

The authors did a great job in improving the quality of this manuscript compared with the previous version. The simulating results of different pollutants are well explained e.g.  $\text{NO}_2$  is partially secondary in the primary pollutant of  $\text{NO}$ , the night reaction between  $\text{O}_3$  and  $\text{NO}_2$ , and the photochemistry of  $\text{O}_3$  under different regimes. I would recommend the editor accept this manuscript after minor revisions as below:

- Line 250: please add more interpretation on how to calculate the partial dependencies in Figs. S9 and S11.
- Line 265: In Fig.S4, there is no  $\text{O}_3$ -CO ratio from the plot (red dots are missing) and please add it on.
- Please mark the title of x-axis of Fig.3.
- Please mark the title of x-axis of Fig.S9.
- Please mark the title of the x and y axis of Fig.S9 and Fig.S11.
- Please indicate which year it was for Fig.S5.
- The authors did a great job to export the variable importance plots (Fig. S6 – S8) but it was not mentioned in the main text. It would be great to add those importance plots analysis in section 3.2.