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Interactive comment on "Wind-farm layout optimisation using a hybrid Jensen–LES approach" *by* V. S. Bokharaie et al.

Anonymous Referee #2

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This paper presents a new approach for the optimal micro-sitting of wind turbines problem. The main contribution of this work lays on the calibration (by running Large-Eddy Simulations) of the decay constant, Kw, used in Jensen's model to assess the wake effect. This approach is interesting but in my opinion it does not allow to overcome the main limitations of the Jensen's model, especially when assessing the multiple wake effect in large arrays.

The decay constant is usually determined by empirical observations. Therefore, running simulations to recalculate this constant doesn't seem to be a significant improvement on the wake model.

The problem description section needs to be improved. Also, it would be helpful to include a flowchart of the proposed methods.

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Discussion paper

When defining the optimisation problem in (2), the averaged Pi seems to be the same as the averaged Pi defined in (1), which according to the statement “T is a time averaging window that is sufficiently long to average out the turbulence effects.” corresponds to a short-term average. However, when dealing with a planning problem the objective should be either maximise energy or long-term averaged power.

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