in 2000 and in 2020 in EU25, plus the difference between 2000 and 2020.

	2000 (€bn)		2020 (€bn)		Difference (€bn)	
	Low estimate	High estimate	Low estimate	High estimate	Low estimate	High estimate
O <sub>3</sub> mortality	1.12	2.51	1.09	2.43	0.03	0.08
O <sub>3</sub> morbidity	6.3	6.3	4.2	4.2	2.1	2.1
PM mortality	190.2	702.8	129.5	548.2	60.7	154.6
PM morbidity	78.3	78.3	54.1	54.1	24.2	24.2
<b>Total</b>	<b>275.8</b>	<b>789.9</b>	<b>188.8</b>	<b>608.9</b>	<b>87.0</b>	<b>181.0</b>

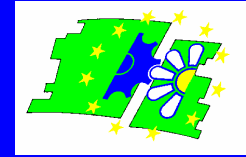


# Action needed - Thematic Strategy on Air Pollution

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- **Major significant negative effects on human health and the environment**
  - **Action needed to improve health protection**
    - New AQ objectives to limit the risk for the population and for the individuals (combining effectiveness and equity)
  - **Action needed to have relevant and improved information**
    - PM 2.5 exposure and coarse fraction and ozone exposure
    - Air pollution (PM2.5) health effects relevant for the EU
    - Improved assessment of air pollution situation
  - **Reduced emissions through cost-effective measures in all sectors, leading to a significant improvement of health**
    - Shipping
    - Transport, energy (including small-scale installations) and industry
    - Agriculture (to reduce secondary PM)
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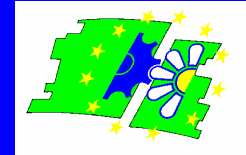
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## **2. Some possible elements of the Thematic Strategy on Air Pollution**

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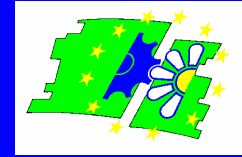
## **Air Pollution Strategy Package contains: DG Environment**



- **Thematic Strategy on Air Pollution**
  - Communication with proposal of overall ambition level for interim objectives with substantial improvements
  - Cost-effective measures and benefits larger than costs
- **Proposal revision of Air Quality legislation and Exchange of Information Decision**
  - Better regulation initiative for co-decision
  - Addresses implementation problems and health effects of PM2.5
- **Impact assessment of the Thematic Strategy and revised Air quality directive**



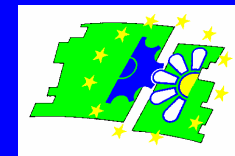
## Better regulation: revised air quality legislation - DG ENV



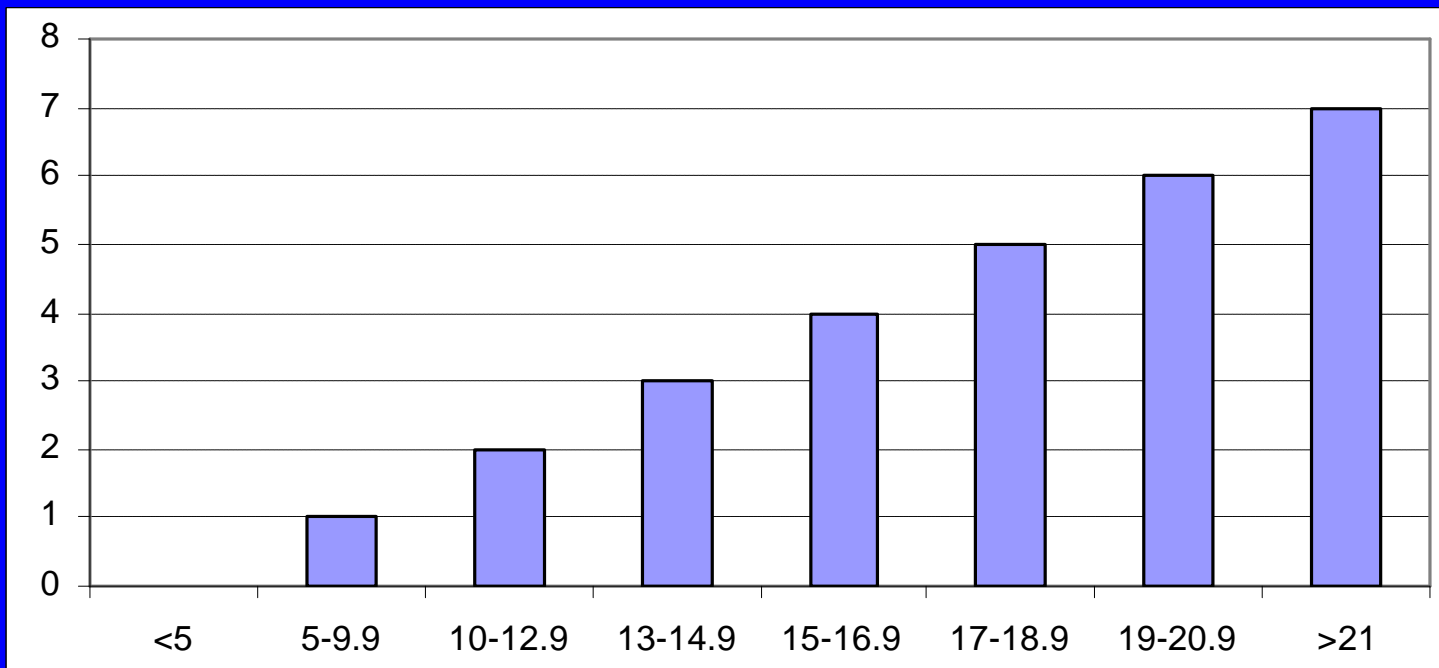
- **Consolidation, remove obsolete provisions**
- **Confirm some principles,**
  - Maintain the present air quality standards
  - AQ objectives apply in the entire territory - MS to assess AQ (maps)
  - MS may discount for non-anthropogenic (“natural”) contribution
- **Monitoring requirements for PM<sub>2.5</sub>**
- **Modernise monitoring and reporting arrangements**
- **Address implementation problems**
  - E.g. “safety valve” if strict objective conditions are met
- **Air Quality Standard for PM<sub>2.5</sub> with a “safety cap” to cap unduly high risk combined with a population exposure index PM<sub>2.5</sub> for MS urban background**
- **Provisions for plans and programs to achieve objectives (e.g. low emission zones)**



# Population exposure index - proportionate reduction



Reduction in  $\mu\text{g}/\text{m}^3$  by 2020  
(three year running average)

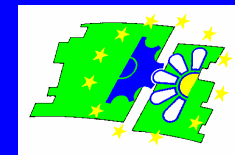


Average urban background PM2.5 concentration in  $\mu\text{g}/\text{m}^3$  in 2008-2010

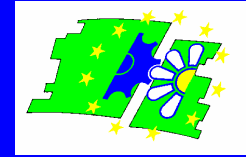
*Example of the principle*



# Air Pollution policy of the EU and Air4EU



- **Best practices for assessment of air pollution**
- **Maps of air pollution at different scales from the local to the regional**
- **Recent development to be accounted for**
  - **Revised directives and requirement of digital maps of air quality**
  - **The role of modelling in the PM2.5 exposure index ??**
  - **Achieving data quality objectives for the assessment**
  - **Connect to GMES and INSPIRE, air pollution projects, CITAIR ...**
  - **Exchange of data between MS and real time analysis and forecasting**
  - **Sustainable Development Indicators and Structural Indicators**
  - **How to account for the « natural » air pollution**
- **Contacts with the end-users and stakeholders**
  - **dissemination of information on air pollution and its health effects to the public (Aarhus),**



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**Thank you!**

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