

## ***Interactive comment on “Decadal changes in anthropogenic source contribution of PM<sub>2.5</sub> pollution and related health impacts in China, 1990–2015” by Jun Liu et al.***

### **Anonymous Referee #3**

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China's policy on air pollution control has changed significantly in the past decades, which is expected to influence the air quality and its associated health impact. Certainly, it is of great importance to quantitatively understand the achievement on pollution mitigation and the related health effect. This work is intended to investigate the decadal change of anthropogenic emission sources and the contribution to PM<sub>2.5</sub> mitigation since 1990. Based on a bottom-up emission inventory, regional chemical transport model, and the exposure mortality estimation, this study quantified the change in anthropogenic emission intensity and the resultant mortality due to PM<sub>2.5</sub> variations. Overall, this manuscript is well structured and also well written. It also provided some possible policy implementation for pollution control. Here are some comments to be

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addressed, after which I think it is worth publishing in this journal.

Apart from PM<sub>2.5</sub>, ozone also has great negative effects on human health, worsening chronic respiratory diseases such as asthma and compromise the ability of the body to fight respiratory infections. As emissions change in the past decades, ozone level varies in response, and so does its influence on health. Have the premature mortality data or model used in this study considered it?

In section 3, it is a little bit tedious to just describe China's air pollution regulations. Also, more analysis on pollution regulation change and long-term emission variation may improve the clarity. Thus a timeline chart of both pollution regulation and emission inventory is suggested to be added here.

Page 1 Line 17: Does “CI” stand for “Confidence Interval” here? Full expression is recommended for the first time of the statement.

Page 2 Line 12: Quantification of the pollution level would be more rigorous, like how many times of average PM concentration in the area compared with WHO or China national standard?

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Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2019-895>, 2019.

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