

Dear editor and reviewers:

We thank the reviewer for the comments which have been valuable for the further improvement of our manuscript. The comments are provided below in black bold, followed by our responses in black and the added context in blue italic.

### **Responses to Reviewer 2:**

**The authors basically addressed the main concerns raised by the referees, and the manuscript has been significantly improved. While I still have one more concern according to the response (2) of the impact from meteorological variations in future.**

**Since the reductions in anthropogenic emissions under Net Zero policies are large, the contribution of future anthropogenic emissions will be small, and the effects of climate change on meteorological variations might be large. The authors should address the issue clearer.**

We thank the reviewer for their positive comments on our revisions to the manuscript. We note that the impact of large reductions in anthropogenic emissions from current levels to Net Zero masks most of the effects of climate change on surface ozone. The impacts of climate change are relatively small over the short time period considered in this study. Nevertheless, the reviewer is correct to point out that the relative contribution of climate change will become larger as emissions decrease to lower levels on the way toward Net Zero. Despite this, reducing anthropogenic emissions, relative to climate mitigation, is still the key to alleviating ozone pollution at the current time. Our conclusions therefore stand as they are currently presented. However, we have now included a sentence that reflects the reviewer's suggestion in our discussion in section 4.

Line 190:

*“... These  $O_3$  increases occur in both seasons, but although they are more pronounced in summer, they remain much smaller than the changes due to anthropogenic emissions. The relative impacts of climate change on  $O_3$  may become larger in future as anthropogenic emissions reduce towards Net Zero targets. Overall, we show that while local emissions are critical to  $O_3$  pollution, ...”*