

# FAIRMODE 12<sup>th</sup> plenary meeting: Warsaw, Poland, 12-13/02/2019

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The meeting was attended by about 95 participants from 21 countries among which 15 Fairmode National Contact Points. The meeting aimed at 1) providing an overview of the status of the on-going and planned collaborations with other projects/activities and 2) finalizing the FAIRMODE recommendations and discussing their implications on member States, in terms of legislation and in terms of the future organization of work within the network. On the latter, one particular focus of this meeting was to discuss future priorities in view of the preparation of the 2020-2022 FAIRMODE road map. A joint session with the Pressure on Air ( P-AIR) project (see below) was set at start of the plenary agenda while a half-day session dedicated to the FAIRMODE Pilot exercise was organized prior to the plenary meeting. The FAIRMODE plenary meeting was followed-up by the 3<sup>rd</sup> CAMS Policy User Workshop, as the two meetings were organized back-to-back to facilitate further cooperation and interactions between both communities. A summary of the presentations and discussions is given below. All presentations are available on the [FAIRMODE web pages](#).

## **FAIRMODE Pilot Session (12/02 – Morning)**

During the pilot session we had, in a first part of the morning, presentations from some pilots (Helsinki, Emilia Romagna, Malopolska region, Croatia, Slovenia and Italy) about their current approaches on Source Apportionment and Planning. It was clear, from their presentations, how different pilots faces different challenges (in terms of pollutants, as NO<sub>2</sub>, PM<sub>10</sub>, ...) geographical scales (from hot-spot to regional background) and modelling approach (from Eulerian to Gaussian models). Then, in a second part of the discussion, the working group leaders of WG3 and WG4 presented the FAIRMODE available tools for source apportionment and planning (as deltaSA, SPECIEUROPE, SHERPA, ...); this was useful to “align” the pilots with the latest outcomes of the FAIRMODE activities. Finally, we started a discussion on how to continue the pilot activity on the “Source Apportionment and Planning” topic. To continue this discussion, we agreed to have soon a VC (end of March 2019) on this issue.

## **P-AIR – FAIRMODE joint session**

J. Coelho (ECA) gave an overview of the recently published report of the European Court of Auditors (ECA): “Air pollution: our health still insufficiently protected”. The report aimed at looking whether the Ambient Air Quality Directives (AAQD) was well designed to tackle the health impact of air pollution. The reports stress the following facts: 1) the Directive contains some weak provisions; 2) Member States often target compliance, not effectiveness; 3) the Commission faces limitations in its monitoring, legal proceedings are very lengthy 4) the need to improve Air Quality plans, 5) the need to contribute to improve air quality information to EU citizens and 6) ECA notes some inconsistencies in EU policies and funding. J. Coelho summarized the main recommendations of the ECA.

V. Franco (DG ENV) provided an update of the on-going activities regarding the AAQD, in particular the timing of the on-going fitness check, a retrospective exercise to assess what has happened and look at what caused change that can be credited to the AAQD. This particular fitness check focus on the period 2008-2018 with 5 evaluation criteria: relevance, coherence, effectiveness, efficiency and EU added value. The exercise will be finalized by autumn 2019, with input from FAIRMODE (recommendations, see below) expected earlier this year.

E. Vignati presented the “Pressure on Air project” coordinated by the JRC that aims at identifying and anticipating the impacts of unforeseen pressures on air quality driven by structural changes brought by EU policies. The kick-off meeting was organized as a back-to-back meeting to FAIRMODE. An internal JRC meeting will take place in March 2019 followed by a second expert meeting in April/May 2019 with the specific focus of looking at urban scale issues.

F. Monforti summarized the key messages from the Pressure on air meeting according to the main topics of the meeting, i.e. Transport, Energy and Behavioral changes. Experts brought the attention to several potentially relevant impacts from sectorial policies. Examples of discussed issues include, among others, urban NH<sub>3</sub> arising from increased catalysis, the impact of the increasing share of autonomous and electric vehicles, the consequences of a possible increase of biogas share in the natural gas transmission system and of an higher share of intermittent electricity sources in the European power system.

The open discussion, based on a set of key questions submitted to the FAIRMODE community, has confirmed the interest of the community in the issues discussed and brought other elements to table, also as a possible "leapfrog" of the activities of the forum. The example of policies for increasing coal heating efficiency in Poland was proposed to remind that air quality and climate change policies act on different time scales and equilibrium should be found between urgent air quality measures and longer term climate control. Moreover, citizens' exposure to air pollutants was suggested as the unifying indicator able to encompass the pressures arising from the different sectors.

## **The FAIRMODE Recommendations and their implication**

P. Thunis briefly reviewed the content of the consolidated version of the FAIRMODE recommendations. The document includes recommendations on three specific topics: assessment using modelling, fine scale emissions and source apportionment / planning. The document was circulated for comments to the National Contact Points in January. Final comments are expected before 22/02. The recommendations will be published as a JRC science for policy report by end of March, in time to support the on-going fitness check process of the AAQ directives.

The recommendations would have implications on legislation (e.g. revision and extension of the Implementing provisions under the IPR and e-reporting mechanism) as well as on Member States if they were to be adopted. L. Tarrason and A. Monteiro organized two participatory sessions to discuss and understand the extent of these implications. The following recommendations would have implications on Legislation: (1) use of the model quality objectives and indicators; (2) the request to include reporting

of fine scale gridded emission under the e-reporting chain; (3) the alignment of the nomenclature for reporting emissions for modelling with the one adopted under the NEC Directive (the so-called Gridded Nomenclature For Reporting – GNFR) and (4) the use of benchmarking tools for assessment, emission and source allocation purposes. The implications on Member States included the following recommendations: (1) Use of the MQO and MQI as a quality control system;; (3) Select and apply modelling applications that are fit-for-purpose; (4) coordinate efforts at national level on fine scale emissions compilation; (5) adopt the GNFR nomenclature for reporting emissions across the NECD and AAQD and (6) to promote and support their national expert groups in the use of the Fairmode benchmarking tools and contribute to FAIRMODE activities. The discussion focused on each of these points, namely: (1) the degree to which these recommendations are applied currently and (2) the obstacles preventing their application. The outcomes of the participatory session exercise highlight the following points:

- the majority of the MS use the model quality objectives and indicators defined in FAIRMODE but they point out the need of some technical support;
- about the reporting of fine-scale emissions used as input for modelling, they recognize the need of competence and guidance to proceed with that, and identified several difficulties related to the lack of coordination at authority level and confidentiality problems;
- no problems or obstacles were foreseen for the adoption of the GNFR nomenclature for reporting emissions and
- the use of benchmarking tools depend very much on the MS and also on the tool (DeltaTool and Mapping Tool are the most used);
- regarding the participation to the Fairmode activities, no obstacles were foreseen for any MS (but not all of them are funded);
- the use of modelling applications fit-for-purpose depend on the MS, with several MS recognizing its use (Germany, Belgium, Italy; Slovakia, etc).

The recommendations also have implications on the way FAIRMODE is organized in the future. S. Janssen and P. Thunis presented a proposal to adapt the FAIRMODE structure and organization of work to increase the forum's efficiency based on the feedback gathered when compiling the FAIRMODE recommendations. The revised FAIRMODE structure proposes to focus work on benchmarking, recommendations and technical guides, supported by an organization based on crosscutting tasks. The new organisation of work evolves from the original parallel working groups to a more flexible structure with prioritized cross-cutting topics. A list of topics were discussed during the meeting. The topics discussed were grouped in three categories. The first category includes topics for which the Forum feels mature and has the means to deliver technical guidance: (1) Exposure & exceedance modelling; (2) Source apportionment to support air quality management (which method and how); (3) Quality control for air quality forecast. The second category includes topics for which the Forum can provide recommendations as a first step towards technical guidance: (1) Compilation of fine scale emission inventories; (2) Improved local management practices towards air quality planning; (3) towards an overall QA/QC protocol for air quality modelling and (4) Future air quality projections. The third category includes topics for which competence building and benchmarking are yet necessary: (1) hyper local scale

modelling (obstacle modelling); (2) Near real Time assessment with sensors; (3) Optimization and representativeness of the monitoring network and (4) Assessing the effectiveness of mitigation measures. Each topic was discussed and prioritized.

## **Update on relevant co-operation and on-going activities**

**CAMS:** L. Rouil (INERIS) gave an overview of the CAMS activities and connections with FAIRMODE. The evaluation of the CAMS analysis and re-analysis with respect to the FAIRMODE MQO was performed at the end of 2018, with a first assessment performed for the 2017 analysis (target plots and summary reports similar to those proposed by FAIRMODE). The FAIRMODE indicators will be operationally implemented in CAMS in 2019. L Rouil expressed the interest of CAMS to extend this MQO approach to forecast with respect to the methodology currently developed in FAIRMODE. She briefly introduced the CAMS policy tools with clear links to FAIRMODE: source-receptor allocation service, the green scenario toolbox, the air control toolbox and the CAMs emission inventory that is currently benchmarked within FAIRMODE.

### **Service Contract on spatial representativeness**

B. Mahieu presented a recent DG. ENV service contract awarded to VITO/NILU/RICARDO to deliver recommendations on the spatial representativeness of sampling points, with a focus on NO<sub>2</sub>, PM<sub>10</sub> and Ozone. The project will engage with FAIRMODE, CAMS and AQUILA experts and will end in December 2020. The contract foresees the following specific objectives: (1) support the development of recommendations on methodologies to assess spatial representativeness of sampling points and air quality modelling; (2) collate authoritative air quality and air emission maps, and compile these to bottom-up composition maps of air pollution in Europe and (3) provide support to the assessment of the application of the criteria for selecting sampling points in Member States, by carrying out an overview of the existing network.

### **A recent court decision in Flanders**

E. Trimpeneers and S. Janssen informed about recent court of justice decisions in Belgium (brought by GreenPeace, Client Earth and Citizens). The issue raised is: model results suggest that NO<sub>2</sub> problems are larger than those addressed by fixed monitoring stations only. The Court stated that if modelling results are available, they should be used in air quality assessments, including compliance checking. With this court decision, modelling applications acquire a similar status to monitoring in Belgium. The implications on Fairmode work were discussed, in particular the fact that Fairmode can not ensure quality checks yet as it does not have yet a standard ready for the MQO, neither does it have a clear definition of the model's fitness for purpose. This decision puts some urgency in the work of FAIRMODE to qualifying "modelling fit-for-purpose"

### **Update on the Urban Partnership on Air Quality**

R. Maas presented the status of the on-going urban partnership on air quality which aims at strengthening the cooperation of cities, member states and the EU Commission with the aim of

improving regulation, funding and create/share better knowledge. Three years of collaborations led among others to a joint position paper, a code of good practice and a catalogue of good practices on how to inform the general public, which were detailed during the presentation. For more information, check the [FUTURUM](#) website. Such work has clear synergies with FAIRMODE's guidance and support for AQ planning activities.

### **Update on TFHTAP and TFIAM**

K. Olendrzynski and R. Maas provided an update on the work of the CLRTAP Task forces on hemispheric transport modelling and task force on integrated assessment modelling respectively, highlighting the updated long-term strategy for the convention that extends its focus to the urban scale. R. Maas reported in particular on the Expert Panel on Clean Air Cities organized by the TFIAM to update its mandate and include multi-scale integrated assessment modelling. This new Panel will build upon knowledge from existing networks, among which FAIRMODE.

### **Update on CEN WG43 and WG44**

Regarding source apportionment, WG44 agreed to proceed with the technical specification for receptor models. WG44 will continue to work on source oriented modelling with the preparation of a technical document (in collaboration with FAIRMODE). The validation project will take place only when both technical specifications (receptor and source oriented models) is finalized.

Regarding modelling quality objectives, A. Karppinen summarized the current state of play with regard to the validation project proposal and its different work packages. He also reviewed the issues currently being discussed. WG43 is currently finalizing the technical specifications.

### **Handbook on source apportionment**

G. Pirovano (RSE) presented a handbook that contains guidelines for receptor- and source-oriented source apportionment models based on evidence gathered in the inter-comparison exercise and elsewhere. This guide contains advices to implement a specific source apportionment method.

C. Belis presented the updated version of the European guide on source apportionment with receptor models. The guide has been extended with new chapters dedicated to the description of new source apportionment methods.

The [draft versions](#) of both documents are open to comment by WG3 members until the end of February. Given the crosscutting nature of the handbook, this document will be available to a wider community with the objective to discuss the final draft during the next technical meeting.

## **A.O.B**

The next technical meeting will be organized in Madrid, Spain (07-09/10/2019) by CIEMAT. Contact: Fernando Martin

