Interactive comment on “Global emissions pathways under different socioeconomic scenarios for use in CMIP6: a dataset of harmonized emissions trajectories through the end of the century” by Matthew J. Gidden et al.

Matthew J. Gidden et al.
matthew.gidden@gmail.com
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We thank Referee #3 for their very useful comments. The referee had broadly three main comments regarding first the citation of papers in preparation, second the clarity regarding model regional definitions, and third the clarity of the data availability section. We respond here to these in order.

Regarding the citation of papers in preparation, we followed the guidance provided in https://www.geoscientific-model-development.net/for_authors/manuscript_preparation.html, namely:

“Works ‘submitted to’, ‘in preparation’, ‘in review’, or only available as preprint should also be included in the reference list.”

We include references to Hurtt et al. (2019) and Meinhausen et al. (2019) primarily for reference to the reader of forthcoming work encompassed in ScenarioMIP which is related to the overall ScenarioMIP experimental design either in parallel to (Hurtt) or derivative of (Meinhausen) this work. We agree with the reviewer that Feng et al. (2019) is of particular importance as a direct methodology and output related to this work. We have been in contact with the author team of that paper and while they expect it to be submitted in the immediate future, we are happy to provide the reviewers with a presubmission version of the manuscript.

Regarding model region information, we have added a footnote to prior work that discusses regional definitions in more detail. In the paper, we state that emissions are harmonized individually for each model to their specified regional definition, and then each regional emission trajectory is downscaled independently using a consistent methodology as outlined in the manuscript.

With respect to the clarity of the data availability section of the paper, we appreciate the reviewer’s suggestion and have thus implemented it. Specifically, we have provided additional information with respect to the location of bulk emissions trajectories and describe the filename on ESGF for gridded emissions.