



## WG3 Source Apportionment

27-29 June 2016

### Proposal of structure of new guidelines *Source Apportionment with Source Oriented Models*

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## 1. Introduction to Source Apportionment with Source Oriented Models

- General notes on the use of Air Quality models for S.A.
- Preliminary introduction of some key concepts: linear effects, zero-out modelling, tagged species approach

## 2. Source Apportionment protocol for source oriented models

### 2.1 Problem framework

- Area of study, kind of sources, kind of pollutants

### 2.2 Emissions

- Emission inventories and other requested data
- Speciation profiles: a key aspect

*Only PM species?*

*Actually, this is a key aspect in case of SM and RM comparison either when the focus is on specific pollutants. It is less relevant for PM bulk mass.*

*Reference to SPECIEUROPE?*

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## 2.3 Base Case (or Reference) simulation

- Input definition
- Model validation
- ...



*The base case simulation is exactly the same as a traditional air quality evaluation. Could we refer to PM modeling guidance already published in FAIRMODE?*

## 2.4 Source apportionment techniques

- Zero out modelling: approach, weaknesses and strengths
- Tagged species modelling: approach (PSAT LOTOS, PSAT CAMx, ISAM CMAQ, others?), weaknesses and strengths
- Source categories and source regions
- Use of FAIRMODE IE



*Only a description of the different approaches? Examples of applications?*

## 2.5 Results

- Gridded source contribution estimates
- Analysis at receptors
  - Seasonal/yearly estimates
  - Time series
  - Comparison to observations

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## 3. Comparing Source and Receptor oriented modelling

- Introduction: the need for source apportionment “validation”
- Methods:
  - Source definition
  - Mass closure verification
  - Source ranking and estimates
  - Preliminary tests...
  - Performance tests
  
  - exceedances analysis
  - Specific sources analysis
  - Secondary pollutants
  - Use of tracers
  - .....

## ***4. Combining Source and Receptor oriented estimates***

## ***5. Recommendations for e-reporting***