

Interactive comment on “Emission trends and mitigation options for air pollutants in East Asia” by S. X. Wang et al.

Anonymous Referee #3

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It is of great significance to know well about the recent trend and future direction of anthropogenic emissions for air pollutants in East Asia, which has recently become the world leader in air pollutant emissions. The study conducted by S.X. Wang and coauthors provides an annual trend for the period from 2005 to 2010 in NO_x, SO₂, PM10, PM2.5 and NMVOC emissions in East Asia based on the detail country-specific information about recent control measures (energy-saving measures and end-of pipe control measures) and also compare it with the previous studies and observation in China. In addition the authors projected future emissions up to 2030 for six emission scenarios, considering both energy-saving and end-of-pipe measures. The authors provide recent emission inventory and future emission projections which are more reliable than previous works in East Asia. And also the emission scenarios developed in

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this work will make a great contribution to the policy making for atmospheric environmental management in East Asia. Consequently, this reviewer believes that the paper is of the interest of ACP and recommends publishing this paper with minor revisions in response to the following questions, comments, and suggestions.

1. Page 2617, Line 14: I suggest that ‘Non-energy related sectors’ should be changed to ‘Solvent use’ or other appropriate title because solvent use emissions alone are discussed in this section. Section 3.2.5 is similar.
2. Page 2621, Lines 16-17: “Japan’s NMVOC emissions decreased by 30% mainly because of the implementation of stringent vehicle emission standards.” is correct? Fig. 3e shows that a decrease in solvent use and others is larger than a decrease of transportation.
3. Chapter 3: The authors should add the explanation about activity data for industrial process, such as cement production and cokes production, and for evaporative NMVOC sources, such as solvent use and others.
4. Page 2637, Line 8: “NO_x” is “NMVOC”?
5. Page 2639, Line 12: “Zhao et al. (2013d)” is missing in references.
6. Page 2644, Lines 6-7: The authors should explain the reason why the change from 2009 to 2010 in the SO₂ emissions in this study and SO₂ VCD from satellite observations are quite different.
7. Page 2645, Line 14: What is the evidence about “PM2.5 concentration still increased in a large part of China”?
8. Table 1: For the definition of BAU [1], the authors should specify that the assumption for end-of-pipe control strategy is for only China.
9. Table 6b: For LDB-B and CAR, the vehicle emission standards are incorrect in the sequence and in the number of penetration (%).

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10. Figs. 2-4: These figures are too small to be visible and should be improved.

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