



European Commission - DG Environment



Clean Air for Europe

European Commission

DG Environment,

Unit C1 (Air and Noise)



Major AQ Objectives (1)

European Commission - DG Environment



- **The pollutants of greatest current concern are particulate matter, ozone and deposition**
- **particulate matter causes premature deaths**
- **there does not appear to be any no-effects threshold**
- **relevant metrics (PM10, PM2.5, number of particles) have yet to be decided**



Major AQ Objectives (2)

European Commission - DG Environment

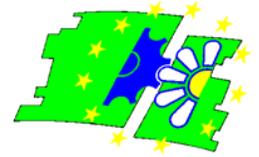


- **ozone also effects human health and vegetation**
- **being a secondary pollutant abatement strategies for ozone must address precursors**
- **exceedences of long term objectives must be expected in the future to forsee**
- **via deposition heavy metals may enter the food chain and affect drinking water**



Major AQ Objectives (3)

European Commission - DG Environment



- **transboundary transport is important for ozone and small PM fractions**
- **local AQ is affected by larger PM fractions and urban ozone plumes**
- **deposition affects the local environment but also has a transboundary character**



The CAFE Programme

European Commission - DG Environment

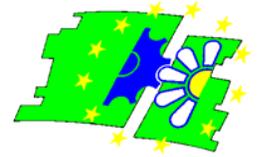


- **The Clean Air for Europe Programme (CAFE)**



The CAFE Programme

European Commission - DG Environment



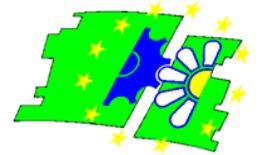
Technical Analysis

- **indicators and targets based on scientific evidence**
- **emission inventories, AQ assessment, AQ and emission projections, cost-effectiveness studies, integrated assessment modelling**
- **need to strengthen links between policy and research**



Major Activities/Initiatives

European Commission - DG Environment



Currently

- **Following implementation of AQD**
- **Systematic Review of Health Aspects of Air Quality in Europe (WHO)**
- **Baseline Scenario and Integrated Assessment Modelling (IIASA/MET.NO/NTUA)**



WG Particulate Matter

European Commission - DG Environment



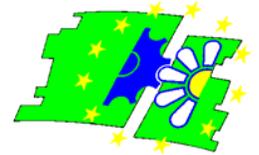
KEY QUESTIONS

- ❖ **Where are we?** Current concentration levels of PM₁₀, PM_{2.5} and PM_{1.0} and particle number concentrations
- ❖ **How have we got to where we are?** Historic trends in emissions and concentrations and reasons for trends.
- ❖ **Where are we going?** Emissions and concentration projections (business as usual and – if feasible - with additional measures)



WG Particulate Matter

European Commission - DG Environment



KEY QUESTIONS (cont.)

- ❖ **Can Member States reach currently set targets (in 2005 and 2010)?**
- ❖ **If not, why not?**
- ❖ **Does the current information on health effects have any impact on the metric to be studied or the targets to be reached?**

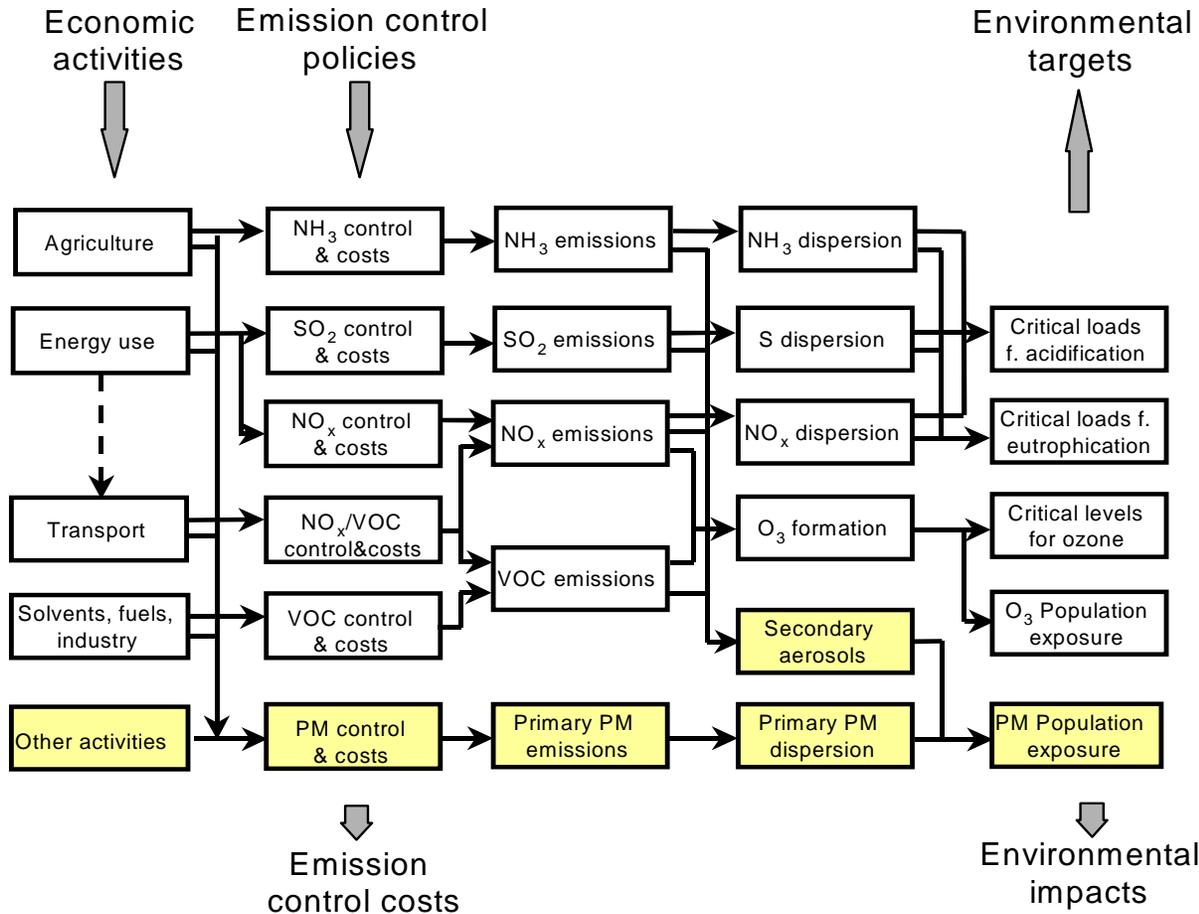


Modeling Abatement Potential for Primary Particulate Matter Emissions in Europe

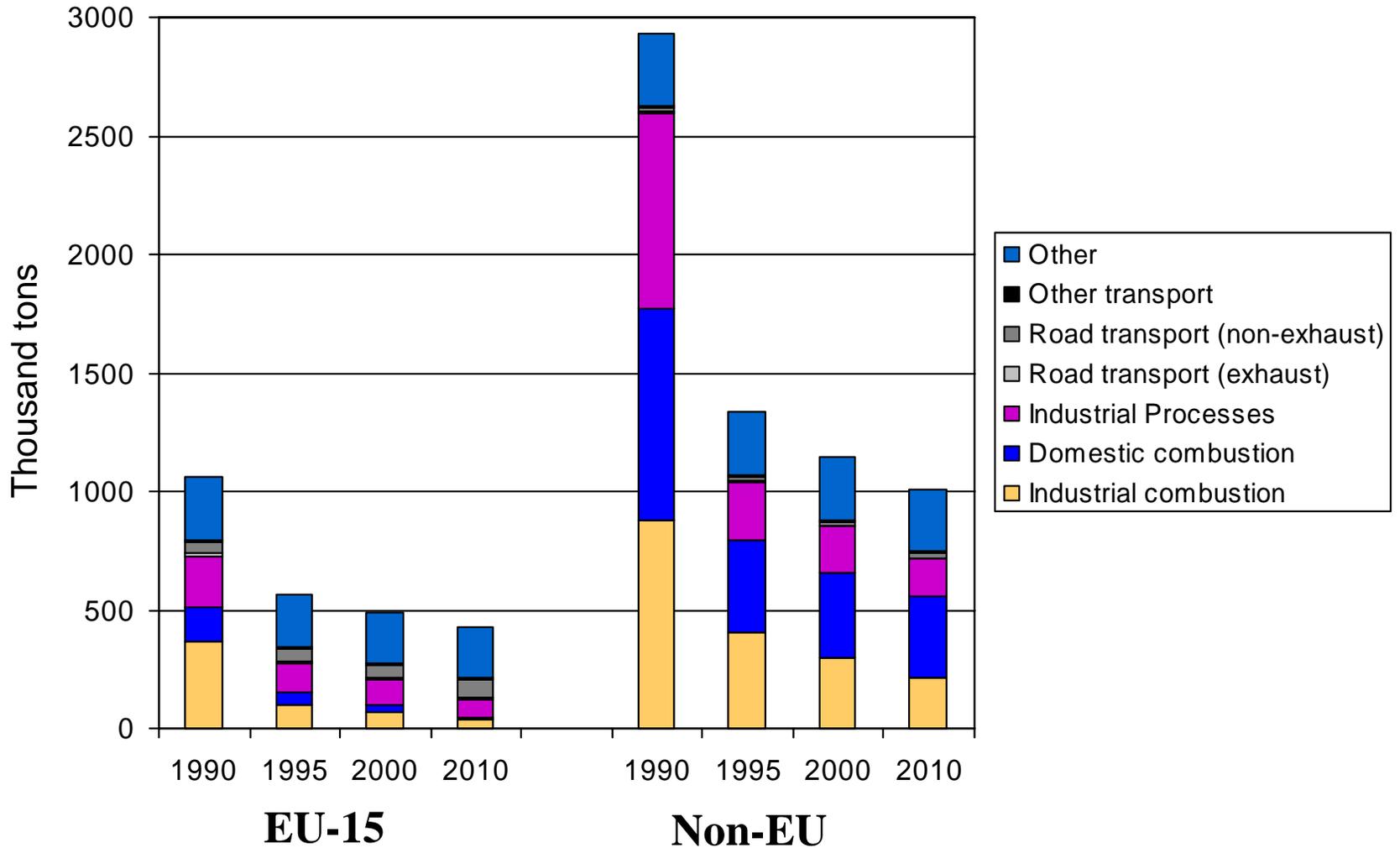
Contents:

- 1. Particulate matter in the RAINS model**
- 2. Current abatement and future reduction potential in Europe**
- 3. Conclusions**

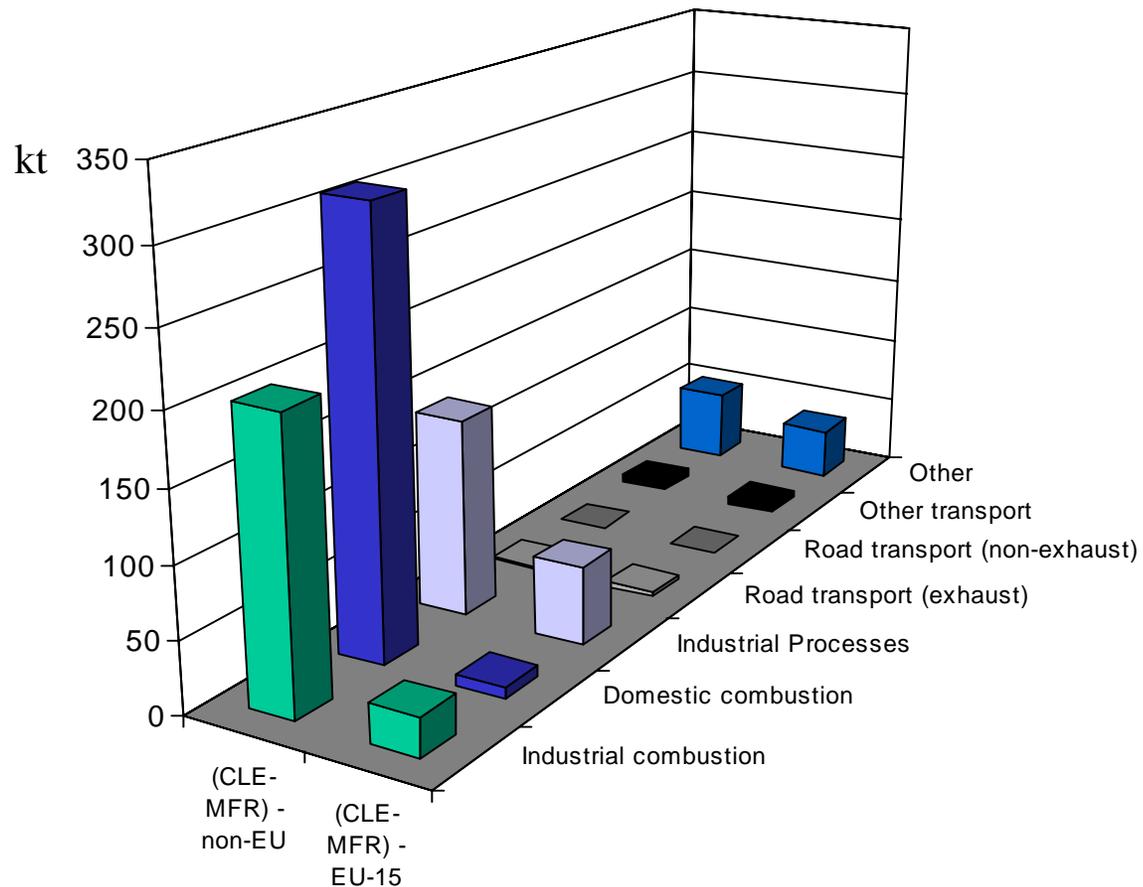
Particulate matter in the RAINS IAM framework



PM (coarse) emissions – current legislation



Reduction potential for coarse particles in specific sectors (CLE and MFR scenarios for 2010)



Conclusions



- **Methodology for assessment of PM emissions in Europe developed but**
 - Need for thorough verifications of assumptions used in calculations
- **In spite of advanced controls, 1995 emissions of coarse particles dominated by industrial combustion and processes;**
- **The role of non-exhaust emissions from transport and other sources (e.g., material handling, agriculture, construction) increases dramatically by 2010;**
- **Current legislation does not fully explore the reduction potential;**
- **Several sources difficult to control, e.g., non-exhaust from transport, material handling, agriculture.**