

Task Force for Measurements and Modelling






Activities in 2014

- ▶ **TFMM continues to server as a forum for scientific exchange on:**
 - ▶ **Observations, their quality, observational priority**
 - ▶ **Models development, comparison and performance**
 - ▶ **Interpretation of the observational data and modelling results**
- ▶ **Annual meeting, 8-10 April 2014, Bologna, Italy**
- ▶ **Trend analysis workshop, 17-18 November 2014, Paris, France**

Issue: lack of collaboration with the other bodies under Convention




Lack of collaboration and who is a user community

- Working group on effects: we do not know how they do attribution (do they use EMEP observations)
- Working group on health effects: the risks are where you have population – EMEP monitoring strategy is for the areas “not impacted by emissions”
- Working group on nitrogen: do they use/compliment observations done by TFMM members
- Several attempts to express TFMM modelling community needs in emission inventories were not heard
- Emission inventories for black carbon will be difficult to verify: TFMM expressed its concern about vague term which were not considered by the other groups
- Etc...

Implementation of monitoring strategy

- CCC made an assessment of monitoring strategy implementation – far from optimal (**Question:** does it reflect the needs of other groups? Do we have proper user community?)
- Quality of observations is not improving
- Parties choose country specific priorities – distribution of measurement parameters and measurement frequency in the network is not uniform
- Parties do not take required correction actions on the measurements after comparison campaigns
- There is a lot of research data in the Parties – how do we bring this in Convention

Potential solution: to organize a dedicated workshop on the value of high quality data (with input from other bodies)



Intensive observation periods

- Deliver new science and understanding of the processes, **but**
- Expensive
- Time and resources consuming
- User community (are they used for effects studies?)

To have a new IOP:

- coordination with research projects on resources mobilization
- appropriate and highly relevant topic are needed.

Potential interests are PM, urban increment, NRT capacity, extension of domain to Eastern Europe, bio VOCs. **Plans for 2016 IOP to be discussed at TFMM annual meeting**



Heavy metal case study

- Coordinated by MSC-East
 - Include partnership with national experts
 - Were proven useful for countries where such studies were accomplished
 - **Results for Belarus and Poland will be presented at TFMM annual meeting**
- 



Modelling activities

- ▶ EMEP models developments
- ▶ EURODELTA3 project started (includes 7 models)
- ▶ Limited set of data for model verification (especially deposition)
- ▶ Significant uncertainties in 90s due to emission uncertainties
- ▶ Multi- model comparison with observations can serve as a good tool for emissions verification

Trend analysis: motivation

- Support to air pollution decision makers involved in the CLRTAP : **lessons learnt for 20 years**
- Contribution to the future **CLRTAP assessment report (?)**
- A synthesis of input, data, information produces by the EMEP centers and by **national experts**
- For the first time gathering **observed and modeled** trends ...
 - Assessment of the « efficiency » of the emission reduction strategies adopted with the protocols, links with integrated modelling
 - Evaluation of trends in long range fluxes, collaboration with HTAP
 - Better understanding of the air pollution patterns in Europe including links with the local scale
 - Discrimination between contributions from anthropogenic and natural sources
 - Mapped information thanks to modelling



Methodologies discussion

- Variables
- Periods (1992-2012 and 2002 – 2012)
- Data sets resolution
- Data filtering
- Analytical techniques for trend estimate
- Stations selection
- Comparison with modelling

First decisions for the work plan

- Statistical analysis tools for observations -> note to be published by the EMEP centers
- Tools for analysis available from the centers
- The set of stations for observed trends should be defined with national experts :
 - First set from the EMEP and scientific networks (with 20 years time series, QA/QC principles checked...)
 - This list should be completed for each country by national experts, including urban sites if they are considered as relevant
 - The final set of stations is validated by the national experts
- Modelling work will be mainly supported by EURODELTA and by the current projects from the EMEP-centers
- Wiki-page proposed and maintained by MSC-West for exchange of information
- ACP special issue



TFMM draft work plan for 2015-2016

- Assess the implementation of the EMEP monitoring strategy and discuss its relevance
- Develop collaboration with research activities in Europe (including potential IOP in 2016)
- Strengthen focus on quality of observations through dedicated workshop and better involvement of user community
- Promote new heavy metal case studies
- Promote EURODELTA 3 exercise
- Perform trend analysis and promote its results
- Promote collaboration with the other Convention bodies