Review on: Experimental demonstration of regenerative wind farming using a high-density layout of VAWTs by Bensason et al.

General comments

The subject addressed by the authors is of great interest in the context of wind farm development. It is also original in that it deals with the potential of vertical-axis wind turbines, which are little studied in the literature.

The paper is very well written and structured. The analytical approach is very good and well explained. Particularly noteworthy is the careful presentation of the experiment, which is of very high quality. The measurement of wake velocity on such a large scale is uncommon in the literature, and the data obtained are used in a very relevant way.

The paper seems to me to be, after the answers to a few questions raised below, quite publishable.

General questions

- Would the advantages of the global pitch control proposed here be the same if the turbines were placed in a turbulent atmospheric boundary layer? Would the diffusion of generated vortices result in a loss of control efficiency?

- The disadvantage of reproducing wind turbines on a small scale is the value of the Reynolds number based on the chord. Do the authors have any idea of the influence of Reynolds number on the observed wake dynamics?

- With regard to working scales, is it possible to identify similarities between the size of the models used and the results obtained (wake deflection, turbulent entrainment, etc.)? If we want to use this study to optimize the placement of wind turbines in a farm situation, a scaling by a characteristic length scale of the wind turbine could be interesting.

Detailed questions

- Line 225: The blockage is given. But it seems to me that the wind turbines are positioned at the edges of the wind tunnel jet. Does this affect the results obtained? In particular on the rows of wind turbines on the sides?

- Line 259: A spatial resolution of 19 mm is given for velocity measurements. This represents approximately 8 to 10% of the wind turbine diameter. So we can have 15 points of velocity value on one diameter. Is this sufficient for the purposes of the study?

- Line 393: It is written that the structures are 'shorter'. Isn't that very precise? Does it refer to a size or an intensity, a circulation?

- Line 390-393: How do the structures generated by the wind turbines evolve spatially? Is there any interaction between them? Does the relative position of the turbines has to be important?