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***Interactive comment on* “The impact of shipping emissions on air pollution in the Greater North Sea region – Part 2: Scenarios for 2030” by V. Matthias et al.**

Anonymous Referee #1

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General comment

The paper is well written with a clear focus and relevance for the field of air quality and emission policy. The methods are straightforward and sound. The choice to look at relative changes in concentrations is appropriate, but at some locations the concentrations are very low, so I wonder whether the relative changes are meaningful there (e.g. impact of shipping on nitrate concentration in north eastern and south western part of North Sea, on ozone concentrations in English channel). A word on absolute concentrations would be helpful there.

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Although I understand the choice of the authors to keep the anthropogenic emissions constant I would welcome an indication of the relative contribution to concentrations of shipping for 2030 in the discussion. In particular for ozone this would be relevant, as the chemical regime may change.

Detailed comment

P 11330 I 4-6: Grammatical construction of sentence is incorrect, which makes it difficult to read, please rephrase

P 1135: Mention that the impact of shipping is determined by comparing a simulation including both shipping and other anthropogenic emissions to a simulation excluding the shipping emissions. Would you need to be concerned about nonlinearities by completely shutting down shipping emissions instead of looking at the impact of 10% reduction?

Please describe what the white patches in the figures 2,3, 5 and 7 mean, also how I should interpret the red patches close to Denmark and North of Ireland (Figs 2,3)

P 1136 I 23: I would rather say 50 %, since it is nearly 100 % over large areas.

Technical issues

Fig 6: name of scenarios not consistent with main text. Why 2a instead of 2? Better to refer to ECA specification.

Fig 10: it would be helpful if SO₂ and SO₄ would be indicated next to the respective figure instead of only in the caption

Interactive comment on Atmos. Chem. Phys. Discuss., 15, 11325, 2015.

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