Atmos. Chem. Phys. Discuss.,
https://doi.org/10.5194/acp-2017-316-RC1, 2017

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Assessment of co-benefits of black carbon emission reduction measures in Southeast Asia: Part 2 emission scenarios for 2030 and co-benefits on mitigation of air pollution and climate forcing" *by* Didin Agustian Permadi et al.

Anonymous Referee #1

Received and published: 18 June 2017

This is the second part of the two parts paper on the BC emission and its impact on air pollution in Southeast Asia. In this manuscript, the authors examined the impact of different scenarios of BC emission on air pollution and climate. However, the meteorological fields are fixed with year 2007. Therefore, air pollution and aerosol radiative forcing as well as the number of premature death are largely proportion to the levels of BC emissions. I found this paper doesn't add any new insight to the problem. So, I do not recommend this paper for publication.

Specific Comments:

1) Experiment setting is not clearly described. If I understood correctly, all meteorological variables and SST are same as year-2007 (lines 8-9 on page 3). Only emissions and chemistry boundary conditions are changed. This modeling experiment doesn't represent the future scenarios. 2) Is DRF for all-sky or clear-sky? 3) Lines 24-26 on page 3: I understand that long-term data record is not available for many cities, but 4-19 years are too short to determine trend or BAU scenario. 4) Line 34 on page 10, "bring in substantial benefit to human health and climate": Here, by the benefit to climate, the author seem to indicate the reduction of BC DRF due to reduction of BC emission. First of all, could you clarify whether DRF is for all sky or clear sky? Also, the reduction does not necessarily mean beneficial. How to define beneficial for this case, climate? Also, it is not climate, but climate forcing. 5) Figure S1: Dotted line (=ratio of 1.0) does not match with color bars. For example, dotted line in the maritime continent is not same as that along the east coast of India.

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2017-316, 2017.