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IEA Wind Task 36 – International Collaboration on Forecast Improvements

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The International Energy Agency (IEA) Wind Task 36 on Wind Power Forecasting organises international collaboration, among national weather centres with an interest and/or large projects on wind forecast improvements (NOAA, DWD, ...), forecast vendors and forecast users to facilitate scientific exchange to be prepared for future challenges.

The talk discusses the general setup of the Task, and the latest developments. Among those are decision making under uncertainty. To this aim, a series of forecasting experiments are being developed and one initial experiment was tested by a wide audience. The forecasting experiments took the form of a game, during which the participants could experience the benefit of probabilistic information on their decisions to trade.
Other results include an information portal for meteorological data, and the IEA Recommended Practice for Forecast Solution Selection which is divided into 3 parts: (1) "Forecast Solution Selection Process", (2) "Designing and Executing Forecasting Benchmarks and Trials", and (3) "Evaluation of Forecasts and Forecast Solutions". The Recommended Practice guideline encourages forecast users to establish a framework of metrics that help identify, whether the user's forecast performance criteria effectively incentivize the forecast provider to optimize towards the forecast target variable that has the most value for the user's application(s). For this year, we intend to update the guideline in the light of the experiences throughout the industry in its initial application, and after collecting this experience at 3 Open Space workshops.

Collaboration is open to IEA Wind member states; 12 countries are already actively collaborating.

The Task is divided in three work packages: Work Package (WP) 1 is a collaboration on the improvement of the scientific basis for the wind predictions themselves. This includes numerical

weather prediction (NWP) model physics, but also widely distributed information on accessible datasets. This WP also currently organises a benchmark for NWP models, based on the Wind Forecast Improvement Project 2 (WFIP2) datasets. WP2 deals with the power conversion from the wind speed forecasts and the associated vendor issues. Amongst other things, WP2 published the IEA Recommended Practice on how to select an optimal wind power forecast solution for a specific application. The focus of WP3 is on the engagement of end users to disseminate the best practice in the use of wind power predictions, especially probabilistic forecasts and also what kind of measurements are required in real-time environments

A major activity of the Task is the organisation of workshops and special sessions at conferences, like this one. Previous workshops on e.g. forecasting on the minute scale including lidars, a workshop on the value of forecasts, or special sessions on the Wind Energy Science Conference, the Wind Integration Workshop, the ESIG Meteorology and Market Design for Grid Services workshops are still visible online from the IEAWindForecasting YouTube channel.