

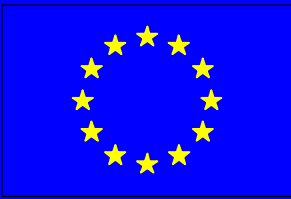


Air Quality Policy

Implementation

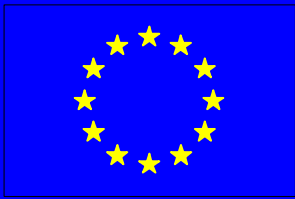
Thematic Strategy on Air Pollution and towards 6EAP objectives

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ENV C3, DG Environment

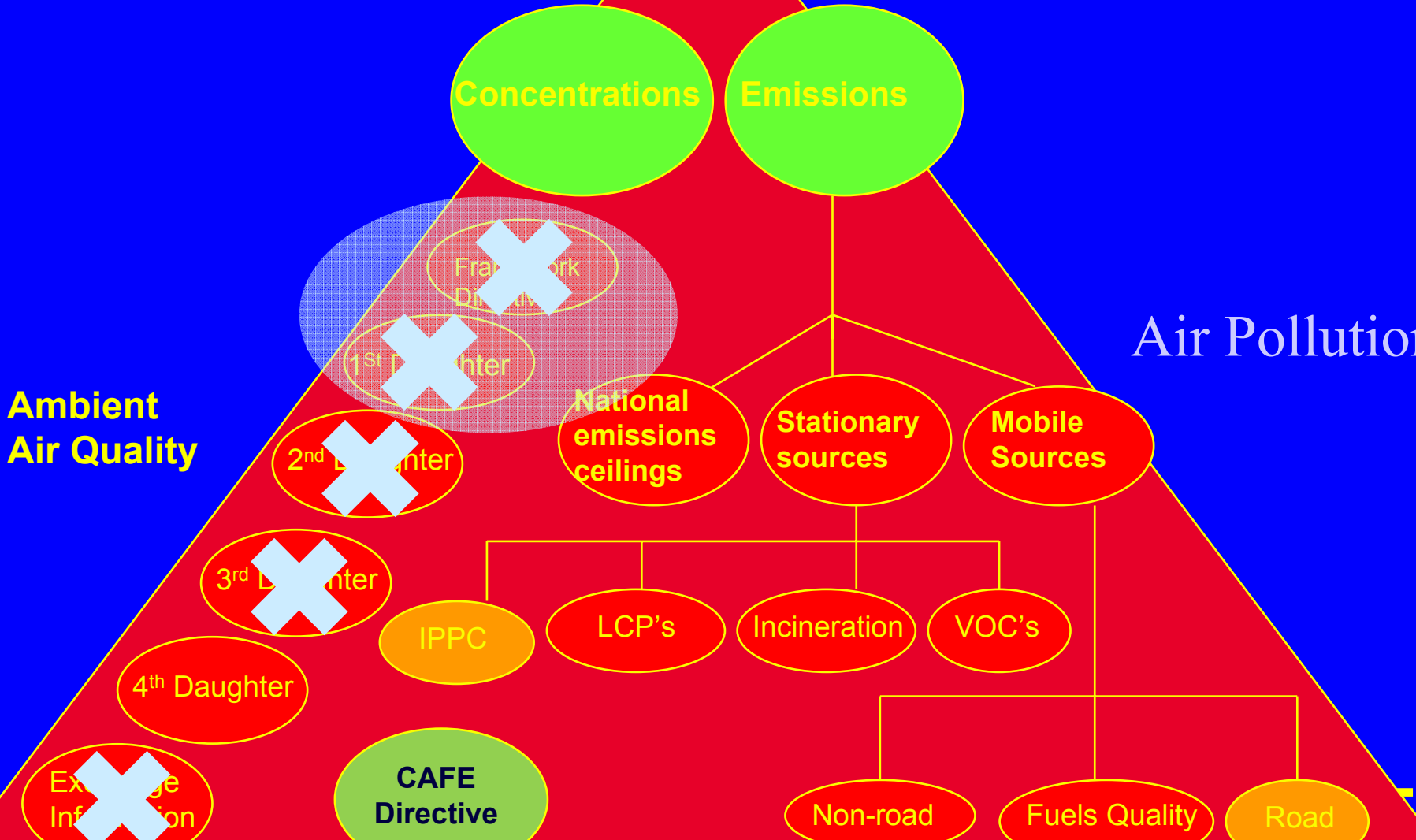


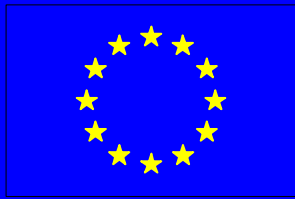
Outline

- **New Directive 2008/50/EC published in OJ
11 June 2008**
- **What's new?**
- **Why have we done it, what are the expectations?**
- **Current status & enforcement**
- **Implementation - new Directive**
- **Post-CAFE and Directive review**
- **What we want to know?**



Community Air Policy





AQD Co-decision Summary

- **Commission Proposal in September 2005**
- **European Parliament 1st reading September 2006**
- **Council political agreement October 2006**
 - **Common position 25 June 2007**
 - **Commission supports common position**
- **2nd reading :**
 - **EP ENVI 9 October**
 - **...negotiation...**
 - **EP Plenary 12 December**
- **Adoption 21 May 2008**
- **Entry into force : 11 June 2008**



What's new (1)

5 objectives for PM_{2,5}

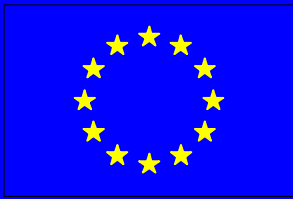
1) Target and limit value

- 25µg/m³ annual average to apply everywhere .
- Target value in 2010, limit value in 2015

Indicative limit value of 20µg/m³ in 2020, to be confirmed at review

2) Exposure (based on national average exposure indicator)

- Exposure concentration obligation 20µg/m³ in 2015
- Exposure reduction target to reduce national average measured urban background concentration 0-20% between 2010 and 2020 subject to later review where differentiated MS legal objectives to be proposed



What's new (2)

Addressing compliance problems (Article 22)

- **Attainment date not yet arrived (NO₂)**
 - **Maximum postponement up to 2015**
- **Attainment data already passed (PM₁₀)**
 - **Only if rationale can be given**
 - **Until May 2011**

- **Conditions** : amended plan which obligatory had to at least consider a list of measures (Annex to the Directive)
- **LV in force, but at LV+MoT level**

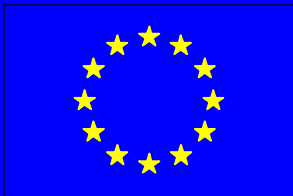


What's new (3)

Addressing man-made pollution

Existing provision to deduct natural events (Sahara dust episode) generalized to natural contributions

- **New possibility : sea spray**
- **Deduction needs to be well justified**
 - Further source apportionment mostly required to be able to use this provision
- **Guidance in development**



What's new (4)

Where limit values apply

- **Specific list of locations where compliance with limit values related to health is not to be assessed**
 - **On the motorway**
 - **Where no access and no permanent habitation**

- **Limit values apply everywhere!**



What can be expected from the revision of the Air Quality Directive?

- Streamlined provisions, more clarity in implementation
- **PM2.5 objectives, monitoring requirements including speciation in background**
 - Focused , more coherent measures, better information for further policy development
- **More time for compliance, under conditions**
 - **Assessment of measures by Commission**
- **Expanded concept of deduction of natural contributions**
 - Assessment > better understanding of sources, more effective measures
- **Additional QA/QC provisions, reference methods...**
higher quality data (monitoring & modelling)
- **New reporting provisions**
 - Faster availability (NRT), higher quality, spatial dimension of AQ
- **Updated guidance**
 - Support to implementation and more harmonized approach



Why have we done it? Objectives Air Quality (I)

„Aerem corrumpere non licet”

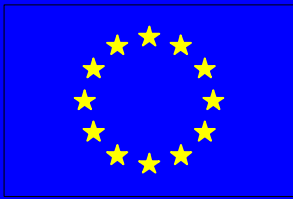
[Roman senate, BC]



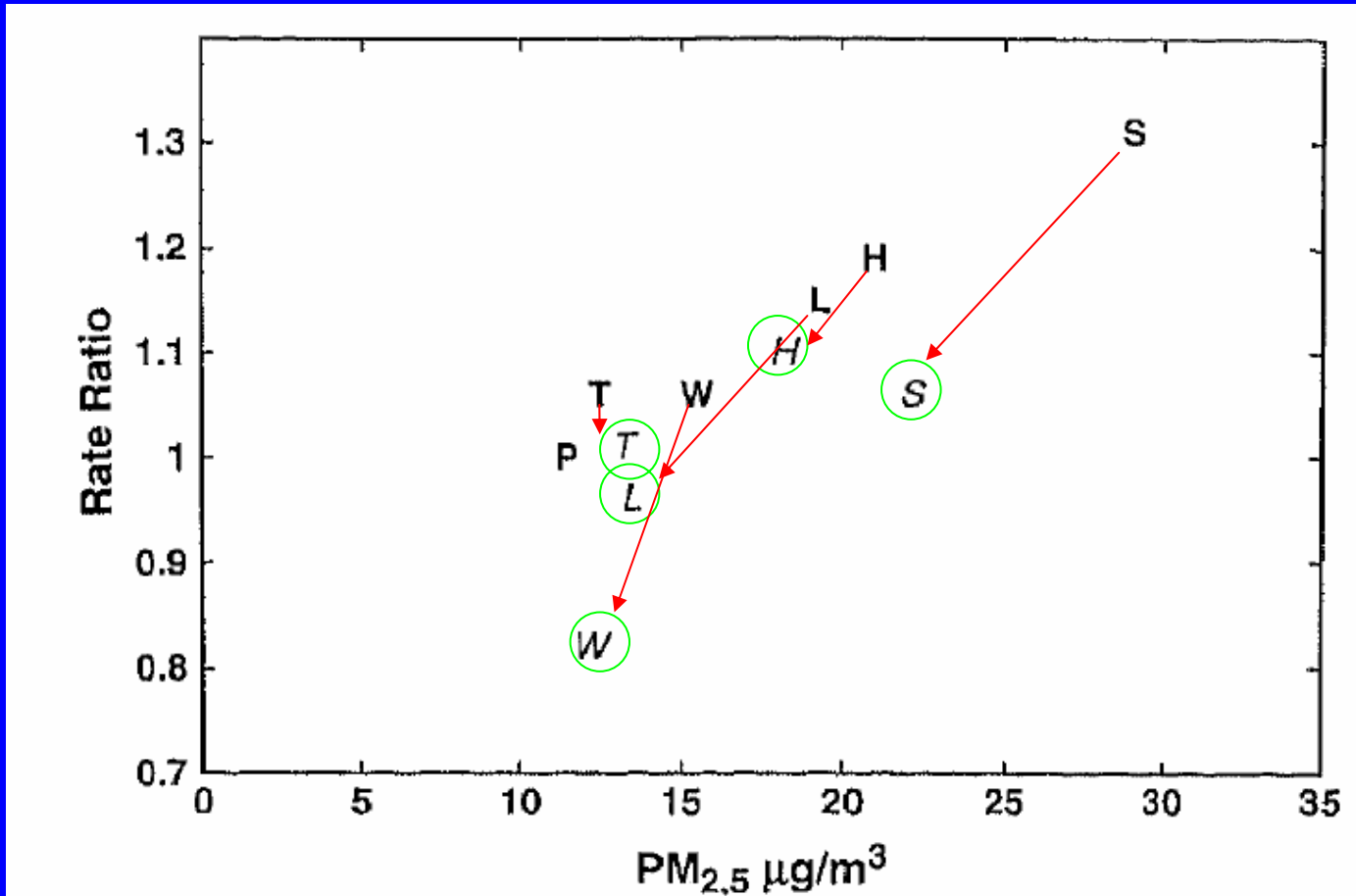
Why have we done it? Objectives Air Quality (II)

2002: 6th Environmental Action Programme

*‘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)*



Do reduced concentrations bring improvement in health?

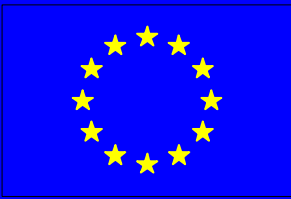


Laden et al. AJRCCM 2006



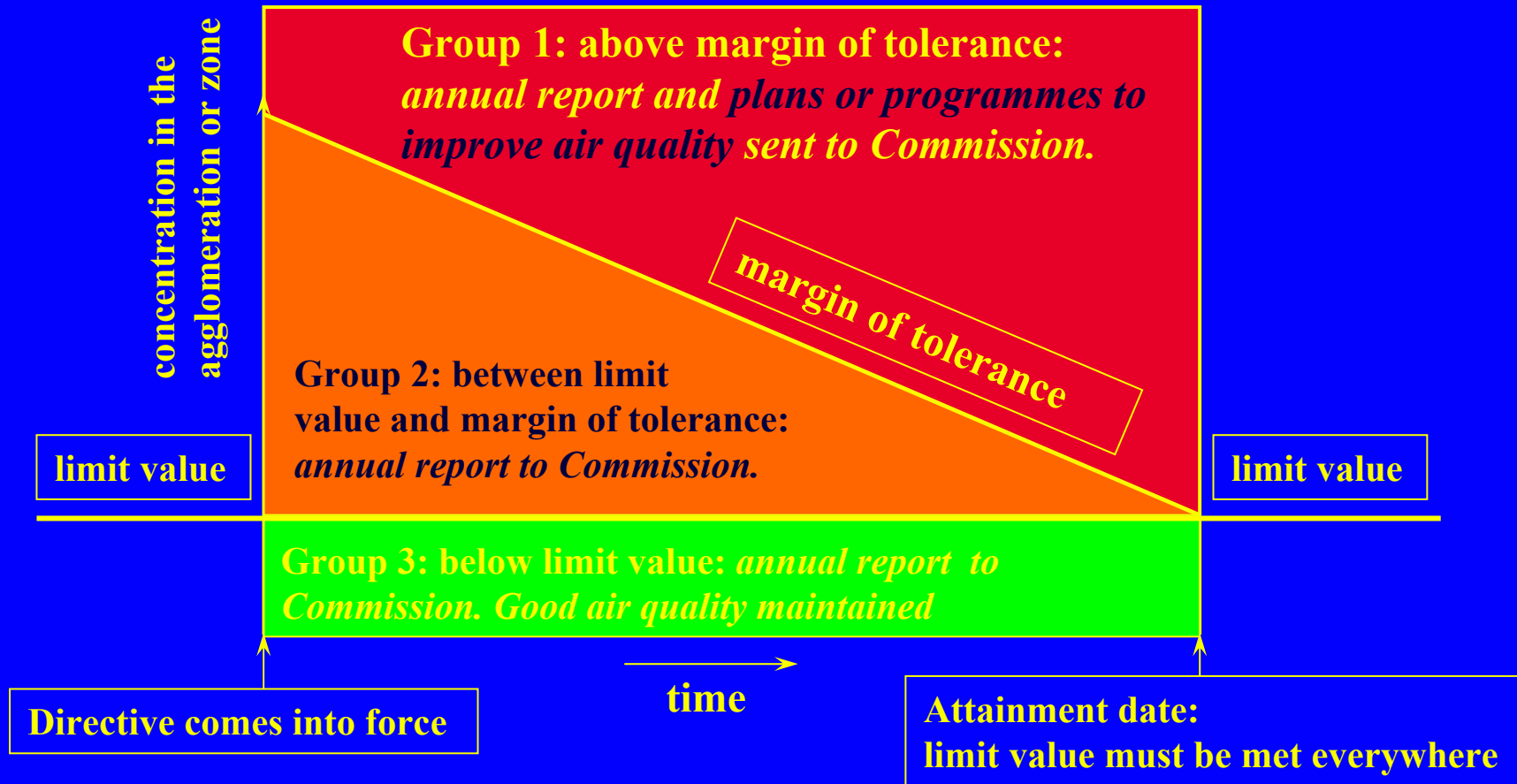
Are we not there yet? AQ assessment and management

- **Air Quality Framework directive established principles & techniques**
 - Well defined air quality management zones
 - Assessment of 12+ pollutant concentrations using monitoring and modelling
 - Plans & Programmes mandatory to meet air quality limits *before* entry into force
 - Legal sanctions before the Court of Justice for non-compliance after limits in force.



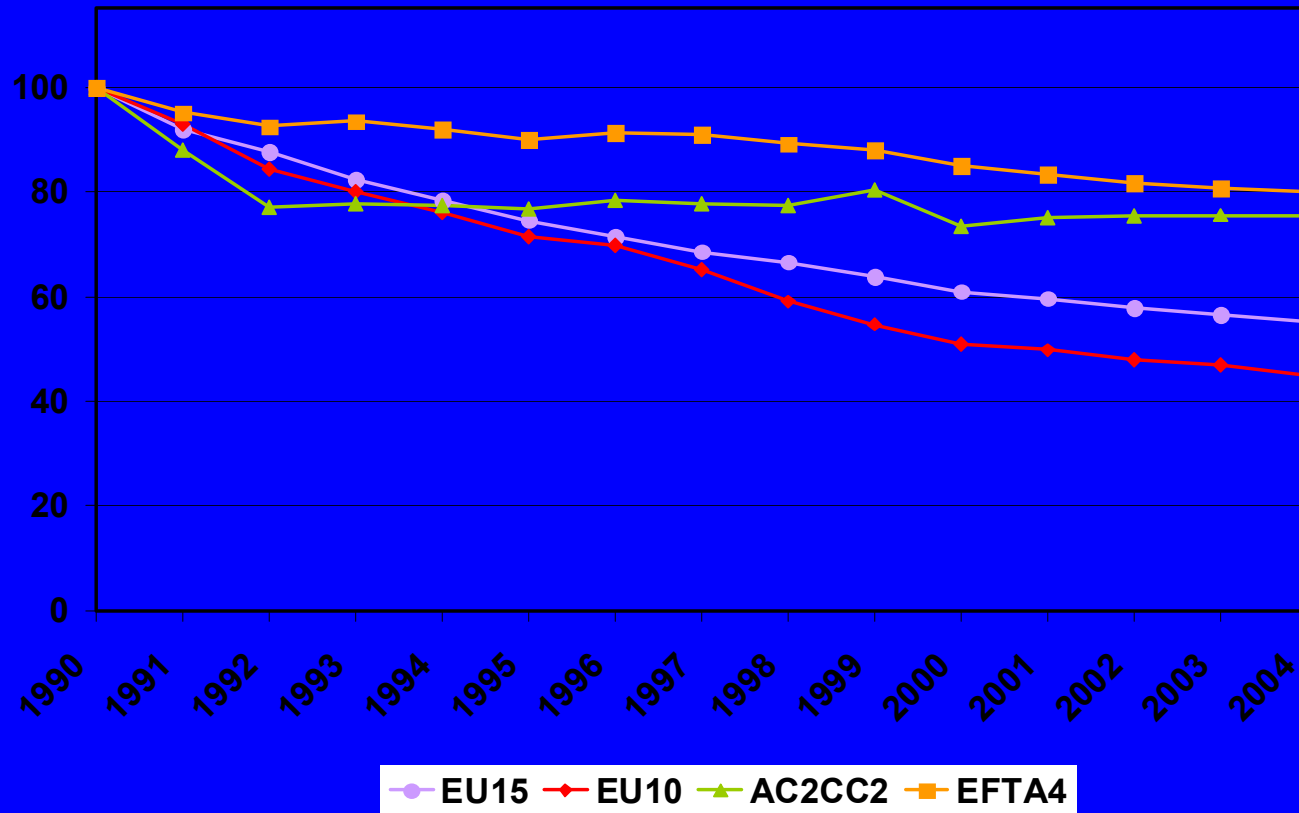
Attainment scheme

Improvement through Community and local measures



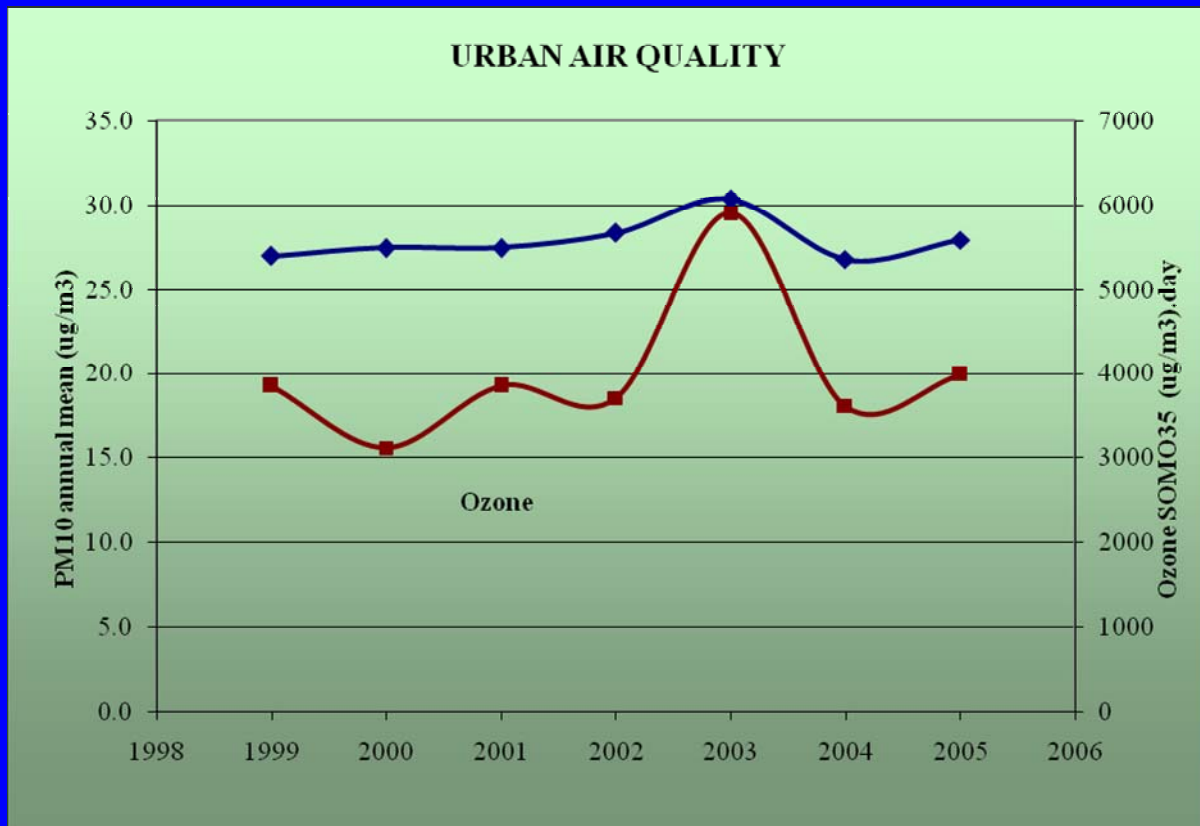


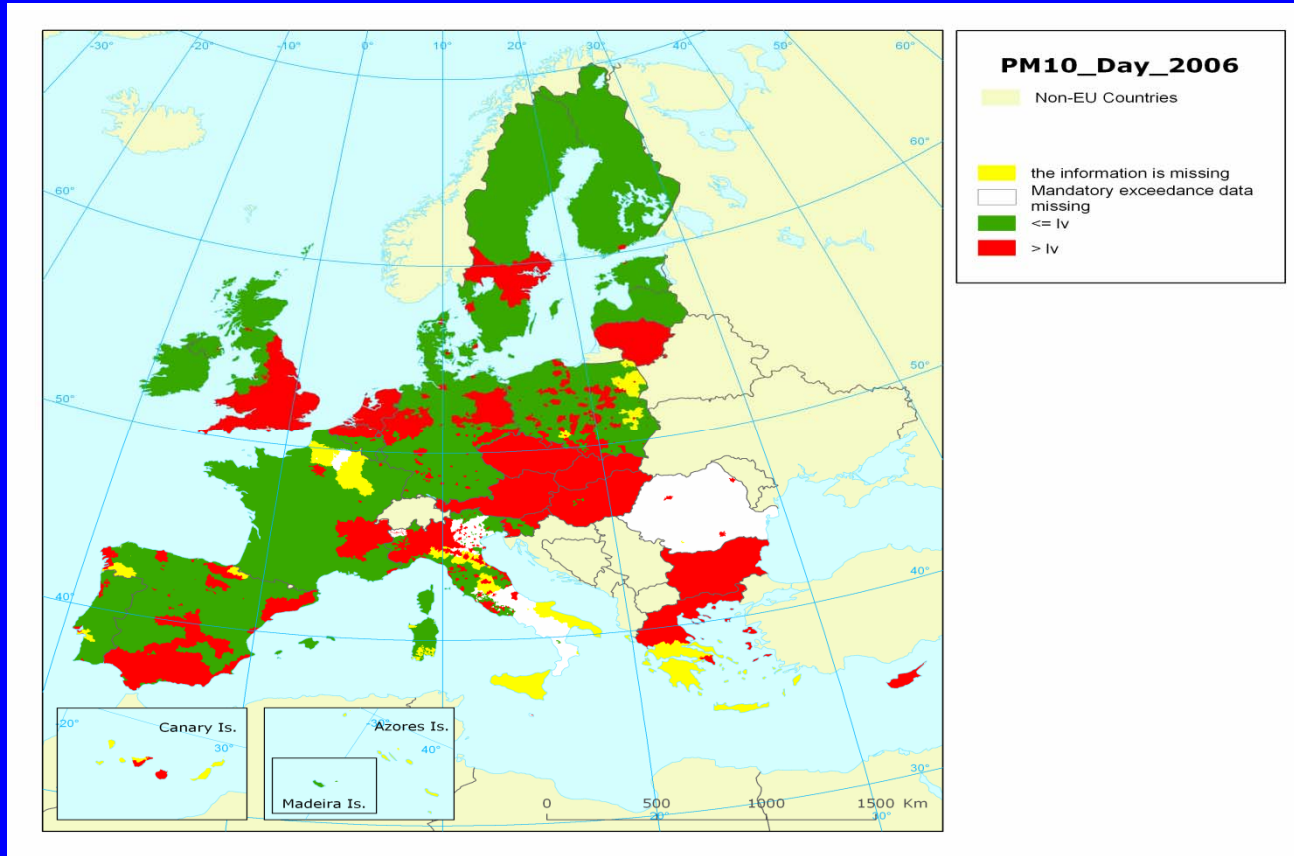
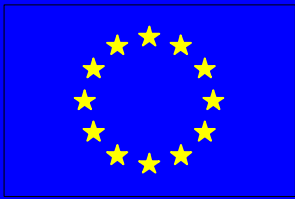
Emissions of particulate matter





Structural indicator





By EEA ETC/ACC, Source : Q4



Why no improvement?

- **Plans and programmes (regional/local action)**
 - **Plans late or very late**
 - **Often not all possible measures are explored, only limited chosen**
 - **Assessment of effects of measures limited**
 - **Sound and timely planning required for efficient measures**
 - **Cooperation across levels of governance, across borders and across policies (i.e. climate change) provide more cost-effective response**
- **Community measures**
 - **Implementation! NEC,IPPC**
 - **Not timely enough, less effective than anticipated**
- **Pressures - traffic in urban areas**



The CAFE Process

6EAP

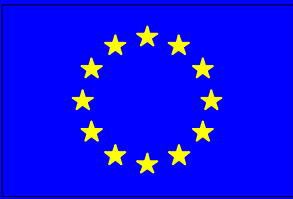
Better regulation

CAFE

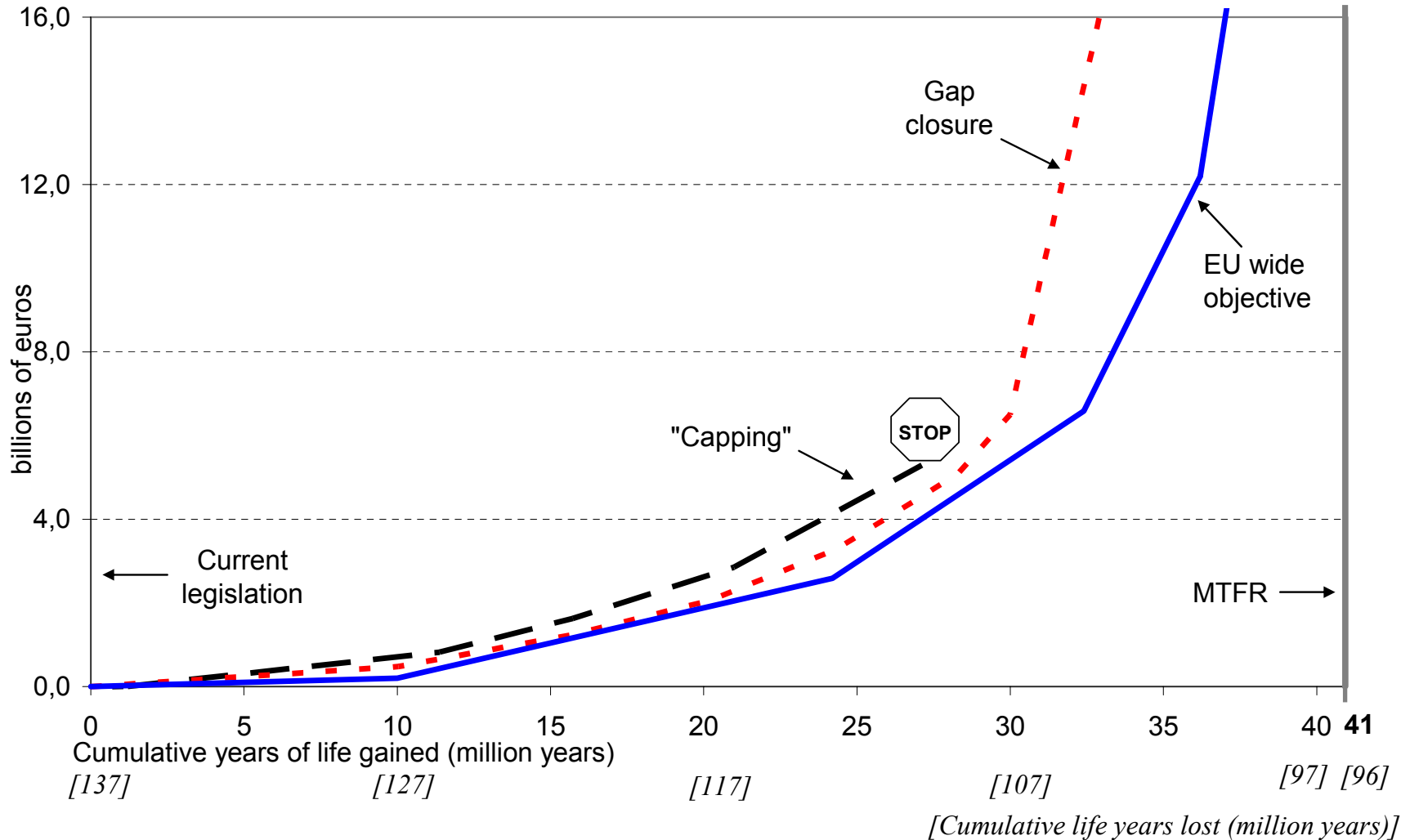
Science & peer review
Implementation experience
IAM + CBA
Stakeholder involvement

Thematic Strategy on Air Pollution
Proposal AQ Directive COM (2005) 447

AQD, Transposition, Implementation, *Review*



Target setting

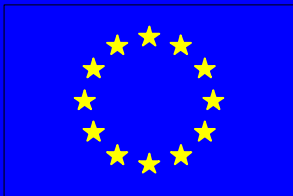




Strategy

- **Objectives**
 - **-1/2 health impact (of fine particles) by 2020**
- **Implementation**
 - **Revision of existing and development of new Community measures**
 - **Work in international arena (IMO-shipping)**
 - **Links with other policies**

See also declaration published jointly with the new Directive in OJ



Statement by the Commission

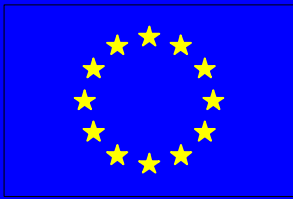
The Commission takes note of the text adopted by the Council and the European Parliament for the Directive on ambient air quality and cleaner air for Europe. In particular, the Commission notes the importance attributed by the European Parliament and the Member States in Article 22(4) and recital 16 to Community measures for the abatement of air pollutant emissions at source. The Commission recognises the need to reduce the emissions of harmful air pollutants if significant progress is to be delivered towards the objectives established in the Sixth Environmental Action Programme. The Commission's communication on a thematic strategy on air pollution sets out a significant number of possible Community measures. Significant progress on these and other measures has been made since the adoption of the strategy:

- the Council and Parliament have already adopted new legislation limiting the exhaust emissions of light duty vehicles,
- the Commission has adopted a proposal for new legislation to improve the effectiveness of Community industrial emissions legislation including intensive agricultural installations and measures to tackle smaller scale industrial combustion sources,
- the Commission has adopted a proposal for new legislation limiting the exhaust emissions of engines installed in heavy duty vehicles,

In 2008 the Commission foresees new legislative proposals that would:

- further reduce the Member States' permitted national emissions of key pollutants,
- reduce emissions associated with refuelling of petrol cars at service stations,
- address the sulphur content of fuels including marine fuels,
- preparatory work is also underway to investigate the feasibility of:
 - improving the eco-design and reducing the emissions of domestic boilers and water heaters,
 - reducing the solvent content of paints, varnishes and vehicle refinishing products,
 - reducing the exhaust emissions of non-road mobile machinery and thereby maximise the benefit of lower sulphur non-road fuels already proposed by the Commission,
- The Commission also continues to push for substantial emissions reductions from ships at the International Maritime Organisation and it is committed to bringing forward proposals for Community measures should the IMO fail to deliver sufficiently ambitious proposals as foreseen in 2008.

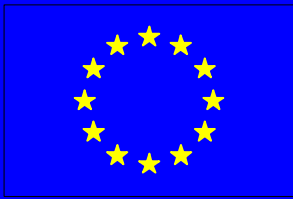
The Commission is, however, committed to the aims of its Better Regulation initiative and the need for proposals to be underpinned by a comprehensive assessment of the impacts and benefits. In this regard and in accordance with the Treaty establishing the European Community, the Commission will continue to evaluate the need to bring forward new legislative proposals but reserves its right to decide if and when it would be appropriate to present any such proposal.



Implementation (Directive)

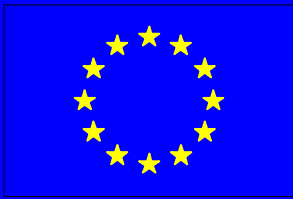
- **Transition**
 - From existing legislation to new Directive
- **Guidance (5x)**
- **Implementing Provisions on Reporting**
- **Integrated QA/QC**
- **Link to Community action**
 - GMES – user oriented service
 - Shared Environmental Information System (SEIS) / INSPIRE
 - JRC/EIONET modelling work

Objective : facilitate and improve implementation



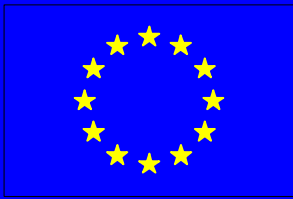
Will all that be enough?

- **Some questions remain open...**
- **Air Quality Directive review in 2013**
 - **‘Mini CAFE’ including review of health effects and impact of Community measures**
 - **Explicit objectives in Article 32**
 - Review provision for all pollutants as appropriate. [New pollutants?]
 - Explicitly PM2.5
 - Legally binding exposure reduction target, review exposure concentration obligation
 - More ambitious limit value
 - Confirm/modify indicative limit value
 - Monitoring
 - **Chance to review other provisions**
 - Assessment requirements in view of availability of GMES GAS, work on modelling
 - Requirements for focused measures



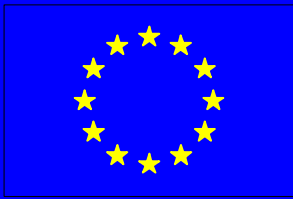
Implementation is continuous battle...

- **Implementation of AQ legislation**
 - Art 22 time extension : comparability challenge
 - Exposure objectives
 - Effective measures (short/long term) at local scale
- **Revision of every single instrument**
 - Objectives, information (NEC/emissions)
- **Enforcement**
 - PM, SO₂ : AQ & IPPC
- **Changing environment**
 - CC/energy, improved methodologies, NEC example
- **Coherence, efficient use of available instruments**
 - **EIA,SEA**, air quality plans, transport policy...
 - Public participation, transparent methodologies, review
- **New tools (EHIS, SEIS, INSPIRE, GMES)**

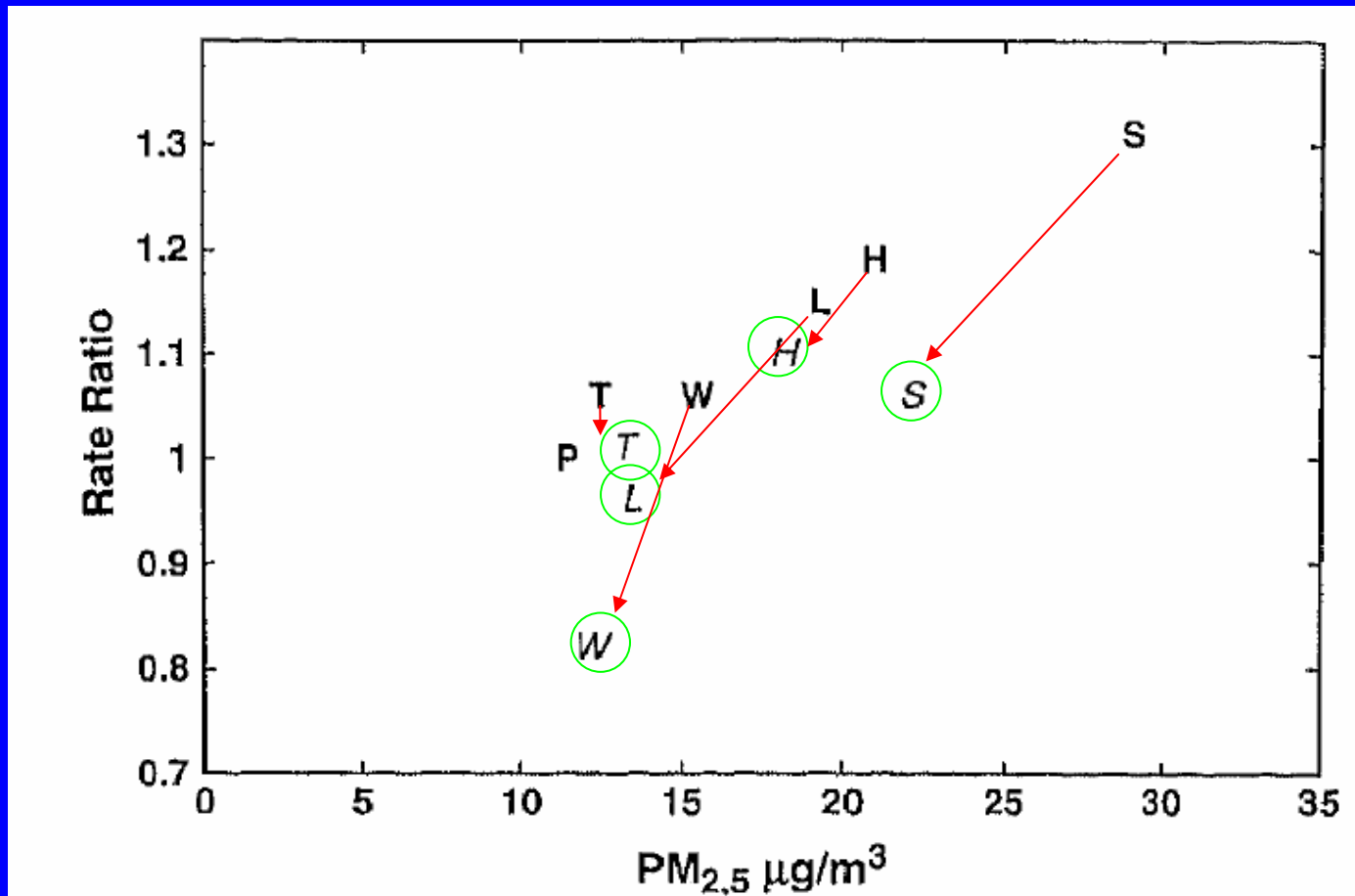


Summary

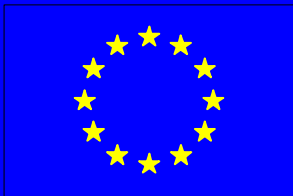
- **New AQD is adopted.**
 - Ensure PM2.5 provisions trigger effective action
- **Implementation & enforcement**
 - Time extension process
 - Infringements, abatement measures and local action
 - Objectives and further Community measures at source
 - 6EAP vs. Thematic Strategy on Air Pollution objectives
- **Review**
- **What we need**
 - What we know, What have worked until now, show it make sense
 - What needs to be done : objectives + measures (sources addressed)
 - EU is large; sensitivity analysis
 - Effects of policy in future : understand implications



...hope we such info in EU by 20xx...



Laden et al. AJRCCM 2006



Thank you

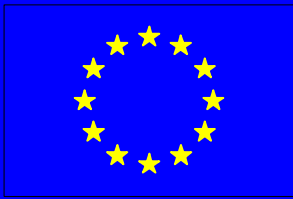
<http://ec.europa.eu/environment/air/index.htm>

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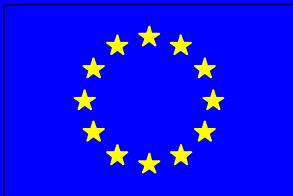
Air /climate change links

- **Climate sensitivity (aerosols)**
- **CC may exacerbate AP health, agricultural production, and ecosystem impacts**
(ACCENT network – ‘common issues’ report)
- **Link through measures**
 - Synergies (energy efficiency – beware: indoor air quality)
 - Trade-offs (wood burning)
 - tbd (effect varies : land use, transport solutions, biofuels...)
- **Need for consistent integrated assessment models (IAM)**
 - Example : revision of national emission ceilings
- **Scales issue**
 - Regional/hemispheric AP becoming increasingly important
 - AP/CC linkage more apparent at larger scales...
 - ...but intimate links present also on a very local level!



CAFE research needs I

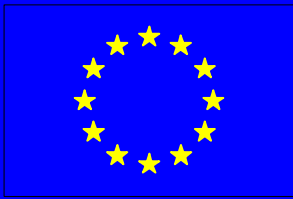
- **Understanding changes in environment, society and structural shift**
 - New technologies for production and abatement of emissions
 - global changes of trade and industry
 - Effects of Climate change (in environment and of CC policy)
- **Emission sources, atmospheric chemistry and air pollution dispersion**
 - Sources of PM : natural/anthropogenic, secondary organics...
 - Long distance
 - Links air pollution/climate change
 - Improved assessment: advanced monitoring, modelling, use of remote sensing



CAFE research needs II

- **Effects of air pollution**

- **How changing sources and composition impacts on the human population**
- **health-related studies on exposure patterns and effects of air pollution abatement and policies (*ex post* evaluations).**
- **the sensitivity and vulnerability of the population and different population groups, which may also change with time. Identify contributing sources of exposure outdoor/indoor, to the different groups**
- **effects of long term exposure to different size fractions**
- **fuel-source specific risks (e.g emissions from diesel engines and combustion sources) including also ultra-fine particles.**
- **understand the composition specific effects of particulate matter (e.g. secondary organic and inorganic aerosols, metals) - epidemiology and toxicology.**
- **long term studies of air pollution impact on different European population groups including children, and to follow this group (cohort) over substantial time. Also other population groups would be followed in epidemiological studies. Closely linked with the Environment and health strategy of the Commission (jointly between DG ENV, DG SANCO and DG RTD).**



CAFE research needs III

- **Assessment tools and policy instruments and abatement strategies and technologies**
 - **support to introduction of new technologies and abatement techniques for bench/feasibility test, pilot scale and full scale early introduction**
 - **on-board diagnostics and portable emissions monitoring equipment of air pollution**
 - **develop integrated approaches to facilitate the development and implementation of existing effective emission abatement strategies – includes downscaling of EU Impact Assessment**
 - **further develop integrated assessment**
 - **Comparison *ex-ante* and *ex-post***
 - **Risk communication, indicators**