Minutes of the Ninth COST 715 Meeting of Working Group 2

Reading, England, 22 and 23 September 2003

Participants:

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Marco Deserti
Sylvain Joffre
Ari Karppinen
Patrice Mestayer
Douglas Middleton
Martin Piringer

1. The meeting was hosted in room G2 at the Environment Agency in King's Meadow House and took place before noon on the 22nd and in the afternoon of the 23rd.

2. The agenda was adopted revised and is given in Annex 1. Adresses of WG 2 members are given in Annex 2.

3. The minutes of the Sofia meeting have been adopted without change.

4. Review of Toulouse and Sofia decisions:

   D 4 from Toulouse (Study contract):

   D 1: MP will contact Maria and Jerzy on the status of their promised activities.

   Sofia decisions:

   D 1: done. Further activities concerning FUMAPEX see item 6.

   D 2: MH paper in progress (see item 7).

   D 3: done. MP thanked AK again for maintaining the WG 2 web page (http://cost.fmi.fi).

5. Expert meeting Helsinki:

   Minutes have been written and distributed by B. Fisher (see also item 8). WG 2 has put forward the wish born at the UAQ 4 conference in Prague to hold an extra meeting in autumn in Lannemezan, France, to complete the final report; in August the request was sent to P. Nejedlik, and the approval is now in the pipeline.

6. AB gave a report on FUMAPEX activities. The FUMAPEX project summary is given in Annex 3. The first progress report is available on

   http://dmi.dk/eng/f+u/index.htm

   or

   http://www.dmi.dk/f+u/publikation/vidrap/2003/Sr03-12.pdf and some more information - on the FUMAPEX web-site: http://fumapex.dmi.dk.

7. AB reported on the status of the mixing height paper. Availability of data sets for validation of schemes/models is crucial for success of publication. Bologna sodar mixing height data are currently tested against different MH schemes.

   D 2: WG 2 will support AB with data sets. AK provides link to Polish data. Data evaluation permitting, it is planned to finalize the paper at Lannemezan.

8. The draft structure of the final report was extensively discussed. The new draft is given in Annex 4.

   D 3: A separate WG 2 final report is foreseen as model and experimental results seem to be available now and will be finalized at Lannemezan. This is accepted by the MC. Printing will be done either together with final report COST 715 or as an extra volume.

   D 4: Convenors have been appointed for main sections. They will ask other WG 2 members to fill sub-sections of the report. Texts have to be sent to MP on **31. 10. 03** at the latest so that a final draft can be distributed before Lannemezan. Introduction and recommendations sections will be best done when other sections are available.

   D 5: MP will contact Roland Vogt for writing the chapter on BUBBLE and for eventually participating in Lannemezan.

9. see item 8, decision 4.

10. AOB: none.

Annex 1: Agenda

1. Welcome
2. Adoption of agenda
3. Adoption of Sofia minutes
4. Review of Sofia decisions
5. Report from expert meeting Helsinki
6. FUMAPEX
7. Mixing height paper
8. Final report
9. Workplan until Lannemezan
10. AOB

Annex 2: List and addresses of WG 2 members

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Annex 3: FUMAPEX project summary

1. 1. PROJECT SUMMARY

Title of project. Integrated Systems for Forecasting Urban Meteorology, Air Pollution and Population Exposure (FUMAPEX)

Problems to be solved

Most major European conurbations experience severe short-term pollution episodes that are harmful to the environment and to human health, especially for children and the elderly. The European Environment Agency evaluated that more than 40 million people, living in 115 major urban areas in Europe, are exposed to pollutant levels that exceed the reference levels stated by the World Health Organisation. EU Air Quality Directives and national regulatory legislation were introduced to abate these adverse effects.

In order to diminish or prevent critical concentration levels, abatement action (such as traffic reduction) should be planned at least one or two days in advance. Often no effective action can be imposed because no or only inadequate forecasting models exist. In some European cities, early warning systems like Urban Air Quality Information and Forecasting Systems (UAQIFS) are already employed. They need to be improved, verified, supplemented by population exposure models, and then implemented more widely in Europe for providing better protection of human and environmental health in cities and urbanised regions with an ever-increasing part of the population

Scientific objectives and approach

The quality of the urban air pollution forecast and the UAQIFS critically depends on the mapping of emissions, the urban air pollution (UAP) models, and the meteorological data. The quality of the meteorological data should be largely enhanced by using downscaled data from advanced numerical weather prediction (NWP) models. These different topics, as well as the application of population exposure models, have traditionally been treated in distinct scientific and administrative communities whose expertise needs to be combined to enhance the possibilities of forecasting air pollution episodes in European cities. The main objectives of the project are thus the improvement of meteorological forecasts for urban areas, the connection of NWP models to UAP and exposure models, the building of improved UAQIFS, and their application in cities in various European climates.

The necessary steps will evolve in ten separate, but inter-linked Work Packages realised by 16 partners and 6 subcontractors. They represent leading NWP centres, research organisations, and organisations responsible for urban air quality, population exposure forecast and control, and local/city authorities from eleven European countries.

Expected impacts

The main impact of FUMAPEX will be improved, validated, inter-compared, and accessible UAQIFS implemented in an increasing number of European cities. Forecast and prevention of the worst air pollution episodes in large cities according to air quality directives will lead to an improved quality of human life and of the environment.

Additional impacts are the potential use of improved weather and pollution forecasts for emergency management (fires, accidental emissions) and for long-term air quality management (scenario studies, emission abatement strategies, sustainable city life). Linking scientists and administrators of different specialisation will also lead to speed-up and innovation in related urban research and application addressed by FP5 (e.g. urban climate, sustainable transport, environment, health).

Annex 4: Draft outline of structure of final report (revised 23. 9. 03)