

Update on IEC SC8A Working Group 2 Forecasting Activity

Aidan Tuohy, EPRI

Shuanglei Feng, China Electric Power Research Institute

Co-conveners, Working Group 2



IEC Study Committee 8A Scope

- Development of technical reports, technical specifications and international standards for grid integration of variable power generation from renewables such as PV solar and wind energy
- SC 8A focuses on the systemic impact of a high percentage of renewables connected to the grid, considering that their variability and predictability
- Activities and WG
 - WG1 Terms and Definitions
 - **WG2 Renewable Energy Forecasting**
 - AHG3 Roadmap for Renewable Energy Integration
 - JWG4 Grid code compliance assessment for RE
 - JWG5 Roadmap Implementation

Working Group 2

- Aim: To develop a Technical Report addressing best practices around renewable energy power prediction
- Describe common practices and state of the art for renewable energy power prediction.
 - General data requirements
 - Methods for renewable energy power prediction
 - Prediction error evaluation.
- The focus can be wind turbines, or a wind power plant, or a region with lots of wind power plants (or PV equivalents)

Technical Report – Status and Plans

- Focus on gathering current state of the art in wind and solar forecasting
 - Academic papers and research
 - Industry practices (currently light on this)
- Not a standards document, just a technical report
 - Too early for standards in many areas
 - Could form basis of standards in the future in certain areas (e.g. evaluation metric definition or data)
 - Other areas are not suitable now (or ever) for being standardized
- Finalizing report based on feedback from members of working group
 - Coordinating with IEA Task 36 and looking to get feedback from that group
 - If interested in reviewing, please contact us
- Aim to submit by end September

- + 1 Scope
- + 2 Terms and definitions (General definition)
- + 3 General Introduction of RE Forecasting
 - + 3.1 History
 - + 3.2 Use of forecasts
- + 4 Wind Power Forecasting Methods
 - + 4.1 Deterministic forecasting
 - + 4.2 Probabilistic forecasting
 - + 4.3 Ramping forecasting
 - + References
- + 5 Solar Power Forecasting Methods
 - + 5.1 Sources of data for solar forecasting
 - + 5.2 Deterministic forecasting
 - + 5.3 Probabilistic forecasting
 - + 5.4 Distributed (behind the meter) forecasting
 - + References
- + 6 Accuracy Evaluation
 - + 6.1 Investigated Dataset
 - + 6.2 Deterministic Forecasting
 - + 6.3 Error measures
 - + 6.4 Probabilistic Forecasts
 - + 6.5 Diagrams/Diagnostic Tools
 - + 6.6 Ramp Forecasts
 - + 6.7 Evaluation Reports
 - + References
- + 7 Future developments
 - + 7.1 Future developments of wind power forecasting
 - + Reference
 - + 7.2 Future developments of solar power forecasting
 - + Reference
- + Annex 1: Power System and Electricity Market
- + Annex 2: Forecasting models