Welcome to WG4

WG4 Planning

European Commission

AGENDA

1. Are all methodologies (S. app. S. alloc., urb. Inc.) suited for planning purpose? Guidance to IPR and recommendations. — Philippe

2. How should we care about model diversity for AQ planning? — Alexandra

Joint Research Centre

European Commission

Should we care about model diversity for AQ planning?

Baveno
26-27 Feb 2018

Alain Clappier
Philippe Thunis
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Alexandra Monteiro

Joint Research Centre

WG4 Recommendations

I. What is the purpose?
II. Is my approach fit for the purpose?
III. Do I apply it in the appropriate way?
IV. Are my results of sufficient quality for policy?

I. Purpose: Provide information that is of direct relevance to assess the potential impacts of air quality plans

II. Fit for purpose:

- The incremental approach is not recommended, unless the validity of the underlying assumptions has been assessed (both for primary and secondary).
- For primary pollutants, src. apportionment is fit for the purpose but for secondary pollutants, it is not recommended.
- Scenario analysis based approaches (e.g. source allocation) are recommended

III. Proper application: For scenario-based approaches, an assessment of the associated non-linearities is recommended to provide information on their range of applicability.

WG4 2017-2019 Roadmap

- Further develop the dynamic benchmarking methodology and generalize its application.
- Develop methodologies to identify the spatial origin of air pollution. These methodologies will be used to validate air quality model estimations.
- Support the e-reporting process, particularly with respect to the estimation of emission contributions from diverse activity sector from various spatial scales (e-Reporting channels H to K)
- Contribute to the harmonization of the specifications used to classify abatement measures
- To provide overall support to model users in their planning activities (measures, model scenarios).

Benchmarking methodologies, indicators and tools

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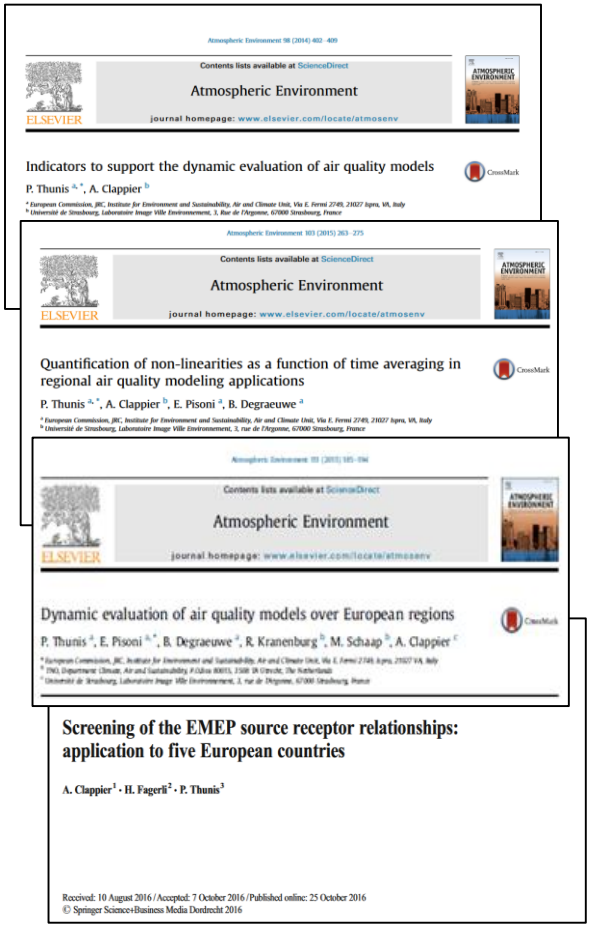
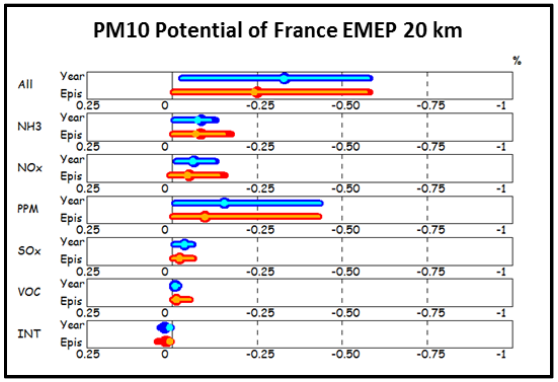
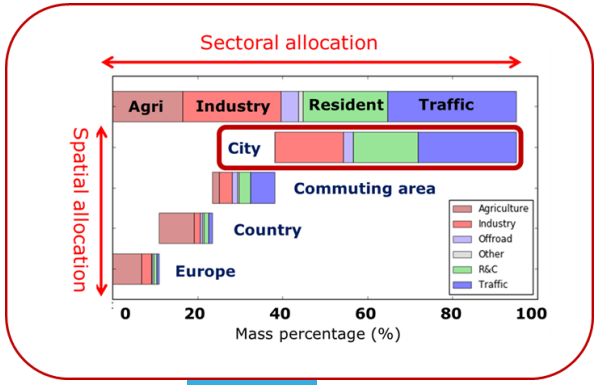


Indicators to test dynamic behavior:

- in term of location
- across model versions
- in term of resolution
- across different models





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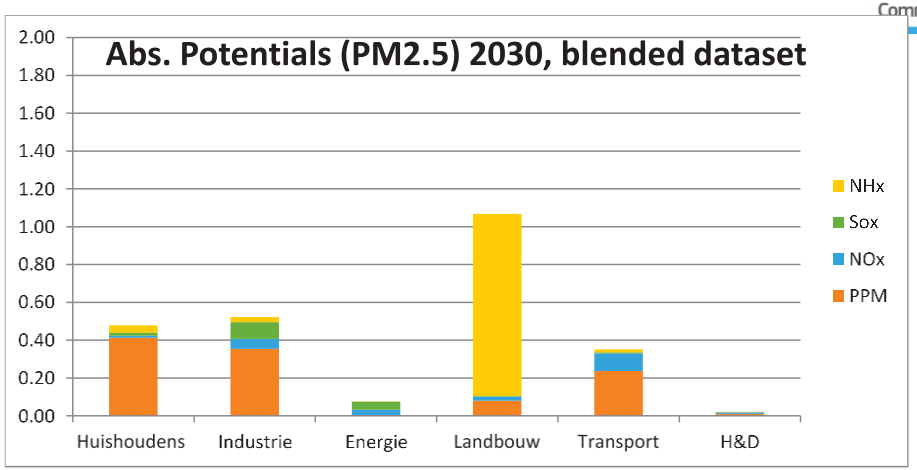
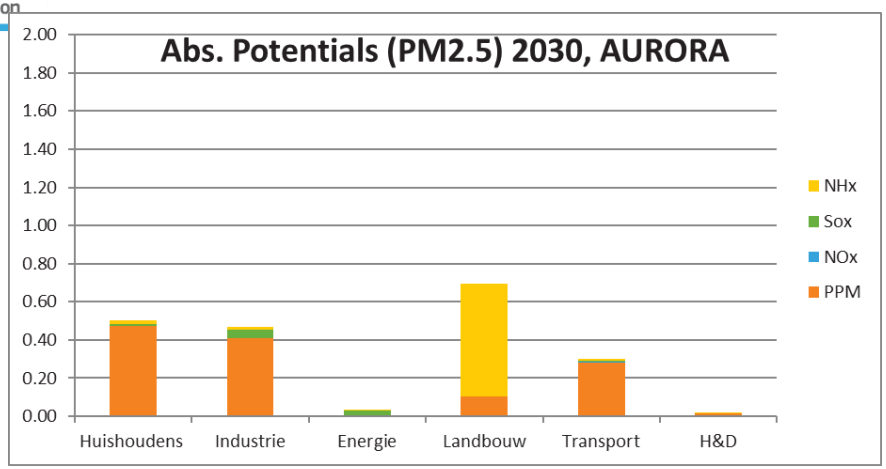
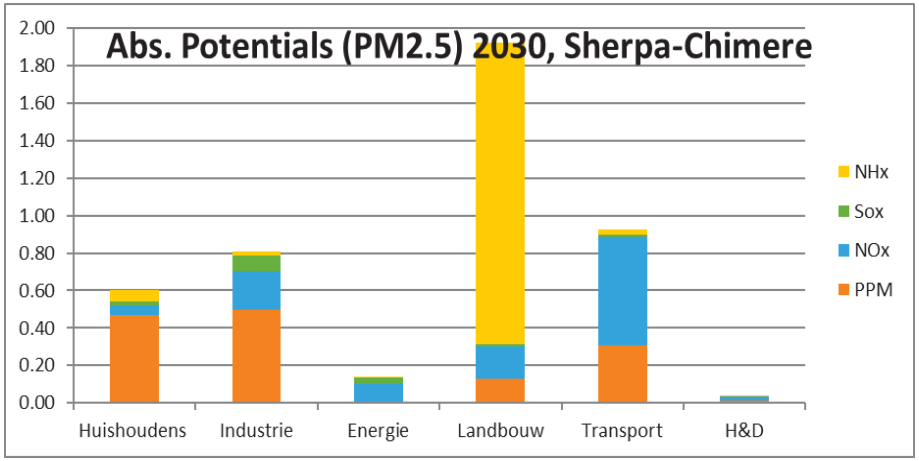
What do we see?







Source: VITO (2017)

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What do we see?

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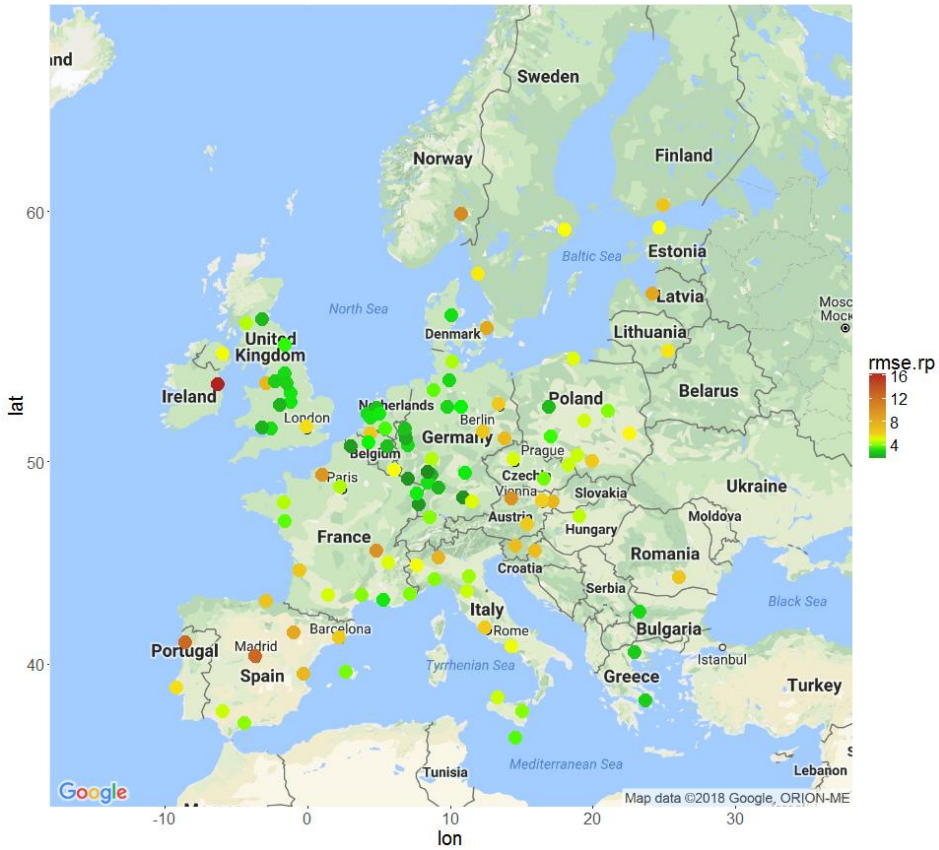
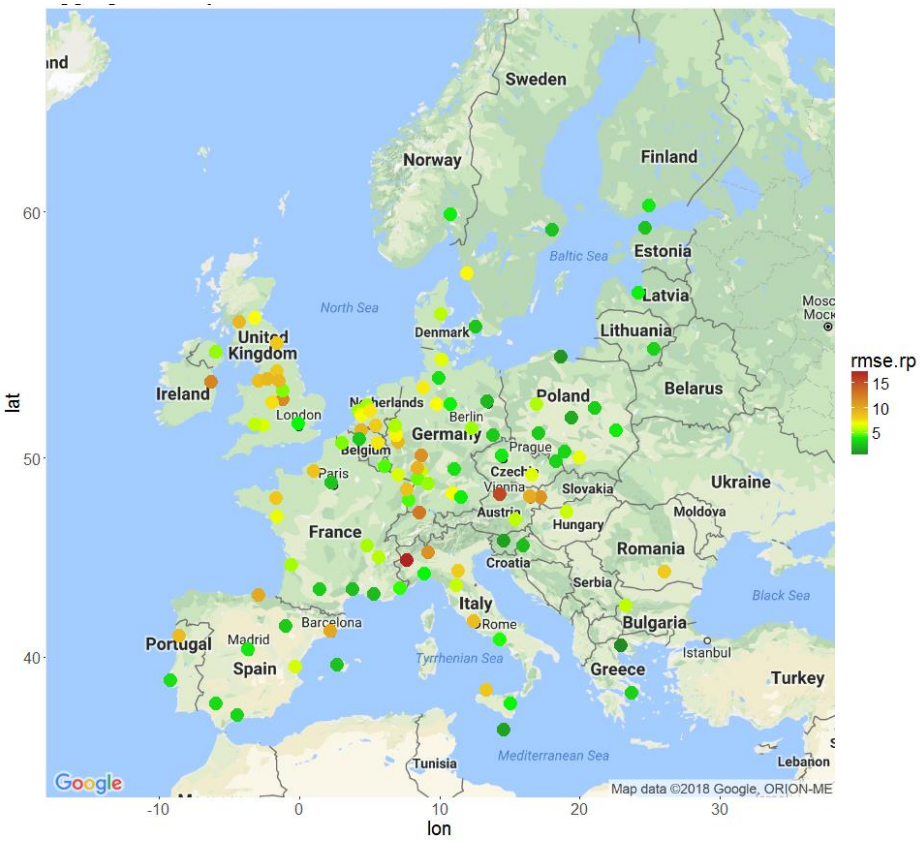
Sectors
(Transport-Industry-Residential-Agriculture-Other)



Areas
(city-FUA-National-International)



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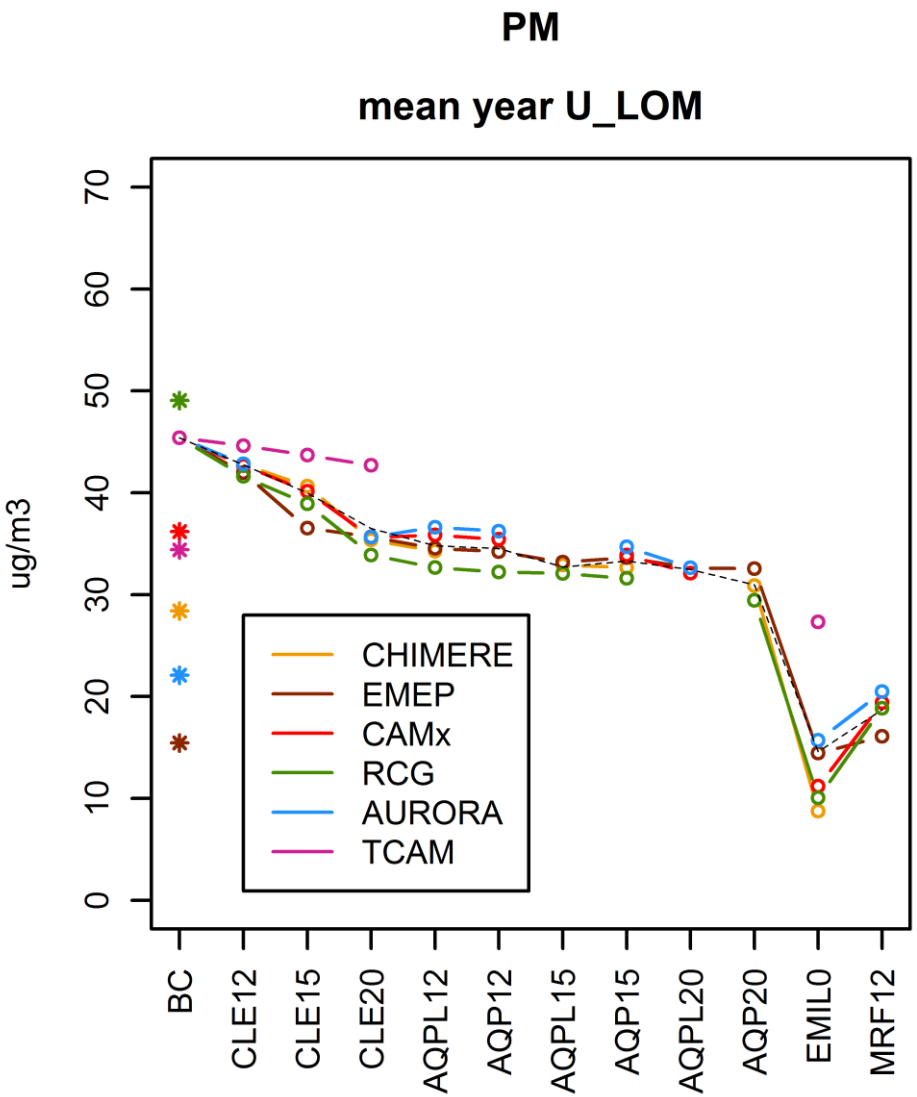
We can do it (past experiences)



Several models were applied to **Lombardy region.**

1st applied to a Base Case (BC)
-> large differences found

2nd models were ajusted and several scenarios simulated
-> normalized results are similar!

What shall we do?

- **We do not care!**

Differences (even though they can be large) are "normal" and can be due to emissions, meteorology… ➔ **We should not use models for planning**

- **We care and report differences!**

Benchmarks (e.g. EMEP, CHIMERE) can be used to indicate a range of responses (no reference)

- **We care and try to understand the differences and improve data and model quality!**

Need for targeted inter-comparison exercises. ➔ Motivation for that?

Model Inter-comparison exercise

- **Common domain| study region**?

Po Valley ??

Iberian Peninsula?

- **How many scenarios|runs?**

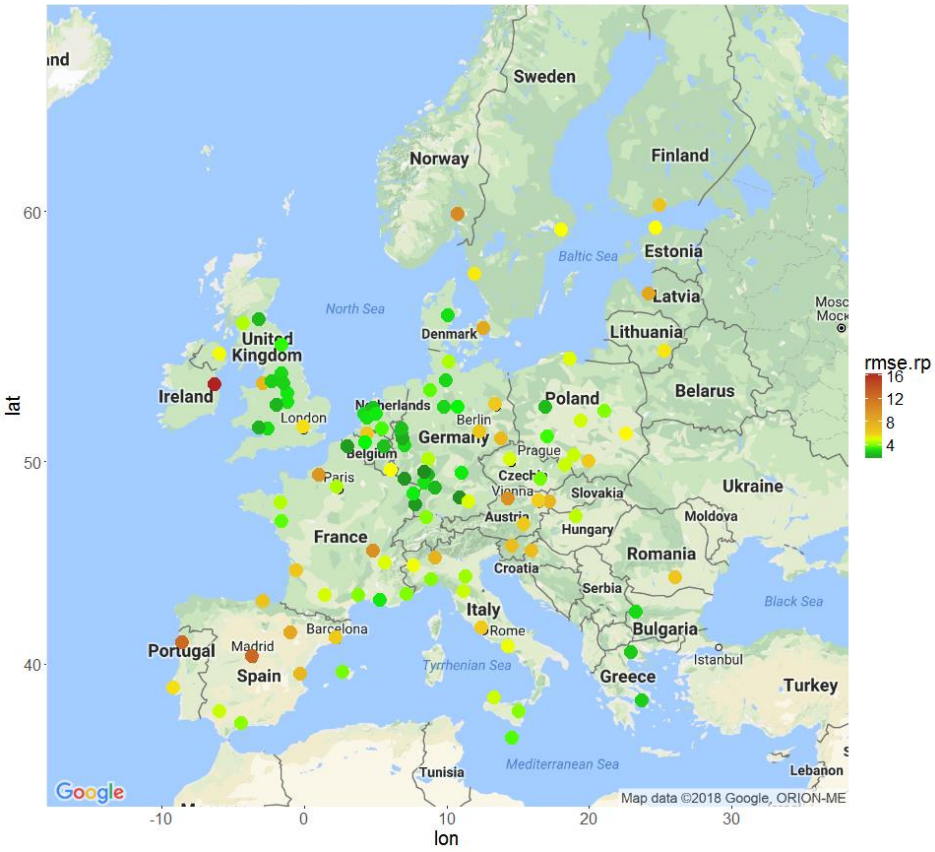
Min 10-15 runs

Pollutants: PM, NO2

- **Time plan? Publication?**

Begin 2018

End 2019



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