Netherlands Enterprise Agency

Webinar January 17, 2017
Wind Resource Assessment HKZ

Questions: from the audience
Answers given by: Anthony Crockford (Ecofys), Dhruv Dhirendra (Ecofys), Hans Verhoef (ECN), Ben de Sonneville (BLIX), Frank van Erp (Netherlands Enterprise Agency)

Question: The availability of the data at the highest sensor of OWEZ is rather low and there is only 1 year of measurement used. Have data gaps been filled with data from other sources?
Answer: The data gaps occurred at an elevation of 116m. In the Wind Resource Assessment, the OWEZ data at an elevation of 70m was used, because of its high availability. Therefore, no gaps needed to be filled (see Section 2.3, 2.8 and 3.1).

Question: What is the approach towards the wind shear used for vertical extrapolation?
Answer: The measured wind shear matrix was used considering the time of the day (hourly) and wind direction (for each 30-degree bin) (see Section 3.1).

Question: Previously ECN has conducted a study concerning the error introduced due to the movement of the OWEZ mast top. Were the results of this ECN study incorporated in the Wind Resource Assessment?
Answer: This is one of the reasons for not using top measured height of OWEZ mast. All ECN studies of the OWEZ mast (published on www.noordzeewind.nl have been considered in the evaluation of the dataset (see Section 2.3).

Question: For what period is the measurement campaign with the floating Lidar at Hollandse Kust planned and where is the data available?
Answer: This subject is extensively discussed in the webinar of the Metocean measuring campaign. Data is disclosed at offshorewind.rvo.nl. For the purposes of the Wind Resource Assessment, data from June to September 2016 was used (see Section 2.6).

Question: Can you elaborate on uncertainty due to mesoscale model distribution?
Answer: Various statistical tests were performed to assess the uncertainty of mesoscale model distribution (detailed in Appendix E).

Question: Have any studies been done regarding the Mierij Meteo 018 anemometers compared to IEC class 1 anemometers and hence the applicability of the 2% instrument accuracy uncertainty?
Answer: There is extensive MEASNET calibration performed on Mierij Meteo 018 anemometers and these instruments were under regular maintenance by Mierij Meteo.

Question: What is the average air density used in the Wind Resource Assessment?
Answer: The air density is calculated for each time step, and it was calculated as 1.24 kg/m^3 (see Section 4.12).

Question: Was any assessment of the consistency of the EMD-ConWx timeseries conducted for the 16 year period used as a long-term reference (i.e. against long-term KNMI stations)?
Answer: Yes, with the Europlatform and LE Goeree stations (see Appendix D and Figure 25 in Section 4.5).