



# Winterwind

## INTERNATIONAL WIND ENERGY CONFERENCE

## Program

### Monday March 27

#### Pre-conference

**10:30-15:00** **Field trip**

**12:30-13:45** **Seminar**

Offshore wind in cold climates *Leader: Timo Karlsson*

Offshore Wind Farm development in cold climate risks and considerations (example projects Halla and Laine), *Carlo Giesecke, OX2, SE [43]*

Sea ice conditions in the Baltic sea and impact for offshore wind farm foundations, *Florian van der Stap, Wood Thilsted, DK [14]*

State-of-the art: sea ice and offshore wind foundations, *Jaakko Heinonen, VTT, FI [45]*

**13:45-14:30** **Balance of power in cold climates**

The effect of icing on energy trading, *Sten Lillienau, Centrica, SE [46]*

**14:30-15:00** **Break**

**15:00-18:00** **Seminar**

*Leaders: Claas Rittinghaus and Charles Godreau*

Winterwind Workshop - "Performance envelopes of blade heating systems"  
- A Subtask of IEA Wind TCP Task 54 "Cold Climate Wind Power",  
*Claas Rittinghaus, Energiewerkstatt, AT [13]*

Experiences with IPS icing losses, *Simo Rissanen Kjeller Vindteknikk Oy, FI [17]*



# Winterwind

## INTERNATIONAL WIND ENERGY CONFERENCE

### Tuesday March 28

#### 08:00-09:00 Exhibition and registration

#### 09:00-10:00 Technology *(Arenan)*

*Chairs: Franziska Gerber and Bram Cloet*

Increasing O&M benefits from icing sensors by means of smart data augmentation,  
*Doris Schadler, eologix sensor technology, AT (33)*

Power Curve Tests in Cold Climates on Complex Terrain,  
*Alice GowardBrown, Wood Renewables, UK (6)*

The Next Generation Ice Detection System – Control System Integrated Software Solution for Substantial Cost Optimization,  
*Carsten Ebert, Wölfel Wind Systems, DE (9)*

#### 09:00-10:00 Development *(Salskog)*

*Chairs: Åse Ervik and Sven-Erik Thor*

AEP losses - less than half of the truth of the economic icing losses,  
*Petteri Antikainen, Wicetec, FI (15)*

Case study on vertical variability in icing conditions in Finland,  
*Timo Karlsson, VTT Technical Research Centre of Finland Ltd, FI (22)*

#### 10:00-11:00 Break

#### 11:00-12:30 Opening session *Moderators: Cecilia Dalman Eek & Göran Ronsten*

Sea ice conditions in the Baltic sea and impact for offshore wind farm foundations,  
*Florian van der Stap, Wood Thilsted, DK (14)*

On the performance of ice detection methods used in wind energy: a long-term field study,  
*Charles Godreau, Nergica, CA (7)*

##### **Panel discussion with wind turbine owners**

*Moderator: Göran Dalén*

Skellefteå Kraft Wind power, *Stefan Skarp, Skellefteå Kraft, SE (42)*

W3 Energy, *Per Olofsson*

Panel Discussion with Wind Turbine Owners, *Alli Gallaher, NextEra Energy Resources, US (41)*

#### 12:30-14:00 Lunch

#### 13:30-13:55 Poster session *Moderator: Helena Wänlund*

How to handle the sea ice, *Erik Almkvist, Viking Supply Ships, SE (35)*

Innovative technology to increase efficiency and extend the lifetime of gears and bearings,  
*Stefan Bill, REWITEC GmbH, DE (5)*

Numerical study on inversed designed airfoil under adverse weather conditions,  
*Ibrahim Rotich, Eötvös Loránd University, HU (38)*



# Winterwind

## INTERNATIONAL WIND ENERGY CONFERENCE

### Tuesday March 28

#### **14:00-15:00 Icing** *(Arenan)*

*Chairs: Tiina Kuula and Simon Kloiber*

Mythbusters: wind energy in cold climate edition,  
*Patrice Roberge, Université Laval, CA (2)*

Modelling ice accretion on a cylinder, simple? Right?,  
*André Bégin-Drolet, Université Laval, CA (3)*

Icing detection with LiDAR,  
*Sara Koller, Meteotest, CH (19)*

#### **14:00-15:00 O&M** *(Solskog)*

*Chairs: Daniela Roeper and Christoffer Carlsson*

Addressing lightning risk in cold climates  
- a swedish case study,  
*Andreas Christian Espersen, Wind Power LAB, DK (24)*

Lightning Monitoring in Cold Climates?  
Is there any need?,  
*Nils Lesmann, Phoenix Contact, DE (29)*

Experiences analyzing operational  
wind farms in cold climate,  
*Utku Turkyilmaz, Kjeller Vindteknikk  
part of Norconsult, SE (18)*

#### **15:00-15:45 Break, Poster session** *Moderator: Andreas Wickman*

NICE - Reduction of ice formation by nanostructuring of surfaces with an  
ultrashort pulse laser, *Claas Rittinghaus, Energiewerkstatt, AT (11)*

Offshore Wind Farm development in cold climate risks and considerations  
(example projects Halla and Laine), *Carlo Giesecke, OX2, SE (43)*

Multi-fidelity modelling of wakes and blockage for realistic atmospheric  
conditions in cold climate, *Narges Tabatabaei, DNV, SE (31)*

#### **15:45-17:00 Going Big** *Moderators: Helena Wänlund and Salur Basbug*

ENERCON E-175 technologies,  
*Timo Müller/Moritz Rodenhausen, ENERCON GmbH, DE (30)*

Turbine performance during icing events, *Ines Runge, Nordex Energy SE Co. KG, DE (34)*

Gearing up for cold climate validation testing of 15MW+ wind turbine drivetrains,  
*Pieter Jan Jordaens, Sirris, BE (27)*

Development and deployment of a new anti-ice product – an OEM perspective,  
*Stephen Jude Buggy, Vestas Technology UK (37)*

#### **17:00-18:00 Exhibition break**

#### **18:00-19:00 Leisure time**

#### **19:30- Conference Dinner**



# Winterwind

## INTERNATIONAL WIND ENERGY CONFERENCE

### Wednesday March 29

**08:30-09:30 Performance** Moderators: Alice Goward Brown and Michael Moser

An active/passive coating stack for surface icing mitigation tested under various climatic conditions., *Bram Cloet, Sirris, BE (26)*

Challenges for a smart algorithm controlling wind turbines under icing conditions, *Simon Kloiber, VERBUND Green Power, AT (20)*

Can we make better use of ice protection systems?, *Franziska Gerber, Meteotest AG, CH (10)*

**09:30-10:15 Break**

**10:15-11:15 Policy and market** (*Arenan*)

*Chairs: Alli Gallaher and Petteri Antikainen*

ESS – Energy Storage Systems in cold climates, *Christoffer Carlsson, INKDOM, Industrikomponenter AB, SE (4)*

Potential and costs for wind power of providing system services to the electricity grid, *Salur Basbug, RISE, SE (25)*

How to improve area safety at wind farms during icing conditions, *Tiina Kuula, Labkotec Oy, FI (40)*

**10:15-11:15 O&M** (*Solskog*)

*Chairs: Sara Koller and Pieter Jan Jordaens*

Proof of concept of using an existing foundation structural health monitoring system to detect icing, *Wout Weijtjens, Vrije Universiteit Brussel, BE (12)*

The importance of early-stage ice detection, *Matthew Stead, Ping Services, AU (16)*

Determining power requirements for de-icing/anti-icing systems for onshore and offshore turbines, *Daniela Roeper, Borealis Wind, CA (36)*

**11.15-12:30 Lunch**

**12:00-12:25 Poster session** Moderator: Narges Tabatabaei

6-month seasonal forecasting of monthly wind speed anomalies, *Albert Bosch, VORTEX, ES (23)*

Icephobic coating solutions for turbine blade icing, *Don Browning, Phazebreak, US (1)*

Numerical Tools and Methods for Design of Offshore Wind Turbines in Complex Sea Ice Environments, *Åse Ervik, Multiconsult, NO (44)*

**12:30-14:00 Closing session** Moderators: Ines Runge and Stefan Skarp

Winterwind Workshop - "Performance envelopes of blade heating systems"

- A Subtask of IEA Wind TCP Task 54 "Cold Climate Wind Power",

*Claas Rittinghaus, Energiewerkstatt, AT (13)*

Climate change impacts on Nordic icing climate, *Øyvind Byrkjedal, Norconsult, NO (32)*

*W3 Energy, Pär Dunder*

Summary, *Lars Tallhaug*

**14:00-15:00 Exhibition break**

Awards

## End of Winterwind 2023