

## ***Interactive comment on “A global gridded (0.1°, × 0.1°) inventory of methane emissions from oil, gas, and coal exploitation based on national reports to the United Nations Framework Convention on Climate Change” by Tia R. Scarpelli et al.***

### **Anonymous Referee #2**

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Review of “A global gridded (0.1° × 0.1°) inventory of methane emissions from oil, gas, and coal exploitation based on national reports to the United Nations Framework Convention on Climate Change” by Scarpelli et al. (ESSD-2019-127).

The paper describes the global inventory of methane emissions from oil, gas, and coal for 2016. The gridded emission data set is publicly available. Their inventory resolves the subsectors of oil and gas exploitation, from upstream to downstream, and

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the different emission processes. The study also gives a gridded error estimate based on emission factor uncertainties from the IPCC. The inventory is compared with the EDGAR v4.3.2 global inventory. The work is an advancement in methane emissions inventory and the paper can be considered for publication in Earth System Science Data after addressing the following minor comments.

Comments: Page 2 lines 14-15: What are some of the other regional and global multi-species emission inventories? Suggest naming a few. Page 2 line 30: Why was the year 2016 chosen for the study? Page 4 line 9: The emission inventories over the US are for which year? Page 5 line 19: Drillinginfo is now enverus. Please make the changes to the manuscript. Page 6 lines 28-33: Is the refining rate threshold based on the largest refinery? Does it mean the same for processing plants, storage facilities, and compressor stations? Page 8 line 32 Page 9 line 1: What do the authors mean to say in the line ‘Oil and gas emissions ... of the two fuels’? Figures 4 and 5: Replace the gray background with white for clarity.

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Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2019-127>, 2019.

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