

## ***Interactive comment on “Carbon and air pollutant emissions from China’s cement industry 1990–2015: trends, evolution of technologies and drivers” by Jun Liu et al.***

### **Anonymous Referee #3**

Received and published: 5 November 2020

This study inventories the emissions from China’s cement industry. The manuscript is clear and well written. However, I have the following concerns that should be addressed before considering publishing.

1. The unit-level data of 2010-2015 is more interesting. Please show more results and analysis at the unit-level.
2. The unit-level of clinker and cement production for the years 1990-2009 are scaled based on data of 2010, thus lead to huge uncertainties. Is there any grey literature to show the changes in the national/provincial production of clinker and cement that could be used to adjust calibrate the extrapolated parameters?

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3. Page 4 line 105-107. Why do you use linear regression to eliminate the differences between different studies? Then you assume there is a linear relationship between energy intensity and time, which is not true. We usually use mean value or median value instead.

4. The title says “drivers”, but I do not see any driving analysis of cement production and related emissions. The whole study is based on inventory accounting. Quantifying the drivers are very important for the reduction solutions. What drivers caused the increased in cement production and related emissions, and what drivers caused the decline in CO, PM2.5 and PM10 and by how much per cent? We all know that production technology innovation could reduce emissions from the cement industry, but the question is how good are their effects? By how much per cent can production technology innovation reduce the emissions?

5. To me, the major contribution of this study is inventorying emissions from cement plants. Thus, I urge the authors to consider publish their data with this manuscript for wider academic use and policymaking. Although the raw unit-level data are owned by the Ministry of Ecology and Environment, which are confidential, it is still possible to share your calculated emission data with the academic society.

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Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2020-631>, 2020.

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