

## General comments

From a practical point of view, high resolution WRF simulations (1 km – 3 km) can be enough for a preliminary prospecting phase to identify areas with large wind energy potential. Please indicate at the paper (introduction for example) **advantages of using a WRF-CFD coupling against a stand-alone WRF simulation**, even in a prospecting phase.

Also in the text the numerical modeling is compared with met mast measurements. During micro-siting phase, met mast measurements are always necessary for bankable permissions so numerical modeling (meso micro coupling) can be complementary (never a substitute by itself). This type of comparison should be avoided since they occur in separate phases of the project.

Regarding the coupling method based on data transfer from particular locations, it should be justified at some point why this data transfer has not been done **from the boundary conditions of the CFD domain or from the upper level of the atmosphere** (geostrophic level).

Lastly, It is recommended to add some other literature references related to recent advances in meso micro coupling (i.e. NWEA project)

<https://journals.ametsoc.org/doi/full/10.1175/BAMS-D-18-0033.1>

<https://www.wind-energ-sci.net/2/35/2017/>

<https://onlinelibrary.wiley.com/doi/abs/10.1002/wene.214>

## Minor comments

Title: it can be misleading, something more general, such as:

“Using multiple transfer locations for WRF-CFD coupling in numerical wind energy assessments”

Page 1 – abstract

Line 10: the use of NWP can be misleading, using “mesoscale modeling” instead is recommended

Line 11: preferable to avoid this kind of comparison (See comments above)

Line 25: “to the number of sites in complex terrain...”

Page 2 – lines 31 and 38: preferable to avoid this kind of comparison (See comments above)

Page 3 – line 75: use ‘through’ instead of ‘via’

Page 3 – line 75: better use “which is inserted into the CFD domain”

Page 3 – line 79: “...is sensitive to the location of the data transfer”

Page 5 – line 135: justify why 100m is an appropriate spatial resolution for this analysis; should it be enough for the turbulence characterization in the microscale in complex terrain areas?

Page 6 – line 144: “Experience”, without “d”

Page 6 – line 146: “..based on conducting the data..”

Page 6 – line 146: “..through several different...”, instead of based

Page 6 – line 149: “in the number of large...”

Page 7 – line 171: how does the method deals with this kind of large gradients? This is related with the major comment of coupling mesoscale and CFD from the boundary conditions or at geostrophic level instead.

Page 7 – line 198: “..of the collaborating companies..”, instead “by”

Page 8 – figure 5: what does 100m in the legend represent? Apparently it is not described

Page 8 – figure 5 (and subsequent ones figures 6 and 7): specify in the title: With / Without MTLA together with the number of testing points (set of 35, 45 or 80)

Pages 8 to 10: Add a table with the summary of error metrics: mean BIAS + standard deviation for each set of experiments (the value for each binned class and the global value). This helps to follow the results at these chapters and also in the discussion much better than from the text.