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# *Interactive comment on* "Gridded Emissions for CMIP6" *by* Leyang Feng et al.

**Anonymous Referee #2**

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This paper document the gridded emissions for CMIP6. The description is in very detail and useful for the users. I suggest publishing the paper after minor revision.

General comments:

1. Page 4, line 10. The authors used gridded emissions as proxy data. It is easy to understand such usage if the gridded emissions share the same spatial resolution with the needed proxy. What if the spatial resolutions are not the same?

2. Section 2.1.4. The gridded HTAP v2 emissions data is used as proxy to speciate VOC. I'm wondering how reliable this speciation algorithm is if the HTAP emissions differ significantly from the CMIP6 emissions. The authors pointed out that it would be useful to use country and sector-specific profiles, such as those in Huang et al. (2017). I recommend selecting a small domain to perform an intercomparsion for speciated VOC derived from both algorithms. This will contributes to a better understanding of



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the uncertainty of VOC speciation in this study.

3. Conclusion. “The spatially distributed emissions data discussed here represent a number of improvements over previous century scale gridded datasets.” I recommend a short summary of the improvements compared to previous approaches here.

Specific comments:

1. Figure 1. What is the reason for using multiple boxes to represent “Spatially distributed emissions for each country”?

2. Figure 2. The legend is too small to identify.

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