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# *Interactive comment on* "Statistical characterization of roughness uncertainty and impact on wind resource estimation" *by* Mark Kelly and Hans Ejsing

Anonymous Referee #1

Authors have addressed an very interesting issue in this paper, i.e., the effect of roughness uncertainty on the prediction of wind speeds and annual wind energy production. The paper is technically sound. However, due to some very long complex sentences, it is very difficult to follow in some sections of the paper. A few of the long complex sentences are: - Page 15, Section 3.2.1: "Towards practical consideration . . . . . . . . . . . . . . . . . . . . . . . ..off-shore predictions." - Page 17, Section 3.3.1: "The half-widths . . . . . . . . . . . . . . . . . . . . ..u* in the ASL." - Page 18, Section 3.3.2: " As mentioned. . . . . . . . . . . . . . . . . . . . . . . . ..by a factor p." Please break down these sentences and other long sentences into two or three short sentences. This will help readers to follow the paper easily. Minor corrections: - Page 2, line 12: add ',' after

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Consequently - Page 2, line 16: remove 'annual energy production', use AEP only as it is already introduced - Page 2, line 26: 'some height', be specific - Page 3, line 16: 'and (i.e. du*2/dz«),', this is not clear - Page 7, line 20: use 'the' before 'observation-based zo' - Page 10, line 22: 'In terms of (9)', not clear. Equation (9)? - Page 17, line 32: remove 'e.g.' before direct LIDAR - Page 18, line 3-4: 'depends on such-most simply expressed via the exponent'-this part of the sentence is not clear - Conclusion is too big. Please summarize the key findings in the conclusion. Bullet points can be used.

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