This poster gives an overview of the IEA Wind Task for Wind Power Forecasting. The Operating Agent is Gregor Giibel of DTU, Co-operating Agent is Joel Cline of the US Department of Energy. Collaboration in the task is solicited from everyone interested in the forecasting business. We will collaborate with IEA Task 31 Wakebench, which developed the Windbench benchmarking platform, which this task will use for forecasting benchmarks. The task will run for three years, 2016-2018.

Main deliverables are an up-to-date list of current projects and main project results, including datasets which can be used by researchers around the world to improve their own models, an IEA Recommended Practice on performance evaluation of probabilistic forecasts, a position paper regarding the use of probabilistic forecasts, and one or more benchmark studies both for purely meteorological test cases as well as for power. Additionally, spreading of relevant information in both the forecasters and the users community is paramount.

Participation is open for all institutions in member states of the IEA Annex on Wind Power, see ieawind.org for the up-to-date list and the flags to the right.

### Activities

This WP brings together global leaders in NWP models as applied to the wind industry to exchange information about future research areas. The emphasis will be on improvements of the wind-related forecast performance of these models especially in typical rotor heights.

Two lists of up-to-date data are mentioned below (tail met masts and experiments). Additionally, this WP will verify and validate the improvements through a common data set to test model results upon and discuss at IEA Task meetings.

### Public Lists

A list with masts useful for validation of the forecasts is underway, measuring at least 100m. The list currently contains more than a dozen masts on- and offshore.

A list of meteorological experiments going on currently or recently, either to participate or to verify a flow model against.

A list of current or finished research projects in the field of wind power forecasting.

See [www.IEAWindForecasting.dk](http://www.IEAWindForecasting.dk)

### Results

In July 2016, the group held a public workshop in Barcelona on Experiences with Forecasts and Gaps in Research. The slides are available from the website.

The most important gaps were identified as:

- More frequent, and higher time and spatial resolution data.
- Short-term ensembles with the correct spread.
- Data assimilation of wind power data, and improved NWP model physics, including icing.
- Interaction between wind farms.
- Ramps, and seasonal forecasting.
- Optimal use of probabilistics, and reliable quantities.

### Advanced Usage Questionnaire

We currently conduct a mapping of the use of probabilistic forecasts in the industry. Please help us filling in the [scan the QR code]!

Preliminary results (see also Figure 3):

- Knowledge about how to make use of uncertainty forecasts is lacking.
- 98% use multiple forecasts.
- 60% know provider and products of uncertainty forecasts.
- < 10% make use of uncertainty forecasts.
- Less than 10% of all organisations employ meteorologists or engineers with an atmospheric science education.

### Workshop Future issues

Other recommendations have been suggested as first deliverables in the IEA Wind Task 36 to provide guidelines for the integration of wind power into the power grid:

- Derive and test business cases for the use of uncertainty forecasts, particularly at the system operation level, where it is mainly used for situational awareness.
- The quality of measurements is becoming very relevant due to the increasing need of intra-day balancing. Spatial-temporal modeling of wind power time series can improve the forecast skill, but require data with good quality and high update frequency.

Please ask nicely.

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