

Reply to Referee 1 regarding revised submission of ‘Assimilation of S5P/TROPOMI carbon monoxide data with the global CAMS near-real time system’ by Antje Inness et al.

Thank you for the comments. We have addressed them. Replies in blue below. As suggested when we submitted the revised version of the paper, we have also changed the reference to the pre-print of Deeter et al. (2021) to the final version of the paper (Deeter et al., 2022). We still refer to the pre-print of Garrigues et al. (2022). This paper has now been accepted by ACP but is not published yet.

I appreciate the efforts that the authors have put to update the manuscript, and in my opinion this has led to a better focussed and more complete, and at the same time concise paper.

As for me this can be published as such, upon technical corrections and some typo's:

The authors may leave out the specification of how to setup a test experiment:

“To isolate the impact of the GFAS emissions and to assess their importance for the CAMS CO field ... worthwhile experiment”, but I also don't mind if the authors prefer to keep this in.

We have removed those sentences.

In the conclusions, please change ‘NMVOSS’ to NMVOCs’

Done.

Finally, even if one could question the formulation some aspects, e.g. how to explain CAMS vs TROPOMI biases, and its implications, and one can discuss about the best selection of figures for presentation and its interpretation, but that is also part of a wider, ongoing scientific debate indeed beyond the scope of this manuscript - Overall this is of course very good work, and very well documented.

Nothing to do here.