

## ***Interactive comment on “Impact of a nitrogen emission control area (NECA) on the future air quality and nitrogen deposition to seawater in the Baltic Sea region” by Matthias Karl et al.***

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This paper deals with the consequences of introducing a nitrogen emission control area in the Baltic Sea region. In addition, the authors analyze the influence of different fuel efficiency trends on their results. They assess both the impact on future air quality and on nitrogen deposition to seawater.

The manuscript is very well written and the results obtained convincingly presented. The authors apply a state-of-the-art methodology and use simulation models that are suitable for their study. The assumptions made are realistic and the input data appropriate. The illustrations included in the paper reflect successfully the key findings of the

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analysis, and the conclusions are plausible.

As the only aspect worth commenting, the authors selected to work with an innermost grid of 4x4 km<sup>2</sup>. This resolution may be acceptable for regional scale simulations, yet it is clearly insufficient for predicting air quality in coastal urban areas, especially if such estimates are subsequently used to assess their impact to human health. Although it is understandable why the authors did not decide to increase the resolution to, say, 1 km, they should discuss the inevitable uncertainty associated with their intention to describe the air pollution situation in Baltic Sea harbours extending over hardly more than the assumed minimum cell surface area (16 km<sup>2</sup>).

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