

Development of innovative weather-
and power prediction models
for the integration of weather
dependent energy resources into
the grid

Optimization of ensemble
prognoses for renewable energy
production in near-real time

EWeLiNE 

(ORKA)

- A cooperation between meteorology and the energy sector -

The projects:

- è Collaborative projects with partners in research and industry
- è Duration: 4 years, approx. 4 million €

Goals:

- è Improve planning and safety of energy grid through highly resolved, more accurate energy forecasts
- è Significant improvements of numerical weather forecasts, especially on heights relevant for wind power, for lead times from 0-72 hours
 - Ø Additional data assimilation
 - Ø Improved model physics
 - Ø Improved statistical post-processing
- è Development of probabilistic wind and irradiation products esp. for use by transmission system operators
- è Improved dialog between meteorology and energy applications

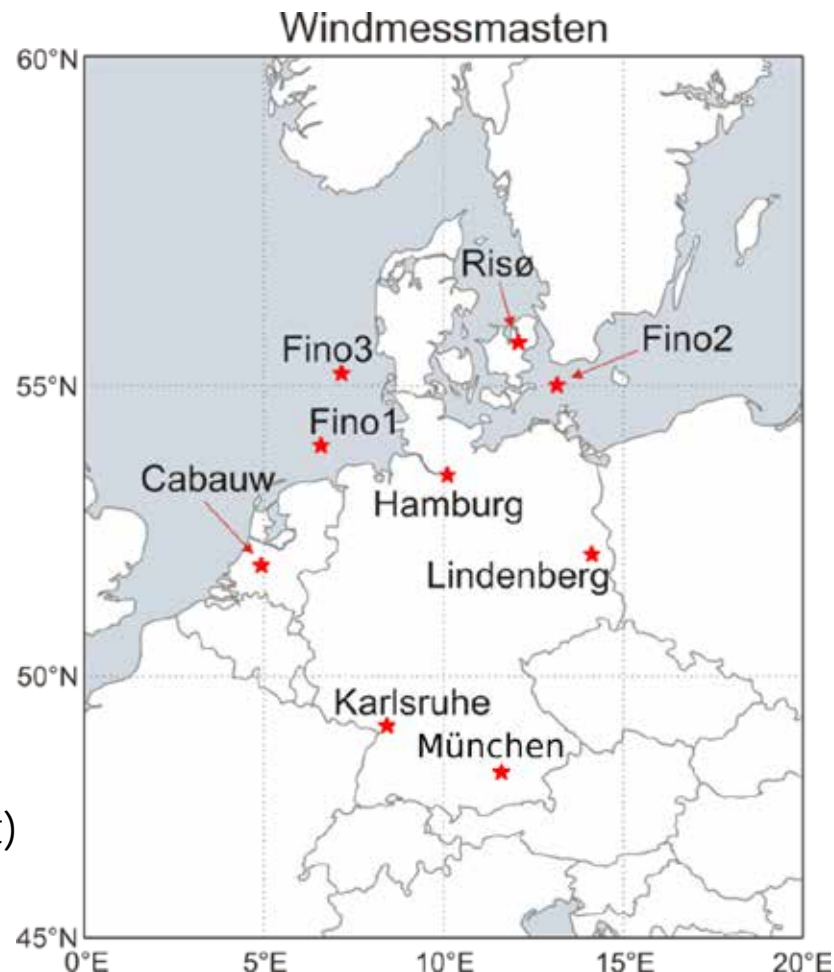
Currently used wind and irradiation data

Wind observations:

- FINO1 (33 – 100 m)
- FINO2 (32 – 102 m)
- FINO3 (30 – 106 m)
- Lindenberg (10 – 98 m)
- Karlsruhe (20 – 200 m)
- Hamburg (10 – 280 m)
- Cabauw (10 – 200 m)
- Risø (44 – 125 m)
- München (10 – 62 m)
- IWES network (30) (10m, 30m)
- TSO wind plants (68)

Irradiation observations:

- Irradiation data by CM SAF (based on Meteosat)
- Pyranometer data
(32 DWD observation stations)



- è Optimally we are looking for:
- Ø Irradiation data on ground level
 - Ø Wind data, especially tower data on several heights
 - Ø High temporal resolution, ideally 1 min
 - Ø Near-real-time, automated delivery
 - Ø Delayed data for limited applications if near real time is unavailable

More data helps us improve our forecasts, and improved forecasts also support chemical transport models!

www.projekt-eweline.de

Model contract: Data usage in EWeLiNE

Data provider _____ agrees to provide the German Weather Service (Deutscher Wetterdienst, DWD) with (*historical and*) live data from _____. The DWD agrees to:

- Use the data exclusively for noncommercial, research purposes
- Not provide the data to third parties
- Acknowledge the data provider in all publications, presentations, etc. in which the data is used
- Report back to the data provider for which purposes the data was used and describe any problems, etc. found while using the data

We will contact station PI's and ATC data base directly by email
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