

Editor suggestions appear in black and author responses appear in blue.

I have reviewed the revised version of your manuscript, and I am happy to see that you have implemented most of the two reviewer suggestions. Congratulations on a job well done!

However, I have some further suggestions to help improve the readability of your article and correct some technical problems:

We thank the editor for their attention to detail and for providing suggestions to enhance the readability of this article.

1. Caption Fig. 3: The location of E06 is shown as the red diamond and E05 as the red triangle.

We have added "The location of" to the figure caption.

2. L160: Should be 'TKE advection is turned on.'

We have substituted the acronym "TKE" for "turbulence" in this sentence.

3. You use r^2 in Figure 6 but defined CC in Equation 6. I would use r^2 (or r) for correlation, as is commonly used.

We now define "r" in Equation 6 instead of "CC". We have also made this substitution in the text on lines 204 and 239.

4. You use a big V for wind in some places (Eqs 6-8) and then a little v in the shear. It would be best to be consistent.

We have replaced a lowercase v with an uppercase V in the shear exponent equation and in the text on lines 330-331.

5. L190: "production of turbulence (Eq. 5): " remove Eq. 5. A number is already on the equation. Also, in Eq 6-8 and 9. and so on.

We now reference the equations at appropriate locations in the text on lines 255-257, 295, 337, 360, and 528.

6. I think long underscores in equations are very ugly and difficult to read. Why not use "O" (or "L") for observations (lidar) and "M" ("W") for modeled (or WRF-simulated)? The same applies to TKE (usually k in equations).

We have substituted "W" for WRF and "L" for lidar in Eqs. 6-9 and 12.

7. Many of the figure captions are incomplete:

1. Captions of Figures 5, 6, 7, 8, and 9: "at the E05 (blue) and E06 (red) lidar locations.'

"locations" has been added after "lidar" in Figures 5, 6, 7, and 8.

2. Time periods are missing in Figs 5, 6

The time period under consideration has been added to Figures 5, 6, 7, and 8.

3. It would be easier to compare lidar and WRF simulated shear if the curves were in the same graphic.

WRF and lidar shear exponents are now shown in one figure panel for ease of comparison.

8. Again, in Eqs 13-16, could you shorten the names and underscores? Could the equations be condensed into a single one?

Thank you for the suggestion. However, considering that the calculation of this power always generates a lot of questions in presentations and several questions from reviewers, we think that explicitness is more critical than concision here. Therefore, we have chosen to leave equations 13-16 as is: it must be extremely clear to readers exactly how power is calculated. Combining the equations (and the two different methods for power calculation) could lead to confusion.

9. Figure 17: The difference in power production between TKE_100 and TKE_0 is shown in MW

We have changed “megawatts” to “MW” in the figure caption.

10. As a final recommendation, please follow the WES style guidelines at <https://www.wind-energy-science.net/submission.html>. Some of your journal abbreviations need to be corrected (this will save you time later in the article production).

We have corrected journal abbreviations in the references using the Web of Sciences journal title abbreviations.