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Atmospheric Chemistry and Physics Discussions

Interactive comment on "NO_x emissions in China: historical trends and future perspectives" *by* B. Zhao et al.

Anonymous Referee #2

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Along with implementation of emission control on SO2 and primary PM, NOx pollution has become a new challenge for China's air quality improvement. Under the national policy of energy conservation and emission control, the combustion technologies, energy efficiencies and emission control devices for certain sources are changing dramatically in recent years, making it complicated to estimate China's NOx emissions. This manuscript focuses on such changes and conducts a comprehensive analysis on the historical and future trends of China's NOx emissions. Reasonable results are presented with reliable methodology of emission inventory study. Before it can be published, however, I think some issues of the manuscript should be clarified or revised.

1. As the authors mentioned, there are some published papers working on the NOx emission trends since 1995. The methodology applied are similar and even the results

are close. I suggest the authors clearly state what the progress they've made on their estimate for historical trends of NOx emissions

2. Regarding the future estimate, I am not quite convinced on the provincial and gridded emissions. In my opinion, even the prediction of energy use and emission factors at the national level are quite uncertain. How did the authors differentiate those parameters at provincial level? I think it needs more explanation.

3. For transportation, the authors listed the sources of emission factors, but the readers are still not quite clear how those factors are compiled as shown in Table 5. In particular, the EF from non-road sources are more uncertain. Moreover, although starting of Euro I-III are quite uniform over the country (except for mega-cities like Beijing and Shanghai), the application of Euro IV and after seems to vary considerably by region. How do the authors consider such effects on the emission factors and emissions at provincial(if any) and national level?

I suggest the paper be accepted with minor revisions.

Interactive comment on Atmos. Chem. Phys. Discuss., 13, 16047, 2013.