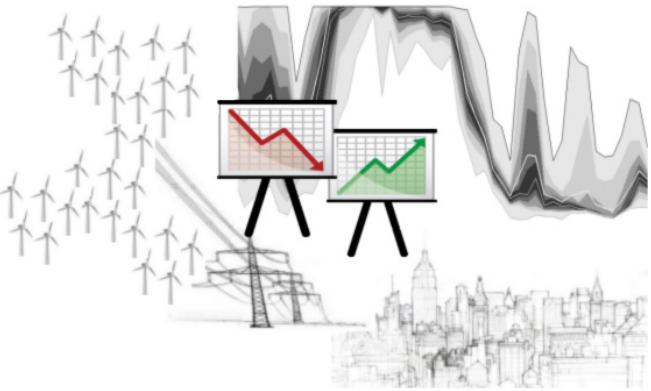
IEA Wind Task 36

Forecasting for Wind Power

FORECASTING FOR YOU

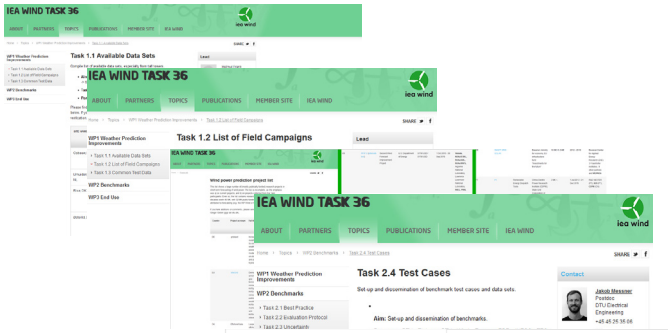


Setup

Wind power forecasts have been used operatively for over 25 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 IEA Wind Task is divided in 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 deal with the **conversion to power** and issues affecting the forecast vendors. Thirdly, we will be engaging end users aiming at dissemination of the best practice in the usage of wind power predictions.

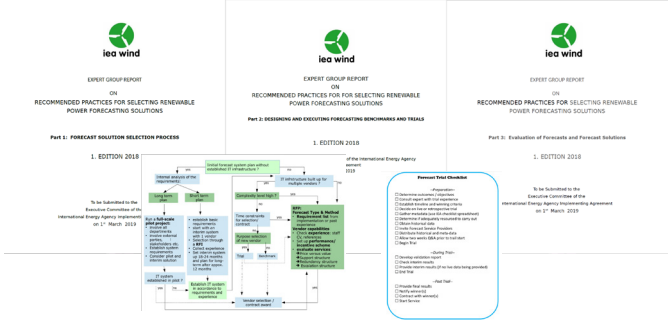
The Task is currently in its second phase, 2019-2021.



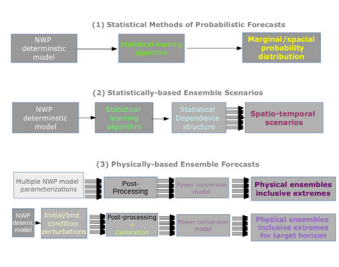
Results of phase I (2016-2018)

We developed an **information portal**, with links to data, projects and knowledge useful for wind power forecasting. This could be a list of tall masts useful for online validation of NWP models, a list of field campaigns with open data for model verification, or a selection of benchmarks for forecasts with established data sources and existing reference frameworks.

A major result was the IEA Wind Recommended Practice (RP) on **Forecast Solution Selection**, detailing out the necessary steps to get the best adapted forecasts for the individual use case. The RP starts with the initial deliberations which might or might not end up with the decision to do a forecast trial. The second document shows how to conduct such a trial in order to yield acceptable and usable results for both the end user and the participating vendor. The last part shows how to evaluate the trial to get 1) significant, 2) representative and 3) reliable results.



For **probabilistic forecasts**, we published two papers with an overview (for a broader readership) and one with a long list of specific use cases (more technically oriented). We also classified methods for uncertainty forecasting, and tried to establish a common vocabulary. We also mapped the current use of probabilistic forecasts through a questionnaire.

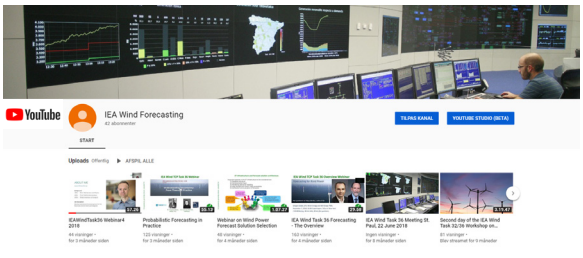


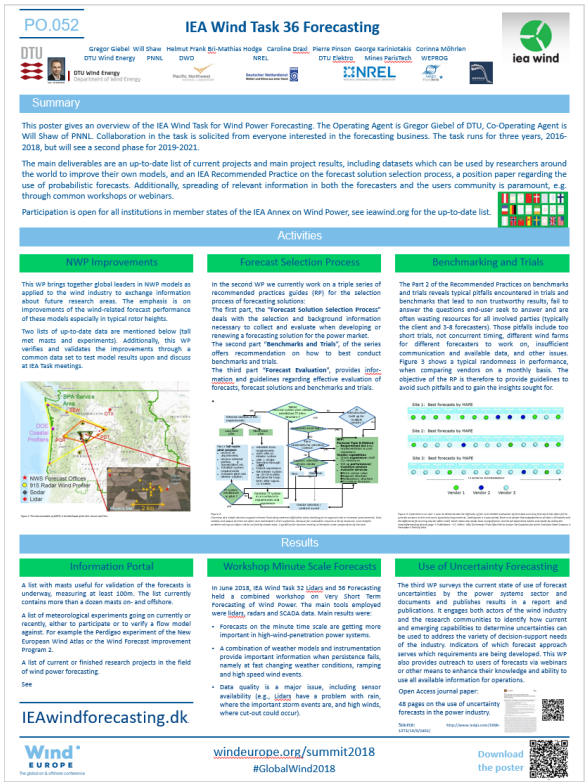
Impact

The Task sends out **news** a few times a year, is present on conferences and meetings, and has its own **YouTube** channel. There, alongside video transmissions of the public workshops, we also had 4 **webinars** of half an hour talks plus audience questions on the major results of phase I. The fourth one was an additional one on forecast use in Denmark.

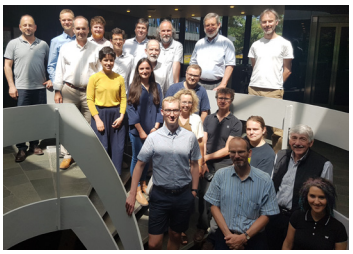
The Task members also try to get a enhance **collaboration** between weather prediction providers and vendors, and between vendors and end users. One activity for the current phase of the Task (2019-2021) is a look into **standardization** of data, to make data exchange more fluent across the industry. Another activity is to estimate the **value** of better forecasting.

We also collaborate with other Wind Tasks, e.g. in the common workshop on minute scale forecasting we had together with Task 32 **Lidar**. In the future, we will also collaborate with IEA PV Task 16 **Solar** resource, which also deals with forecasting and has some of the same issues.





Collaboration



Currently, some 250 people from 12 countries are collaborating on forecasts. There are meetings every half year, often in conjunction with relevant conferences. We also have special sessions at conferences for outreach, and usually an overview poster. If you are **interested** to collaborate, or just to be informed about new results, please contact Gregor Giebel.

For more information, contact:
Operating Agent
Gregor Giebel
DTU Wind Energy
grgi@dtu.dk
+45 4056 5095

The **International Energy Agency** is an autonomous organisation which works to ensure reliable, affordable and clean energy for its 30 member countries and beyond.

The **IEA Wind Technology Collaboration Programme** supports the work of 38 independent, international groups of experts that enable governments and industries from around the world to lead programmes and projects on a wide range of energy technologies and related issues.

IEA Wind Task 36 connects 250 experts from academia, forecast vendors and end users to improve the accuracy and value of wind power forecasts.