

Author Response to Anonymous Referee 2

Comment: As a reviewer I already examined and commented a previous version of the manuscript, which was initially submitted to ACP. The paper has been in accordance with editor and reviewers transferred to GMD, since it has a quite technical focus. With this newly submitted manuscript the authors addressed all critical points raised by me, I am fully satisfied with their response. The manuscript has considerably improved. The study has been extended by using additionally a more recent emission data set from EMEP, what gave the comparison with observations a sound basis. Also at several passages text segments have been added which help the reader to better grasp how the study was actually performed. It would have been interesting to also explore the applied pre-set functions used for the time disaggregation of the annual emissions for study region. This might be a task for a follow up analysis. There still are a few typos in manuscript and some numbers in the figure may be too small to be readable. Thus, standard editorial work is need. In conclusion, I recommend this manuscript for publication in GMD.

Response: We would like to thank the referee for taking the time to review our manuscript and for his/her helpful suggestions. For the future, we are planning to optimize the spatial and also the temporal disaggregation you mention for our region of interest in order to further improve the model system's performance. In the revised manuscript, the too small panel headers in Figures 2, 3, 6 and 7 have been removed and the corresponding results are now provided in an additional table (Table 4). We have also applied a spell checker on the latex file in order to correct all those typos that could not be detected by manual proofreading.