

## ***Interactive comment on “TNO-MACC\_II emission inventory: a multi-year (2003–2009) consistent high-resolution European emission inventory for air quality modelling” by J. J. P. Kuenen et al.***

**J. J. P. Kuenen et al.**

jeroen.kuenen@tno.nl

Received and published: 29 August 2014

We thank the reviewer for his positive feedback and constructive comments. We believe the comments are useful for the manuscript, and therefore we have produced an updated manuscript. In the manuscript, the comments are addressed as follows: As to the supplementary data file with total emissions by country and year: we have further detailed this file by also including the emissions at the level of SNAP level 1. This means the total number of data in the file will become 9 times larger. We will also include EC and OC emissions by country and by year in the supplementary material based on the PM split presented in this paper. A readme text file to the supplementary

C6332

data describing the contents of each of the supplementary files. Also we will update the names of the files such that they can be easily referred to, as suggested by the reviewer. A comparison with reported data, EDGAR and GAINS has now been included in the paper, including a discussion of the main findings. Furthermore, we include an additional section on uncertainties. Despite that a full uncertainty assessment is not possible due to lack of data, information from other sources can be used to get a good feeling of the uncertainties associated with an emission inventory like the TNO\_MACC-II inventory. PM<sub>2.5</sub> was missing from the supplementary file due to a lookup error. It is now also included in the supplementary file, there was unfortunately a mistake. Regarding each of the changes described in section 2.1.1, we included one or two sentences describing the impact on emissions and also on the risk of double counted or missed emissions where possible. In case double counting possibly takes place as a result of our approach, we describe this in the paper. We highlighted the impact of the PM<sub>2.5</sub>>PM<sub>10</sub> issue, although in most cases the impact was only small. The various types of shipping are treated quite differently in different countries, since definitions are not always followed directly. In the reporting, there is a split between national and international inland shipping, which is not always easy to make. By replacing this with other data we believe to enhance the consistency of our dataset, at the same time avoiding double counting because all shipping data are replaced. We agree with the reviewer that it is important to clearly list the source of emission data used for each individual year, pollutant, country and sector, on the other hand the number of combinations is very large. We have therefore further detailed the Choice\_of\_emission\_source.xlsx supplementary file to include this information also at the sectoral level. The comparison between large point source and OMI observations for SO<sub>2</sub> is not something that has been included in this work, but this is a very interesting development for the future to verify emission inventories (especially large point sources). Although it has not been taken up in this inventory yet, we aim to include this type of verification in future emission inventories.

A PDF version of our revised manuscript is attached to this response.

C6333

Please also note the supplement to this comment:  
<http://www.atmos-chem-phys-discuss.net/14/C6332/2014/acpd-14-C6332-2014-supplement.pdf>

---

Interactive comment on Atmos. Chem. Phys. Discuss., 14, 5837, 2014.

C6334