Wind EUROPE

'Analysis of Operational Wind Farms'

Technology Workshop 2018

Call for abstracts

Submit your abstract before **10 December 2017** for inclusion in the programme. You will be informed by the end of January 2018 if your abstract has been selected for an oral or poster presentation.

The call for abstracts ensures that all wind energy specialists worldwide can propose their work and that an objective peer review by WindEurope members selects the best for inclusion in the programme and keeps commercial content out!

Topics

Transversal themes: Big data & machine learning

Topic 1: The application of big data and advanced statistical techniques

1a. Data from operating assets

Preferred abstracts would ideally cover:

- •	Monitoring, collection and methodologies
- •	How to use production data to improve WT performance in general
- •	Lessons learned / case studies: what does big data tell us, what SCADA has been collected, how is it being used?

1b. Looking beyond wind turbine performance

Preferred abstracts would ideally cover:

- •	Big data for wind integration and grid applications
- •	Big data for O&M: From big data to component failure prognosis?
- •	Operational data security / cyber security and big data

Topic 2: Predicting and enhancing turbine performance

Preferred abstracts would ideally cover:

- •	Methods for improving the prediction of turbine performance in the real world
- •	Lessons learned / case studies: boosting performance without reducing life expectancy

Topic 3: Post-construction yield analysis

Preferred abstracts will cover:

- •	Innovative tools and techniques to analyse (big) data
- •	Data range: how much data do you need to have significant results? (e.g. are 6 months enough?)
- •	Exposure corrections

- Combining pre and post-construction yields
- Operational wind farms interacting with one another

Topic 4: Asset reporting: availability and other key metrics

Preferred abstracts would ideally cover:

- Methodologies
- Lessons learned / case studies: how to calculate availability

Topic 5: Repowering, extending life or decommissioning?

Preferred abstracts would ideally cover:

- Condition monitoring systems: return on investment?
- Design certificate models: are they accurate enough to predict the behaviour of ageing turbines?
- Predicting the remaining life of structural components and impacts on turbine
- Identifying and monitoring representative turbines from an ageing fleet
- Extending the life of turbines: which components should be reinforced to operate turbines for an extra 5-10 years without derating output?
- Re-powering: run the turbine blindly until it breaks, or anticipate?
- Lidars & other add-ons: does retrofitting make sense?
- Retrofit or derate?

Topic 6: Innovative techniques for enhanced performance

Preferred abstracts would ideally cover:

- Lessons learned / case studies: new technologies and techniques for enhanced performance
- Impact of digitalisation and Internet of Things on O&M
- New digital tools & techniques, including digital twins, machine learning applications, etc.

Topic 7: Offshore operations: lowering the costs

Preferred abstracts would ideally cover:

- Offshore operations: logistics
- Floating turbines: case studies / operational data from floating turbines

Topic 8: Operating wind farms in hybrid mode

Preferred abstracts would ideally cover:

- Operating wind farms with storage solutions
- Operating wind farms in conjunction with Solar PV