

IEA Wind Task 36 Forecasting

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Abstract

Keywords: Short-term prediction, Short-term forecasting, IEA, Weather prediction, Power prediction

Motivation

Wind power forecasts have been used operatively for over 20 years. Despite this fact, there are still several possibilities to improve the forecasts, both from the weather prediction side and from the usage of the forecasts. The new International Energy Agency (IEA) Task on Wind Power Forecasting tries to organize international collaboration, among national weather centers with an interest and/or large projects on wind forecast improvements (e.g., NOAA, DWD, UK MetOffice) and operational forecaster and forecast users.

IEA task setup

The Task is divided into three work packages: Firstly, a collaboration on the improvement of the scientific basis for the wind predictions themselves. This includes numerical weather prediction model physics, but also widely distributed information on accessible datasets. Secondly, we will be aiming at an international pre-standard (an IEA Recommended Practice) on benchmarking and comparing wind power forecasts, including probabilistic forecasts. This work package will also organize benchmarks, in cooperation with the IEA Task WakeBench. Thirdly, we will be engaging end users aiming at dissemination of the best practice in the usage of wind power predictions.

Deliverables

Main deliverables are an up-to-date list of current projects and main project results, including data sets that can be used by researchers around the world to improve their own models; an IEA Recommended Practice on performance evaluation of probabilistic forecasts; and a position paper regarding the use of probabilistic forecasts. Additionally, spreading of relevant information in both the forecasters and the users community is paramount.

We also present the work accomplished to date, e.g., the collection of available datasets, the current benchmarks, the mapping of the use of probabilistic forecasts by end users, and some ideas towards the optimal communication of probabilistic forecasts.

Conclusions

The IEA Task on Wind Power Forecasting is presented, opening a forum for international collaboration in the field of forecasting for wind energy for meteorologists, wind power forecasters and end users. For those interested in collaborating, please contact Gregor Giebel (grgi@dtu.dk) and visit www.ieawindforecasting.dk.