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Interactive comment on "CAMS-TEMPO: global and European emission temporal profile maps for atmospheric chemistry modelling" *by* Marc Guevara et al.

Anonymous Referee #3

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This paper presents and describes the CAMS-TEMPO, a dataset of global and European emission temporal profiles providing gridded monthly, daily, weekly and hourly weight factors for atmospheric chemistry modelling. It represents a very important dataset for the air quality modelling community covering both regional and global applications. The building of such kind of datasets including different activity sectors and pollutants requires a huge and very detailed research and data treatment, which is extremely well reported in this manuscript. Another relevant aspect of this work is the fact that the produced datasets are freely available to be used by modellers.

The manuscript is well structured, each section is adequately divided into subsections

which facilitates the reading of this kind of detailed and long paper. Notwithstanding, it is advisable to end the introduction with a description of the paper structure, which would help to get a first idea of what it presents and would help a reader that is for example just interested on the methods or on the details of a couple of activity sectors.

The methods section starts by presenting and discussing tables 1 and 2 that are in the fact a summary of the product described in the paper; however, this is not clear as one starts reading it. An introductory paragraph before line 101 explaining how the methods section was planned and structures would help.

Since the produced temporal profiles have a global coverage, it would be useful to refer hoe the authors dealt with time zones, assuming that the profiles consider UTC time, which is not referred either.

The paper is very well written, but I would suggest a careful reading in the revision process to correct typos, missing spaces when referring values (e.g. 100 m instead of 100m), missing punctuation, . . .

In terms of Figures, they are well presented and readable, but I would suggest to use the method a), b), etc. . . instead of top, left, right. . . in all the figures.

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