

# CONFERENCE PROGRAMME

This Programme may be subject to alteration and the organisers reserve the right to do so without giving prior notice. Please note that a current version of the Programme can be found at [www.wip-munich.de](http://www.wip-munich.de).

**TUESDAY, 02 July 2002**

**10:00 – 12:30 OPENING SESSION**

**Chairman:**

**Dr. Hermann Scheer**

Member of the German Parliament  
President of Eurosolar/ General Chairman of the  
World Council for Renewable Energy, Germany

**Official Opening of the Conference**

**Jürgen Trittin**

Federal Minister for the Environment,  
Nature Conservation and Nuclear Safety,  
Berlin, Germany

**Opening Addresses from International Institutions**

**Mechtild Rothe MEP**

Member of the European Parliament, Strasbourg

**Representative of the European Commission**

**Francisco Turrelles**

International Finance Corporation/World Bank  
Washington D.C., USA

**Prof. Thomas B. Johansson**

UNDP Senior Adviser on Energy and Climate  
Change / University of Lund, Sweden

**Mr. Rakesh Bakshi, LFIMA, FIE**

Chairman  
RRB Consultants & Engineers Pvt. Ltd.,  
New Delhi

**Welcome Addresses from Around the World**

**Mr. Sarvesh Kumar**

Chairman  
Indian Wind Turbine Manufacturers' Association

**Prof. Everaldo Feitosa**

Brazilian Wind Energy Centre, Brazil

**Prof. Galal Osman**

African Wind Energy Association, Egypt

**Hermann Oelsner**  
South African Wind Energy Association,  
South Africa

**Heinz Dahl**  
Australian Wind Energy Association, Australia

### **Welcome from the Associations**

**Dr. Hans-Peter Ahmels**  
President of the German Wind Energy  
Association BWE, Germany

**Prof. Arthouros Zervos**  
President of the European Wind Energy  
Association EWEA, Belgium

**Joan Fages**  
President of the European Renewable Energy  
Federation EREF, Spain

**Dr. Preben Maegaard**  
President of the World Wind Energy Association  
WWEA

### **Welcome from the Organiser**

**Dr. Peter Helm**  
Director Conference Organisation  
WIP-Renewable Energies, Germany

### **Welcome from the Technical Programme Chairmen**

**Prof. James Manwell**  
University of Massachusetts, USA

**Prof. Jürgen Schmid**  
ISET, Germany

**Prof. Yukimaru Shimizu**  
Mie University/Chairman of Japan WEA, Japan

### **Introduction to the Conference Programme**

**Dr. Wolfgang Palz**  
Conference Director  
Brussels, Belgium

LUNCH 12:30 – 13:30

### **PLENARY SESSION PA1**

**13:30 – 14:45 National Reports from Around  
the World**

### **Chairpersons:**

H. Dahl  
Australian Wind Energy Association /  
Vice President of the World Wind Energy  
Association WWEA

S. Kumar  
Chairman, Indian Wind Turbine  
Manufacturer's Association / Chief Operating  
Officer Vestas RRB India Ltd., India

- PA1.1** E. Feitosa  
Brazilian Wind Energy Centre, Recife, Brazil  
I. Campos  
Ministry of Science and Technology, Recife,  
Brazil  
**1000 MW Wind Programme in Brazil -  
Legislation, Economical and Technical  
Aspects**
- PA1.2** Y. Shimizu  
Mie University, Japan  
K. Seki  
Tokai University, Hiratsuka-city, Japan  
**Recent Development of Wind Power in Japan**
- PA1.3** P.F. Shi  
China Hydro Consultants, Beijing, P.R. China  
**The Development of Wind Farms in China**
- PA1.4** D. Syn  
Korean Institute of Criminology, Seoul, Korea  
**Korea in the Wind: The History and Future in  
Korean Peninsula**
- PA1.5** E. Spinadel  
Argentine Wind Energy Association AAEE  
**Wind Energy in Argentina – Legislation,  
Economical & Technical Aspects (at kW, MW  
and GW levels)**

**BREAK 14:45 – 15:00**

## **PLENARY SESSION PA2**

**15:00 – 16:15 National Reports from Around  
the World**

### **Chairpersons:**

H.P. Ahmels  
President of the BWE German Wind Energy  
Association, Germany

S. Kumar  
Chairman, Indian Wind Turbine  
Manufacturer's Association / Chief Operating  
Officer Vestas RRB India Ltd., India

- PA2.1** G. Silvestrini  
Ministry of Environment, Rome, Italy  
**Wind Energy Promotion in Italy**

- PA2.2** T.K. Moulik & S. Bose  
ERM India, New Delhi, India  
**Wind Energy in Reducing Greenhouse Gas Emission in India**
- PA2.3** V. Podgurenko  
Nontraditional Power Sources Center, Nikolaev,  
Ukraine  
J. Kutsan  
Ministry of Fuel and Power of Ukraine, Kiev,  
Ukraine  
**Analysis of the Ukrainian Wind Energetics Development**
- PA2.4** A. Hamzeh  
Damascus University, Syria  
**Wind as an Alternative Source of Electrical Energy in Syria**
- PA2.5** E.F. Casagrande Jr.  
CEFET-PR, Curitiba, Brazil  
D.J. Schulz  
COPEL Geracao, Curitiba, Brazil  
**CO<sub>2</sub> Emissions Trade in Brazil: A Choice between CO<sub>2</sub> Ionization and Wind Energy Generation !**

BREAK 16:15 – 16:30

### PLENARY SESSION PA3

16:30 – 18:00 National Reports from Around the World (continued)

#### Chairpersons:

H.P. Ahmels  
President of the BWE German Wind Energy Association, Germany

S. Kumar  
Chairman, Indian Wind Turbine Manufacturer's Association / Chief Operating Officer Vestas RRB India Ltd., India

- PA3.1** J. Lackmann  
Bundesverband Erneuerbare Energie,  
Paderborn, Germany  
**Contribution of Renewable Energies to Avoid International Conflicts**

- PA3.2** H. Bartelt  
Bundesverband Windenergie, Osnabrück,  
Germany  
**German Wind Industry: Cornerstones 1985-2002**

- PA3.3** G. Grusell  
The Swedish Wind Energy Association,  
Vallentuna, Sweden

**Development of Wind Power in Sweden and the Swedish Wind Energy Association's - Svif- Assignments to Promote its Extension**

**PA3.4** A. Sá da Costa  
APREN, Lisboa, Portugal  
**Wind Energy in Portugal - Past, Present and Future**

**PA3.5** T. Sidki Uyar  
Marmara University, Istanbul, Turkey  
**Wind Energy Development in Turkey: Existing Project Stock and Perspectives for the Future**

**BREAK 18:00 – 18:15**

**PANEL DISCUSSION**

**18:15 – 19:15 Spreading Success Stories of Wind Power Deployment Around the World**

**Chairperson:**

P. Maegaard  
President of the World Wind Energy Association  
WWEA

**Panel Discussion**

C. Möller BMWi  
Federal Ministry of Economics and Technology,  
Berlin, Germany

H. Scheer  
Member of the German Parliament, Germany

Ph. Bouix  
European Commission, Brussels

Paul Gipe  
Strategy and Policy Chairperson of the WWC,  
USA

E. Feitosa  
Brazilian Wind Energy Centre, Brazil

H. Oelsner  
Darling Independent Power Producer,  
South Africa

G. Grusell  
Swedish Wind Energy Association, Sweden

C. Y. Son  
Renewable Energy System Research, Korea

G. Dmitriev  
Kola Science Centre Russian Academy, Russia

**19:15 – 20:30 EXHIBITORS' RECEPTION**

**WEDNESDAY, 03 July 2002**

**PLENARY SESSION PB1**

**08:30 – 10:15 Review of Wind Markets,  
Policies and the Industry**

**Chairpersons:**

Representative of the European Commission  
H. Bartelt  
Bundesverband Windenergie, Osnabrück,  
Germany

**PB1.0** N. Stump  
Forschungszentrum Jülich, Germany  
**The Wind Energy Programme of the German  
Government**

**PB1.1** F. Hvelplund  
Aalborg University, Denmark  
**A Renewable Energy Governance System for  
Europe**

**PB1.2** D. Reiche  
Free University of Berlin, Germany  
**Success Conditions for Instruments  
Promoting Renewable Energies**

**PB1.3** J.P. Molly  
DEWI, Wilhelmshaven, Germany  
**New Challenges for Wind Energy - Offshore  
and Offgrid**

**PB1.5** A. Wobben  
Enercon, Aurich, Germany  
**Energy Future – Prospects of Wind Energy**

**BREAK 10:15 – 10:30**

**PLENARY SESSION PB2**

**10:30 – 11:45 Environmental, Economic  
Aspects and Job Creation**

**Chairpersons:**

S. Teske (invited)  
Greenpeace, Germany

P. Helm  
WIP-Renewable-Energies, Munich, Germany

**PB2.1** L. Surugiu & I. Paraschivoiu  
École Polytechnique de Montréal, Canada  
**Wind Power Contribution to Environmental  
Issues**

- PB2.2** J.K. Kaldellis  
TEI of Piraeus, Hellinico, Greece  
**Evaluation of Methods Used to Analyze the Economic Behaviour of Wind Power Applications**
- PB2.3** J. Courtenay  
WWP Associates, London, United Kingdom  
**Europe's Best-Kept Secret Meeting the Demand for Managers in a Fast-Growth Sector**
- PB2.4** C.A. Nabe  
Technische Universität Berlin, Germany  
**Approaches to the Valuation of the Use of Ancillary Services by Wind Generators - The Example of Germany**
- PB2.5** D. Fouquet  
Kuhbier Lawfirm, Brussels, Belgium  
**WTO Law and Support Mechanisms for Renewable Energies**
- BREAK 11:45 - 12:00**

### **PLENARY SESSION PB3**

**12:00 – 13:15 Environmental, Economic Aspects and Job Creation**

#### **Chairpersons:**

W. Dürrschmidt (invited)  
Federal Ministry for Environment, Nature Conservation and Nuclear Safety, Berlin, Germany

P. Helm  
WIP-Renewable-Energies, Munich, Germany

- PB3.1** J. Pesch  
fesa, Freiburg, Germany  
**Global Thinking in Local Structures: Community Wind Projects in Southern Germany**
- PB3.2** T. Wizelius  
Gotland University, Visby, Sweden  
**Windpower on Islands - Problems and Possibilities**
- PB3.3** C.A. García Ebbens, N.S. Odobez & J.L. Torres  
National Technological University, Buenos Aires, Argentina  
**Project of Energy Generation by Application of Renewable Recourse. Pilot Plant for the Forest Areas Development of the Delta Island**
- PB3.4** C. Ernst  
ATELIER für Gestaltung, Berlin, Germany  
M. Melsheimer, J. Liersch & J. Hermann  
DYNAMiX, Berlin, Germany  
**Dynamic Art at Wind Turbines**

LUNCH 13:15 – 14:15

#### PLENARY SESSION PB4

14:15 – 15:30 **Wind Power Penetration Scenarios**

##### Chairpersons:

H. Oelsner  
Darling Independent Power Producer,  
Western Cape, South Africa

E. Spinadel  
Universidad FASTA, Argentina

- PB4.1** M. Sanchez  
DG RTD, European Commission, Brussels  
**Integration of Wind Energy in European Networks**
- PB4.2** M.P. Papadopoulos & N.G. Boulaxis  
Regulatory Authority for Energy, Athens, Greece  
**Perspectives for Take-Off of Wind Energy in Greece**
- PB4.3** A. Morales  
Université Libre de Bruxelles, Belgium  
J. Trècat & M. Crappe  
Faculté Polytechnique de Mons, Belgium  
**A 1000 MW Limit of Maximum Wind Penetration Level in Belgium**
- PB4.4** F. Soto Martos & G. González Mor  
Red Eléctrica de España, Madrid, Spain  
J. Usaola García, O. Ravelo Tepedino,  
I. Sánchez Rodríguez-Morcillo & C. Velasco  
Universidad Carlos III de Madrid, Spain  
**SIPREOLICO, a Wind Power Prediction Tool for the Spanish Peninsular Power System Operation**

BREAK 15:30 – 15:45

#### PLENARY SESSION PB5

15:45 – 17:00 **Wind Power Penetration Scenarios (continued)**

##### Chairpersons:

H. Oelsner  
Darling Independent Power Producer,  
Western Cape, South Africa

E. Spinadel  
University of Buenos Aires, Argentina

- PB5.1** H. Lehmann  
Member of the Enquête Commission Energy of  
the German Parliament  
**The Role of Wind Energy in Long-Term Energy Scenarios for Germany**

- PB5.2** M. Enzili  
CDER, Marrakech, Morocco  
**Moroccan Penetration Scenarios of Wind Energy**
- PB5.3** W. Xiaorong, S. Tao, Z. Haixiang & D. Huizhu  
China Electric Power Research Institute, Beijing,  
P.R. China  
**Review and Prospect of the Running of Wind Farm in China**
- PB5.4** M.L.M. Burlando, A. Podestà & C. Ratto  
University of Genoa, Italy  
F. Castino  
Regional Agency for Liguria Environment  
Protection, Genoa, Italy  
**The Wind Map of Italy**
- PB5.5** J. Khan  
Lund University, Sweden  
**Local Planning for Wind Power: Experiences from Three Swedish Municipalities**
- BREAK 17:00 – 17:15**

#### **VISUAL PRESENTATIONS VB1 – VB3**

**17:00 – 18:30**

All authors of Visual Presentations VB1-VB3 are requested to be present at their poster during the indicated time. Detailed Information on this Session is presented in the section entitled 'Visual Presentations'.

#### **PLENARY SESSION PB6**

**17:15 – 18:30 Technics, Cost and Operation of Wind Energy in Large Networks**

#### **Chairpersons:**

Y. Shimizu  
Mie University Chairman of Japan WEA, Japan

M. Hoppe-Kilpper  
ISET, Kassel, Germany

- PB6.1** C. Ensslin, B. Ernst & K. Rohrig  
ISET, Kassel, Germany  
**Support of Large Scale Wind Power Integration into Electrical Energy Supply Systems by Modern Information Technologies**
- PB6.2** M. Krämer & W. Pfaffenberger  
bremer energie institut, Germany  
**Minimizing the Cost Effects of Wind Power Integration into the Grid. A Modelling Approach Optimizing the Supply of**

**Conventional Electricity Generation and  
Demand Side Management**

- PB6.3** M. Luther & U. Radtke  
E.ON Netz, Bayreuth, Germany  
**Operation and Planning of Grids with High  
Levels of Wind Power**
- PB6.4** J. Kabouris, K. Perrakis & N. Zouros  
Hellenic Transmission System Operator, Athens,  
Greece  
P. Nikolopoulos & G.C. Contaxis  
NTUA, Athens, Greece  
**Analysis of the Introduction of Large Scale  
Wind Energy into the Greek Electricity  
System**

**THURSDAY, 04 July 2002**

**PLENARY SESSION PC1**

**08:30 – 09:45 Wind Energy Prediction**

**Chairperson:**

C. Vilar  
Universidad Carlos III de Madrid, Spain

- PC1.1** G. Tetzlaff  
University of Leipzig, Germany  
M. Fallen, J. Fernández Puga & F. Ebert  
University of Kaiserslautern, Germany  
**Long-Term Prediction of Wind Resources by  
Use of a Mean Wind Year**
- PC1.2** H. Hayashi, T. Uematsu, Y. Suzuki, S. Suzuki &  
R. Sasaki  
Japan Weather Association, Tokyo, Japan  
S. Murakami  
Keio University, Japan  
Y. Nagano  
Nagoya Institute of Technology, Japan  
S. Kato  
University of Tokyo, Japan  
A. Mochida  
Tohoku University, Japan  
M. Nakanishi  
National Defense Academy,  
Kanagawa-Pref, Japan  
K. Kato  
New Energy & Industrial Technology  
Development Organisation, Tokyo, Japan  
T. Saito, H. Kataoka & K. Otsuka  
Obayashi Corporation, Japan  
T. Nakao, K. Usui & H. Kato  
B & B Solutions, Japan  
**A New Wind Energy Prediction Model Based  
on the CFD Theory**
- PC1.3** M. Lange & U. Focken  
Carl von Ossietzky University Oldenburg,  
Germany  
**Prevento - Regional Wind Power Prediction  
with Risk Control**
- PC1.4** A. Yamaguchi, T. Ishihara & Y. Fujino  
University of Tokyo, Japan  
**Applicability of the Linear and Nonlinear  
Wind Prediction Model to a Wind Flow in a  
Complex Terrain**
- PC1.5** U. Focken & D. Heinemann  
University of Oldenburg, Germany  
**Influence of Thermal Stratification on Wind  
Profiles for Heights up to 130 m**

**BREAK 09:45 – 10:00**

## PLENARY SESSION PC2

10:00 – 11:45 **Investment Instruments for  
Wind Power**

### Chairpersons:

D. Younger  
IFC International Finance Corporation,  
Washington DC, USA

S. Schmitz  
Orrick Herrington & Sutcliffe, London, United  
Kingdom

### PC2.1 **Global Windpower Financing Forum**

M. Meyers  
Orrick Herrington & Sutcliffe, New York, USA  
**Introduction to Project Financing in Wind  
Power**

### PC2.2 M. Davies Fortis Bank, London, United Kingdom **Financing Wind Power Projects from a Banker's Position/ Experience**

### PC2.3 M. Saito Tomen Power Corporation, London, United Kingdom **Financing Wind Power Projects from a Developer's Position/ Experience**

### PC2.4 Y.Katayama Orrick, Herrington & Sutcliffe, London, United Kingdom **Issues and Obstacles in the Recent International Wind Energy Project Financing**

### PC2.5 I. Zemke Alchemy Beteiligungsberatung, Frankfurt, Germany **Private Equity in Renewables**

### PC2.6 U. Meixner reconcept Beteiligungsgesellschaft, Husum, Germany **Financing Wind Energy Projects in Germany**

BREAK 11:45 – 12:00

## PLENARY SESSION PC3

12:00 – 13:15 **Financing in Developing  
Countries**

### Chairpersons:

Representative of the European Commission

R. Posorski  
GTZ, Eschborn, Germany

- PC3.0** D. Younger  
IFC International Finance Corporation,  
Washington DC, USA  
**Financing Wind Projects in Developing  
Countries: An Expanded Role for the World  
Bank and IFC?**
- PC3.1** D. Majumdar  
IREDA, New Delhi, India  
**Financing of Wind Power Projects - An Indian  
Experience**
- PC3.2** R. Posorski  
GTZ, Eschborn, Germany  
W. Teplitz-Sembitzky & R. Seifried  
KfW/GTZ, Eschborn, Germany  
**Support Mechanisms for Wind Energy  
Generation and Their Significance for  
Developing Countries**

LUNCH 13:15 – 14:15

#### PLENARY SESSION PC4

14:15 – 15:30 **Applications in Rural Areas  
and Islands, Hybrid Systems**

#### Chairpersons:

E.G. Osman  
Al-Mansoura University, Egypt  
T. Johansson  
UNDP / University of Lund, Sweden

- PC4.1** M. Mansilla  
Universidad de Magallanes, Punta Arenas, Chile  
A. Wheldon  
University of Reading, United Kingdom  
**GeoREP Data Model: A Geographical  
Information System Model for Assessing  
Potential Renewable Energy Projects**
- PC4.2** G. Blanco, J.F. Manwell & J.G. McGowan  
University of Massachusetts, Amherst, USA  
**Potential for Wind Energy Development on  
New England Islands**
- PC4.3** C. Moreno Figueredo  
CETER, Havana, Cuba  
L. Matos Velunza  
UNE, Havana, Cuba  
G.L. Viamonte  
ECOSOL SOLAR, Havana, Cuba  
**Status and Development of Wind Energy in  
Cuba**

**PC4.4** J. Grundmann & G. Leonhardt  
ProCon, Chemnitz, Germany  
M. Witherden  
M L Sultan Technikon, Durban, South Africa  
**Development of a Control Unit for Off Grid Hybrid Energy Supply and Application in Rural Areas in South Africa**

**BREAK 15:30 – 15:45**

## **PLENARY SESSION PC5**

**15:45 - 17:00 Applications in Buildings, for Desalination, Hydrogen, etc.**

### **Chairpersons:**

F. Menzl  
FH – Stralsund, Germany

Ch. Arakawa  
University of Tokyo, Japan

**PC5.1** J.K. Kaldellis, K.A. Kavadias & D.S. Vlachou  
TEI of Piraeus, Hellinico, Greece  
**An Autonomous Photovoltaic - Wind Power Installation Properly Sizing for Remote Consumers in Greece**

**PC5.2** J. Gebel & S. Yüce  
S.T.E.P. Partnerschaft, Aachen, Germany  
S. Siegfriedsen & M. Rees  
aerodyn Energiesysteme, Rendsburg, Germany  
**Direct Use of Wind Energy for Seawater Desalination by Vapour Compression or Reverse Osmosis**

**PC5.3** N. Campbell & S. Stankovic  
BDSP Partnership, London, United Kingdom  
M. Graham & P. Parkin  
Imperial College of Science, London, United Kingdom  
M. van Duijvendijk & T. de Gruiter  
Mecal Applied Mechanics, Enschede, The Netherlands  
S. Behling & J. Hieber  
University of Stuttgart, Germany  
M. Blanch  
CLRC Rutherford Appleton Laboratory, Didcot, United Kingdom  
**Performance of UWECS Prototype**

**PC5.4** L. Yde  
Danish Folkcenter for Renewable Energy, Hurup Thy, Denmark  
**Hydrogen Technology in the Danish Transport Sector**

BREAK 17:00 – 17:15

### VISUAL PRESENTATION VC1-VC3

17:00 – 18:30

All authors of Visual Presentations VC1-VC3 are requested to be present at their poster during the indicated time. Detailed information on Poster Session VC1–VC3 is presented in the section entitled 'Visual Presentations'.

### PLENARY SESSION PC6

17:15 - 18:30 Off-shore Wind Parks

#### Chairpersons:

J.P. Molly  
DEWI, Wilhelmshaven, Germany

G. Grusell  
The Swedish Wind Energy Association,  
Vallentuna, Sweden

#### PC6.0 C. Möller

Minister of Finance and Energy of the State of  
Schleswig-Holstein, Kiel, Germany  
**The Importance of Offshore Wind Energy for  
Schleswig-Holstein**

#### PC6.1

F.A. Olsen  
SEAS Wind Energy Centre, Haslev, Denmark  
**Offshore Wind Energy - a New Potential for  
Renewable Energy. Market Review and  
Practical Case Stories from the Danish  
Offshore Wind Energy Activities from 1991 to  
2002 (Rodsand 160 MW, Samsøe 25 MW,  
Middelgrunden 40 MW, Vindeby 5 MW, and  
others).**

#### PC6.2

I. de Buhr  
PROKON Nord Energiesysteme, Leer, Germany  
**"Borkum West" Present Activities**

#### PC6.3

J. Ruer  
Bouygues Offshore, Saint-Quentin-Yvelines,  
France  
**How Far from the Coasts Can We Install  
Offshore Wind Farms ?**

#### PC6.4

N. Fichaux & T. Ranchin  
École des Mines de Paris, Sophia Antipolis,  
France  
**Mapping the Offshore Wind Potential:  
A Satellite Based Approach**

## **WORKSHOPS**

The workshops will cover actual topics arising in the field of wind energy during this year.

General information on workshops is presented in the section entitled 'Conference Workshops and Conference Related Events'. Detailed programme on the workshops will be available shortly at [www.world-wind-conference.org](http://www.world-wind-conference.org) and will be distributed together with the conference bag at the registration desk.

## FRIDAY, 05 July 2002

### PLENARY SESSION PD1

09:00 – 10:15 Off-shore Wind Parks (continued)

#### Chairpersons:

J.P. Molly  
DEWI, Wilhelmshaven, Germany

G. Grusell  
The Swedish Wind Energy Association,  
Vallentuna, Sweden

**PD1.1** J.U. Joergensen, C. Moehrlen & E. Mc Keogh  
Sustainable Energy Research Group, University  
College York, Ireland  
**A New Generation Operational On- and  
Offshore Numerical Prediction System**

**PD1.2** O. Stobbe  
ECOFYS, Köln, Germany  
**Sensing the Wind Climate up to Heights of  
200m Above Sea Level**

**PD1.3** S.J. Watson & D.G. Infield  
Loughborough University, United Kingdom  
D. Khan  
Entec UK, Midlothian, United Kingdom  
**Tidal, Sea-Surface Roughness and Stability  
Effects on the Offshore Wind Power  
Resource**

**PD1.4** B. Lange, H.-P. Waldl & A.G. Guerrero  
University of Oldenburg, Germany  
R. Barthelmie  
Risoe National Laboratory, Roskilde, Denmark  
**Improvement of the Wind Farm Model FLAP  
(Farm Layout Program) for Offshore  
Applications**

**BREAK 10:15 – 10:30**

### PLENARY SESSION PD2

10:30 – 11:45 Off-shore Wind Parks ( continued)

#### Chairpersons:

J.P. Molly  
DEWI, Wilhelmshaven, Germany

G. Grusell  
The Swedish Wind Energy Association,  
Vallentuna, Sweden

**PD2.1** W. Schlez  
Garrad Hassan and Partners, Oldenburg,  
Germany

R. Barthelmie, G. Larsen & H. Joergensen  
Risoe National Laboratory, Roskilde, Denmark  
K. Rados  
The Robert Gordon University, Aberdeen,  
United Kingdom  
H. Bergström & M. Magnusson  
Uppsala University, Sweden  
B. Lange  
University of Oldenburg, Germany  
P. Voelund  
SEAS Distribution Amba, Haslev, Denmark  
S. Neckelmann  
Techwise, Fredericia, Denmark  
L. Christensen  
NEG MICON, Randers, Denmark  
G. Schepers & T. Hegberg  
ECN, Petten, The Netherlands  
L. Folkerts  
Ecofys, Utrecht, The Netherlands  
**ENDOW: Efficient Development of Offshore  
Windfarms**

**PD2.2** A.L. Weisbrich & G.J. Weisbrich  
ENECO, Texas, USA  
B. Smith  
Proton Energy Systems, Rocky Hill, USA  
D. Rainey  
Rensselaer Polytechnic Institute, Hartford, USA  
**E-Sea WARP™: An Offshore Integral Wind  
Power + Fuel Cells System**

**PD2.3** J. van der Tempel & D.P. Molenaar  
Delft University of Technology, The Netherlands  
**Soft-Soft, not Hard Enough?**

**PD2.4** H. Gravesen & S.L. Soerensen  
Carl Bro, Glostrup, Denmark  
P. Voelund  
SEAS, Haslev, Denmark  
**Extreme Ice and Wind Loads to Foundations**

**PD2.5** T. Haake  
Abeking & Rasmussen, Lemwerder, Germany  
**The 25M Swath@A&R Windpark Tender -  
A Safe Way for Transfer of Service Personnel  
to Offshore Windmills**

**BREAK 11:45 – 12:00**

## PLENARY SESSION PD3

12:00 – 13:15 **Control Strategies,  
Generators, Blades,  
Certification and Maintenance**

### Chairpersons:

J. Manwell  
University of Massachusetts, USA

I. Ushiyama  
Ashikaga Institute of Technology, Japan

- PD3.1** H. Camblong & O. Patrouix  
LIPSI-ESTIA, Bidart, France  
M. Rodriguez, Gonzalo Abad  
MGEP, Arrasate-Mondragón, Spain  
J.-R. Puiggali  
LEPT UMR CNRS, Talence, France  
**Comparison of Different Control Strategies to  
Study Power Quality in a Variable Speed  
Wind Turbine**
- PD3.2** Y. Shimizu, E. Ismaili, Y. Kamada & T. Maeda  
Mie University, Japan  
**The Effect of Blade Aspect Ratio, Number of  
Blades and Reynolds Number on the  
Performance of HAWT with Mie Type Tip  
Vane**
- PD3.3** R.P.L. Nijssen  
Delft University of Technology, The Netherlands  
T. Thorsen  
Agder University College, Grimstad, Norway  
**Growth of Wind Turbine Rotor Blades**
- PD3.4** Y. Ikeda  
TMA Electric Corporation West Operations,  
Nagasaki, Japan  
T. Umemoto  
Mitsubishi Electric Corporation Advanced  
Technology R & D Centre, Amagasaki City,  
Japan  
**Development of Permanent Magnet  
Synchronous Generator for Wind-Turbine**

LUNCH 13:15 – 14:15

## PLENARY SESSION PD4

14:15 – 15:30 **Control Strategies,  
Generators, Blades,  
Certification and Maintenance**

### Chairpersons:

I. Ushiyama  
Ashikaga Institute of Technology, Japan

J. Schmid  
ISET, Kassel, Germany

- PD4.1** D.-P. Molenaar  
Delft University of Technology, The Netherlands

## **Structural Model Validation by Experimental Modal Analysis**

**PD4.2** J.K. Steinke & O. Apeldoorn  
ABB Schweiz, Turgi, Switzerland  
**Applying the Experience of Industrial High Power Converter Design to Windpower Conversion**

**PD4.3** E. Azanza  
Energía Hidroeléctrica de Navarra, Pamplona, Spain  
**Closing the Wind Turbine Design Loop: FEM Calculations vs. Strain Gauges Measurements**

**PD4.4** J.H. Carstens & M. Stiebler  
TU Berlin, Germany  
**Active Filters With Energy Storage System for Use With Wind Energy Converters**

**BREAK 15:30 – 16:00**

## **PLENARY SESSION PD5**

**16:00 – 17:00 Control Strategies, Generators, Blades, Certification and Maintenance**

### **Chairpersons:**

D. Infield  
University of Loughborough. Leicestershire, United Kingdom

G. Tetzlaff  
University of Leipzig, Germany

**PD5.1** S. Tenbrock, J. Zwick & R. Dinter  
Windenergy AG, Voerde, Germany  
**Complete Drive Systems for Wind Turbines**

**PD5.3** X. Yao & Z. Xing  
Shenyang University of Technology, P.R. China  
**Comparison of two Control Strategies for Doubly-Fed VSCF Wind Power Generation System: Field Oriented Control and Instantaneous Power Control**

**BREAK 17:00 – 17:15**

## **VISUAL PRESENTATION VD1-3**

**17:00 – 18:30**

All authors of Visual Presentations VD1-VD3 are requested to be present at their poster during the indicated time.

Detailed Information on Poster Session VD1-VD3 is presented in section entitled 'Visual Presentations'.

## PLENARY SESSION PD6

**17:15 – 18:30 Control Strategies, Generators, Blades, Certification and Maintenance (continued)**

### Chairpersons:

D. Infield  
University of Loughborough. Leicestershire,  
United Kingdom

G. Tetzlaff  
University of Leipzig, Germany

- PD6.1** H. Dexin & Q. Haiyan  
Chinese Wind Energy Association, Beijing,  
P.R. China  
**The Development and Certification of the  
Wind Turbine in China**
- PD6.2** P. Caselitz & J. Giebhardt  
ISET, Kassel, Germany  
**Advanced Maintenance and Repair for  
Offshore Wind Farms Using Fault Prediction  
Techniques**
- PD6.3** S. Iniyar, L. Suganthi & A.S. Anand  
Anna University, Chennai, India  
**Reliability Study to Improve the Lifetime of  
Wind Turbine Generators in India**

## WORKSHOPS

The workshops will cover actual topics arising in the field of wind energy during this year.

General information on workshops is presented in the section entitled 'Conference Workshops and Conference Related Events'. Detailed programme on the workshops will be available shortly at [www.world-wind-conference.org](http://www.world-wind-conference.org) and will be distributed together with the conference bag at the registration desk.

# SATURDAY, 06 July 2002

## PLENARY SESSION PE1

09:15 – 10:00 **Multi Megawatt Wind Turbine Development**

### Chairpersons:

F. Klinger  
University of Applied Sciences, Saarbrücken,  
Germany

G. Van Bussel  
TU Delft, The Netherlands

**PE1.1** P. Woditschka  
VA Tech Elin EBG Motoren, Weiz, Austria  
H. Schneider  
Technische Universität Darmstadt, Germany  
**Technical and Economical Aspects of a  
Gearless Permanent Magnet 1.5MW  
Synchronous Generator (PERMAGWIT-  
Project)**

**PE1.2** G. Hehenberger  
Windtec, Klagenfurt, Austria  
R. J. Werner  
Pfleiderer Wind Energy, Neumarkt, Germany  
**Multibrid Technology: 5 MW-Wind Energy  
Converter for Offshore**

**BREAK 10:00 – 10:30**

## PLENARY SESSION PE2

10:30 – 12:00 **Multi Megawatt Wind Turbine Development (continued)**

### Chairpersons:

F. Klinger  
University of Applied Sciences, Saarbrücken,  
Germany

G. Van Bussel  
TU Delft, The Netherlands

**PE2.1** J. Goesswein & C. Eusterbarkey  
REpower Systems, Rendsburg, Germany  
**Development of a 5 MW Offshore Wind  
Energy Converter**

**PE2.2** C. Keller & M. Nahrstaedt  
ALSTOM Power Conversion, Berlin, Germany  
**Advanced Generation of Power Converters  
for Wind Power Systems**

- PE2.3** H.-P. Beck & C. Sourkounis  
Institute for Electrical Power Engineering,  
Clausthal-Zellerfeld, Germany  
**Comparison of 5 MW - Off-Shore Wind Energy  
Converter Systems**
- PE2.4** F. Klinger, S. Balzert & M. Brestrich  
Forschungsgruppe Windenergie, Saarbrücken,  
Germany  
**The Final Frontier - Is the 10MW Turbine  
Possible?**
- PE2.5** T. Pflanz  
München, Germany  
**Ocean Power Plant System for Producing,  
Storing and Consuming Renewable Energy**

**12:00 – 13:00 CLOSING SESSION**

**Chairpersons:**

**Dr. Hermann Scheer**  
Member of the German Parliament  
President of EUROSOLAR /  
General Chairman of the World Council for  
Renewable Energy, Germany

**Prof. Everaldo Feitosa**  
Brazilian Wind Energy Centre, Brazil

**Sarvesh Kumar**  
Chairman, Indian Wind Turbine  
Manufacturer's Association / Chief Operating  
Officer Vestas RRB India Ltd., India

**Prof. Galal Osman**  
Egyptian Wind Energy Association, Egypt

**Conference Summaries**

**Summary of the Continental Reports**

**A Worldwide Strategy for Wind Energy**

**Prize Award Ceremonies**

**Farewell to all Participants**

**Closing Addresses**