Diese sollen an Hand eines standardisierten Fragebogens statistisch ausgewertet werden.

Betreiber, die sich an der Umfrage beteiligen wollen können den Fragebogen auf der "New Icetools"-Homepage als PDF-Datei downloaden. Der Fragebogen ist zurzeit in den Sprachen Deutsch, Englisch, Spanisch und Schwedisch verfügbar. Alle Einsender des Fragebogens erhalten als "kleines Dankeschön" die Tagungsbeiträge der Konferenz BOREAS VI† als CD-Rom zugeschickt.

Die Internetadresse lautet:

www.iset.uni-kassel.de/icetool.

Hier finden sich auch weitere Informationen zum Projekt NEW ICETOOLS. Wer über keinen Internetanschluss verfügt kann den Fragebogen auch telefonisch oder per Fax bestellen. Weitere Informationen erteilt:

Dipl.-Ing. M. Durstewitz
Königstor 59, D-34119 Kassel
mdurstewitz@iset.uni-kassel.de
Tel. +49 (0) 561 7294-204,
FAX: +49 (0) 561 7294-260

load the questionnaire as a PDF-file from the "New Icetools"-homepage. The questionnaire is available in English, German, Spanish and Swedish. All participants will receive the proceedings of the Boreas VI† conference (CD-Rom).

URL: www.iset.uni-kassel.de/icetool.

The homepage also provides additional information on the New Icetools project. Alternatively the questionnaire can be ordered by fax or telephone. For further information call:

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BOREAS VI
BOREAS VI

B. Tammelin, Finnish Meteorological Institute (FIN)

Wednesday, 9 April

08:00–10:00 Registration

09:00–10:00 **OPENING SESSION**

B. Tammelin, Organizing committee
Chairman's opening
N.N., European Wind Energy Association, EWEA (Brussels)
Wind energy in Europe
E. L. Petersen, Risø National Laboratory (DK)
European Academy of Wind Energy

10:00 - 10:30 Coffee

10:30 - 12:00 **SESSION A : National and International activities**

E. Peltola[1], T. Laakso[1], G. Ronsten[2], L. Tallhaug[3], R. Horbaty[4], I. Baring-Gould[5] and A. Lacroix[6]
[1]VTT Processes (FIN), [2]FOI (S), [3]Kjeller Vindteknikk (N), [4]ENCO (CH), [5]NREL (USA), [6]Natural Resources Canada
IEA co-operation on Wind turbines in icing and cold climates

B. Tammelin[1], H. Dobesch[2], M. Durstewitz[3], G. Kury[4], E. Peltola[5], G. Ronsten[6] and K. Säntti[1]
[1] Finnish Meteorological Institute (FIN), [2] IMG (A), [3] ISET (D), [4] Enairgy (A), [5] VTT Processes (FIN), [6] FOI (SE)
NEW ICETOOLS - Experimental wind energy data from cold climate sites in Europe

M. Durstewitz, ISET - Institut für Solare Energieversorgungstechnik e.V., (D)
A Statistical Evaluation of Icing Failures in Germanys "250 MW Wind"-Program

T. Laakso and Esa Peltola, VTT Processes (FIN)
A Statistical Evaluation of Icing and Low Temperature Failures in Finland 1991-2002

Discussion

12:00 – 13:00 Lunch break

13:00 - 14:30 **SESSION B: Icing effects on wind turbine operation**

J. Trauttmansdorff, Tauernwind Windkraftanlagen GmbH (A)
Tauernwindpark Oberzeiring 19,25 MW - highest windfarm in the world: Erection and operational experience from Winter 2002/3"

G. S. Dmitriev, Institute for Physical and Technological Problems of Energy in Northern Areas of KSC RAS (RUS)
First experience from one-year operation of grid connected wind turbine near Murmansk.

M. Durstewitz, ISET - Institut für Solare Energieversorgungstechnik e.V. (D)
Preliminary Results of the New Icetools Inquiry on Operator's Experiences with Turbine Icing

M. Durstewitz, ISET - Institut für Solare Energieversorgungstechnik e.V. (D)
On-Site Cold Climate Problems

Discussion

14:30 – 15:00 Coffee

15:00 – 17:00 **SESSION C: Technical development of wind turbines**

T. Laakso, E. Peltola, P. Antikainen and S. Peuranen, VTT Processes (FIN)
Prevention of icing effects

P. Brondstedt[1], E. Peltola[2], A. van Wingerde[3] and D. van Hemelrijck[4]
[1] Risø (DK), [2] VTT Processes (FIN), [3] TUDelft (NL), [4] Vrije Universitet Brussels (BE)
Properties of blade materials under extreme conditions

S. Kimura, Kanagawa Institute of Technology (JP)
The effect of anti-icing paint on the adhesion force of ice accreted on a wind turbine blade

H. Seifert, Deutsches Windenergie-Institut GmbH (D)
Technical Requirements for Rotor Blades Operating in Cold Climate

G. Botura, Goodrich Corporation (USA)
Development of ice protection system applied for wind turbine

Discussion

Thursday, 10 April

09:00 – 10:30 **SESSION D: Experience and technical development of instrumentation**

B. Tammelin[1], A. Heimo[2], M. Leroy[3], A. Peltomaa[1] and J. Rast[2]
[1] Finnish Meteorological Institute (FIN), [2] Meteo Swiss (CH), [3] Meteo France (FR)
Ice-free wind sensors

J. Maissan and J.-P. Pinard, Yukon Energy Corporation (CAN)
Experience from use of heated wind sensors and rime detectors over the past 12 years

L. Jacobs and B. N. Merle-Smith, NRG Systems (USA)
Electrically Heated Wind Sensors for Cold Climates

10:30 – 11:00 Coffee

11:00 – 12:30

L. Makkonen, VTT Building and Transport (FIN)
Evaluations of ice-free anemometers and ice detectors

B. Tammelin[1], K. Säntti[1], T. Laakso[2] and E. Peltola[2]
[1]Finnish Meteorological Institute (FIN), [2]VTT (FIN)
Experiences in measurements on atmospheric icing

T. Laakso, E. Peltola, P. Antikainen and S. Peuranen, VTT Processes (FIN)
Comparison of ice sensors for wind turbines

Discussion

12:30 - 13:30 Lunch break

13:30 - 14:00 **SESSION E: Atmospheric icing and wind power meteorology**

K. Harstveit, Norwegian Meteorological Institute (N)
Calculating Duration of Ice Weights at Reference Objects along the Norwegian Coast originated with In-Cloud Rime

L. Tallhaug, Kjeller Vindteknikk AS (N)
Calculation of potential Ice Risk

H. Dobesch[1], S. Zach[2] and H. Viet Tran[2]
[1]Institute for Meteorology and Geophysics, University of Vienna (A), [2]Central Institute for Meteorology and Geodynamics, Vienna (A)
A New Map of Icing Potentials in Europe

BOREAS VI
Wind Energy Production In Cold Climate
9 – 11 April, 2003
Hotel Pyhätunturi, Pyhä
FINLAND

REGISTRATION FORM

Name: _____
Title/Position: _____
Organisation: _____
Postal address: _____
_____
_____
Phone: _____
Fax: _____
E-Mail: _____

THE FEE OF THE MEETING: payment before 28.2.2003 300 EUR
payment after 28.2.2003 350 EUR

☐ The fee will cover attendance at all sessions, refreshments and lunches for 3 days, conference dinner and a copy of the proceedings on CD-ROM.

THE FEE OF THE TECHNICAL VISIT

Please mark your attendance

☐ 7.4.2003 330 €

Technical excursion by snowmobile. Duration 10 h (about 300 km). The programme will be announced later. Min. 5 participants.

☐ 8.4.2003 50 €

Technical excursion to the northern wind farm at Olostunturi fell by bus. The fee will cover transportation and lunch.

Participants are requested to pay the total amount before 21 March 2003 without any charges to account:

Nordea Bank Finland plc
Account number: 166030-105083
IBAN: FI7116603000105083
SWIFT CODE: NDEAFIHH
(ref. Kirsi Virolainen/ BOREAS VI)

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Date: _____ Signature: _____

Send a copy of this form to following address before 28 February 2003:

BOREAS VI / Kirsi Virolainen, Conference secretary
Finnish Meteorological Institute
P.O. BOX 503, 00101 Helsinki, FINLAND
Tel +358-9-1929 2224 Fax +358-9-1929 4129

14:00 - 14:30 Coffee

14:30 - 16:00

R. Cattin[1], B. Schaffner[1], Dr. S. Kunz[1] and R. Horbaty[2]
[1] METEOTEST (CH), [2] Swiss Wind Energy Program, c/o ENCO GmbH (CH)
Wind measurements and modeling in the Swiss Alps

B. Tammelin and R. Hyvönen, Finnish Meteorological Institute (FIN)
No wind power during cold weather?

B. Tammelin, K. Jylhä and R. Hyvönen, Finnish Meteorological Institute (FIN)
Effect of climate change on wind power potential in Finland

Discussion

16:00 - 17:00 **SESSION F: Aerodynamics and loads**

E. Peltola[1], P. Antikainen[1], S. Peuranen[1], T. Laakso[1], G. Ronnsten[2], J.-Å. Dahlberg[2] and H. Ganander[3]
[1] VTT Processes (FIN), [2] FOI (S),
[3] Teknikgruppen AB (S)
Modelling, verification and classification of ice loads in wind turbines

S. Peuranen, P. Antikainen, B. Lemström and S. Uski, VTT Processes (FIN)
Wind turbine dynamics in power system studies – or the other way around

Discussion

19:00 -Conference dinner outdoors

Friday, 11 April

10:00 – 11:00 **SESSION G: Standards and requirements**

G. Kury, ENAIRGY - Mag. Kury OEG (A)
Legislation and regulation on operation of WEC in cold climate in Austria, Germany and other EC countries

H. Seifert[1], A. Westerhellweg[1] and J. Kröning[2]
[1]Deutsches Windenergie-Institut (D), [2] TÜV-Nord Gruppe (D)
Hit by a Piece of Ice or Win the Jack Pot Risk analysis of ice throw from wind turbines

Discussion

11:00 – 11:30 Coffee

11:30 – 12:30 **CLOSING SESSION Summary of the meeting**

12:30 – Lunch

Inserentenliste