

Interactive comment on “A model study on changes of European and Swiss particulate matter, ozone and nitrogen deposition between 1990 and 2020 due to the revised Gothenburg protocol” by S. Aksoyoglu et al.

Anonymous Referee #2

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The manuscript is dealing with an important problem that is the deposition of various pollutants in Central Europe and specifically in Switzerland. The manuscript is well structured and clearly written. The adopted methodology is considered as scientifically sound. Although, there are a few issues that need better clarification. More specifically: I would suggest to comment on the forecast skill of the adopted methodology for projections of 2020. Is O₃ increase attributed to emissions used or meteorology? As it is well known, such model results are sensitive to lateral boundary conditions used. this part of the manuscript needs better writing and adequate justification of the

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methodology followed. I would suggest to add a description about the model resolution used for Switzerland and the topographic variability of the area. Why it is considered as adequate? The same is true for the emission inventory used. How about meteorological variability? Is it captured adequately with the model configuration used? Detailed justification is needed. A simple statistical evaluation as it is in the manuscript cannot be considered as adequate for this kind of study. More sensitivity tests are needed to justify the configuration. Process evaluation is needed. For clarity of the presentation of results i suggest redraw the figures showing model results for Europe. The color palette they used is too light and the results are not clearly seen. The time series of Figure 2 and 4 need a better representation. Too long time series of observational and modeled data. I suggest to break in smaller period.

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