

Interactive comment on “The problem of the second wind turbine – a note on a common but flawed wind power estimation method” by F. Gans et al.

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We thank V. Lucarini for his review, which helped to improve the manuscript in a revised version. Our response to the referees suggestions is as follows:

1) I would encourage them to write some balance equations expressing the kinetic energy budget of the ionosphere in terms of fluxes at the boundaries and sources and sinks inside the domain. I suggest to give a look at Kundu-Cohen or Peixoto and Oort.

We have added a kinetic energy balance and discussed its application separately for the common method and the energy conservation method.

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2) Some reference to the climatic impacts of large scale wind farms should be briefly presented. I suggest, e.g. the authors to make reference to (and briefly discuss) the paper : C. Wang and R. G. Prinn, *Potential climatic impacts and reliability of very large-scale wind farms*, *Atmos. Chem. Phys.*, 10, 2053–2061, 2010 which is now listed in the references but not referred to.

This reference to Wang and Prinn (2010) did not appear in the text because of a latex compilation error. This is fixed and we extended the discussion on the studies by Keith et al. (2004) and Wang and Prinn (2010).

Again, we thank the referee for his comments, since adding an explicit energy balance to the description of the tunnel increased the clearness of the paper and the assumptions made therein.

Interactive comment on *Earth Syst. Dynam. Discuss.*, 1, 103, 2010.

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