

The purpose of EMEP is - by definition - to quantify the degree to which emissions in different countries affect the air quality and the deposition in any of the member countries

- *The question of long-range transport of aerosol particles was specifically added to the work programme in 1999*

# Major challenges

- Emission inventories
- Relevant and adequate measurement programme
- Formation of secondary in- and organic particulate matter
- Particle dynamics
- Model development and validation
- Integrated assessment

# Requirements to the measurement programme

- Representative rural sites
- Standard methodologies
- In addition special requirements;
  - Chemical mass closure
    - full characterisation of inorganic compounds
    - EC/OC determination
    - Improved OC characterisation
    - Speciation as function of size
  - Physical characterisation
    - number size distribution
    - surface area distribution

# Development of the strategy

- The Interlaken workshop
- Measurement of aerosol particle mass and chemical speciation of aerosol particles (EMEP-CCC Note 1/2000), May 2000
- TFMM-meeting, Vienna October 2000. Development of a measurement strategy for PM .
- Based on the above, a revised strategy is currently under preparation by the EMEP-CCC considering;
  - *Difficulties in implementing the recommendations*
  - *Comments received*
  - *Discussed at the EMEP bureau meeting, to be adopted at the coming Steering Body meeting in September 2001.*

# Proposed changes to the strategy;

- Level 1 (all sites)
  - PM10 to be measured at least at one station in each country
  - EC/OC determination for one sample each week for a number of sites at a common laboratory
  - Base cations and sea-salt to be measured at the same sites as above
- Level 2 (5-10 sites)
  - link to the EMEP “Supersites” is recommended (though the term “supersites” needs clarifications)
  - Denuder measurements (N-compounds)
  - Mineral dust
- Level 3 (research activities)
  - Number and Area size distribution
  - Chemical speciation as function of particle size
  - OC-characterisation/speciation
    - several steps have been made to cooperate with ongoing research activities

## Current implementation for airborne compounds (reported data for 1999);

- PM10 mass reported from 4 countries and 24 sites
  - Switzerland (5), Germany (8), Spain (10) and Italy (1)
- Sulphate from 27 countries, 81 sites
- Nitrogen compounds 20 countries, 37 sites
  - gas/particle distribution at 21 sites
- Base cations and sea salts from 1 country, 6 sites
- EC and or OC; not reported from any sites

## Information needed;

- Questionnaire to be submitted this summer
- Data to be expected for 2000, 2001 and 2002
  - level 1,
  - level 2,
  - level 3,
- EC/OC determination, selection of sites,
  - report to the EMEP steering body, September 2001

## Progress towards “level 3”;

- Nordic PM-project (Hansson, Kulmala, MSC-W, CCC)
- EU-projects
  - Singads, Sub-Aero, El-Cid, Bond, Nice, Caater, others
- PI-contribution to AEROSOL (EUROTRAC-2)
- EC-JRC-AEROSOL initiative (Putaud)
- Switzerland (Gehrig)
- EEA-Airbase