



Program of the World Wind Energy  
Conference - cum-Exhibition - 2006  
Energy Independence: Powered by Wind



## DAY 1

### 6th Nov Inaugural Day

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#### Time Program

8:00 **Conference Registration Open**

8:30 **Light Indian Classical Music**

9.15 **Opening Session**

- CHAIR PERSONS  
Dr. Osman Benchikh, Responsible RE, UNESCO & Prof. Chuichi Arakawa, Japan Wind Energy Association, Prof. He Dexin, Chinese Wind Energy Association
- OPENING REMARKS  
Dr. Anil Kane, President, WWEA and Chairman, InWEA
- INTRODUCTION TO THE CONFERENCE PROGRAM  
Prof. Dieter Holm, Pretoria University and SESSA
- KEYNOTE ADDRESS  
Dr. Hermann Scheer, Member German Federal Parliament and General Chairman WCRE
- SPECIAL ADDRESS  
Mr. Michael Müller, Secretary of State, German Federal Ministry of the Environment, Nature Conservation and Nuclear Safety

10:35 **High Powered Panel Discussion**

#### **Theme: Energy Independence - Powered by Wind**

##### **Chair Person**

Shri Vilas Muttemwar, Hon'ble Minister for Nonconventional Energy Sources, Government of India

##### **Panelists**

- MS. SILVIA SUAREZ AROCENA  
Secretary for Environment, Govt. of the Province of Buenos Aires
- SMT. VASUNDHARA RAJE SCINDIA  
Hon'ble Chief Minister of the State of Rajasthan
- MR. MANUAL MENÉNDEZ CASTELLANOS  
Coordinator, Government of Cuba
- MR. MICHAEL MÜLLER  
Secretary of State, German Federal Ministry of the Environment, Nature Conservation and Nuclear Safety
- MR. MOHAMMED BOUTALEB  
Hon'ble Minister of Energy and Mines, Government of Morocco
- DR. OSMAN BENCHIKH  
Responsible RE, UNESCO
- AIR MARSHALL (RETD.) SHAHID HAMID  
Chairman, Alternative Energy Development Board (AEDB) of the Prime Minister of Pakistan
- DR. HERMANN SCHEER  
Member German Federal Parliament and General Chairman WCRE
- DR. ANIL KANE  
President WWEA and Chairman InWEA

12.00 **Tea / Coffee**

12:30 **Inaugural Session**

##### **Chair Persons**

Dr. Anil Kane, President, WWEA and & Chairman, InWEA Prof. Erico Spinadel, Vice President, WWEA and President, Argentine Wind Energy Association

- ARRIVAL OF HIS EXCELLENCY DR. A P J ABDUL KALAM  
Hon'ble President of India
- NATIONAL ANTHEM
- WELCOME ADDRESS  
Dr. Anil Kane, President, World Wind Energy Association
- LIGHTING OF CEREMONIAL LAMP
- SPECIAL ADDRESS  
Mr. Michael Müller, Parliamentary Secretary, Germany (WVEC-2006 Country Partner)
- SPECIAL ADDRESS  
Shri Vilas Muttemwar, Hon'ble Minister for Non-conventional Energy Sources, Government of India



## DAY 1

- WORLD WIND ENERGY AWARD  
H. E. Dr. A P J Abdul Kalam, Hon'ble President of India
- INAUGURAL ADDRESS  
H. E. Dr. A P J Abdul Kalam, Hon'ble President of India
- VOTE OF THANKS  
Hon'ble Peter Rae AO, Senior Vice President, World Wind Energy Association

13:15 **Lunch**

14:15 **Exhibition Inauguration**

- OPENING REMARKS  
Mr. Arvind Varma, Chairman Organizing Committee, WWEC-2006
- SPECIAL ADDRESS  
Shri V Subramanian, Secretary, MNES, Government of India  
H.E. Amabassador of Germany
- SPECIAL ADDRESS  
Mr. Heinrich Bartelt, Treasurer , World Wind Energy Association
- EXHIBITION INAUGURATION SPEECH  
Smt. Sheila Dikshit, Hon'ble Chief Minister of Delhi
- RIBBON CUTTING CEREMONY
- AWARDS TO SCHOOL CHILDREN FOR WIND ENERGY ART COMPETITION  
conducted by the NGO DEEKSHA on behalf of WWEC-2006
- A VISIT TO STALLS OF THE EXHIBITION

15:30	Session A1	Session A2	Session A3
	<p><b>National Policies &amp; Markets I:</b> <b>Chair Persons:</b> Grigori Drimitrev and Galal Osman</p> <p><b>Brazilian wind energy programme – status and perspectives</b> Everaldo Alencar Feitosa and Andrea Carla, Brazilian Wind Energy Centre, Brazil</p> <p><b>Integrating Wind Power in Africa: Case Studies of Morocco and Egypt, Africa's Wind Pioneers</b> Khalid Benhamou, Managing Director, Sahara Wind Inc., Rabat, Morocco</p> <p><b>The Good and the Bad: Lessons and Implications for Asia from the World's Leading Wind Power Markets</b> Keith Hays, Research Director, Emerging Energy Research, Barcelona, Spain</p> <p><b>Positive and Negative Impacts of Wind Power Concession Projects in China</b> Shi Pengfei, Hydropower Planning General Institute, Beijing, China</p> <p><b>Wind energy and the change over to renewable energy System in Sweden</b> Grusell Gunnar, Vice President , The Swedish Wind Energy Association, Sweden</p> <p><b>The Wind Markets in Europe</b> To be announced</p>	<p><b>Grid Integration of Wind Energy:</b> <b>Chair Persons:</b> Roger Gill and Bent Sørensen</p> <p><b>Analysis of grid integrated system</b> T.R.Sumithira &amp; R.Rameshkumar, Vivekanada College of Engg, India</p> <p><b>Countermeasures to mitigate the voltage instability arises from wind power integration</b> Sun Guofu, Chi Yongning Liu Yanhua and Dai Huizhu, China Electric Power Research Institute, Beijing, China</p> <p><b>Current Developments in Grid Integration of Wind Energy in Germany</b> Udo Paschedag, German Ministry for Environment, Nature Conservation and Nuclear Safety, Germany</p> <p><b>Experience from the wind parks operation in Crete and perspectives towards the maximization of the wind power penetration</b> Dimitris Al. Katsaprakakis, Dimitris G. Christakis, Periklis Makriyiannis, Greece</p> <p><b>LVRT Capability of Wind Turbine Generator and its Application to Regional Power Grid</b> Liu Wei, Li Yu, Guan Hongliang and Zhao Haixiang; China Electric Power Research Institute, Beijing, China</p>	<p><b>Wind Turbine Technology Development:</b> <b>Chair Persons:</b> Giovanni Solari and Gustavo Bodstein</p> <p><b>A Heuristic Approach to the Influence of High Speed Wind Gust on the Failure of Wind Turbines</b> Blanco. A, Vilalta, G, &amp; Herrera S, O; Centre of Study for Renewable Energy Technologies, Havana, Cuba</p> <p><b>A New Approach to the Tornado Wind Energy Conversion System</b> Ellis Ray, USA</p> <p><b>Power Performance Testing and Uncertainty Analysis for a 1.5 MW Windturbine.</b> Keon-Hoon Kim, Korea Institute of Energy Research, Rep. of Korea</p> <p><b>Studying the Effect of the Shape Parameters on the Performance of the Darrieus Wind Turbine</b> Ali Mohamed Elmabrok &amp; Omar Mostafa Abdalla; Department of Aeronautical Engineering, AL-Fateh University/Faculty of Engineering, Libya</p> <p><b>Using the Multiple Double Disk Stream Tube Theory</b> Ali Mohamed Elmabrok &amp; Omar Mostafa Abdalla; Department of Aeronautical Engineering, AL-Fateh University/Faculty of Engineering, Libya</p>



## DAY 1

### **Wind power in Ukraine: the barriers and development**

Andriye  
Konechenkov, Renewable  
Energy Agency, Ukraine

### **Wind Power Policy in Energy Sector of Russia**

Sergey Kulagin, Director of JSC  
Energy Group, Russia

### **Studies on the Capability of a Regional Power Grid integrating wind power in China (Paper)**

Li Guohui, Liu Yanhua, Chi  
Yongning and Chen Mozi;  
China Electric Power Research  
Institute, Beijing, China

### **Wind energy, distributed generation and power quality**

Enileys Guardado Pérez,  
Miguel Castro Fernández and  
Angel Costa Montiel;  
Electrical Test and Research  
Center, Havana, Cuba

### **Understanding Dynamic Overloads on Wind Turbine Power Train**

Jose Martinez Escanaverino  
and Angel Costa Montiel, JA  
Echeverria Higher  
Polytechnic Institute,  
Havana, Cuba

### **Wind Turbine Lubrication.**

Ekkehard Daschner and Tim  
Nadasdi, ExxonMobil,  
COUNTRY

### **Centralised Lubrication Systems in Wind Turbines Improve Operation and Key Component Lifetime**

Bernd Saendker, Lincoln  
Technology Center,  
Germany

18.30 **Poster session**

8.00 **Gala Dinner starting from 8 PM**

**Release of the Book "Emergence of the Wind Option"**

by Jami Hossain



## DAY 2

### 7th November Programmes

Time Program  
9.00 Plenary Session

#### Energy Independence -- The Symphony of the renewables

Chair persons: Franz Alt & V Subramanian

- Torben Esbensen, President, International Solar Energy Society
- Anil Kane, President World Wind Energy Association
- Peter Rae AO, Convenor, International Renewable Energy Alliance
- Preben Maegaard, President Emeritus, World Wind Energy Association
- Stefan Gsänger, Secretary General, World Wind Energy Association
- Giovanni Solari, President, International Association for Wind Engineering
- Roger Gill, Vice President International Hydropower Association
- Wu Gang, CEO, Goldwind
- Fritz Vahrenholt, CEO, Repower

11.00

#### Session B1

##### Warranties, Standards & Certification:

Chair Persons: Peter Rae, Stefan Gsänger, M P Ramesh

**Certification and quality assurance for wind turbines** – new solutions of the TÜV Nord Group and its subsidiaries in India  
Thomas Korzeniewski, Werner Petruschke, TÜV NORD SysTec GmbH & Co. KG, Germany

**Certification Measurements**  
Eric Effern, WINDTEST Grevenbroich, Germany

**Implement standardization to enhance the sound development of wind power facilities industry**  
Wang Jianping, Secretary General of National Technical Committee for Standardization of Wind Machinery, China

**Legal Issues in the Negotiation, Drafting, Interpretation and Enforcement of Turbine and Balance of Plant Warranty Agreements**  
Mark D. Safty, Head, Project Development & Finance Group of Holland & Hart LLP, U.S.

**Performance warranties in epc contracts for wind farms**  
Gurmeet Kaur, Senior Associate, Mallesons Stephen Jaques, Melbourne, Australia

#### Session B2

##### Wind resource assessment and prediction I:

Sukumaran & Alejandro Gesino

**A new method for assessing wind power resources**  
Bent Sørensen, Roskilde University, Denmark

**Wind resource assessment and mapping work in the South Asia region**  
Dennis Elliott, NREL, US

**Management of Meteorological Variables and Wind Mapping**  
Luis Mariano Faiella & Alejandro J. Gesino, Argentine Wind Energy Association, Argentina

**Multi Time Scale Wind Energy Forecasting Model based on Meteorological Simulation and Onsite Measurement**  
Kota Enoki, Takeshi Ishihara, Atsushi Yamaguchi & Yukinari Fukumoto, The University of Tokyo, Japan

**Wind Speed Forecasting using Wavelets**  
Ahmad Arshan Khan, Department of Electrical Engineering, Illinois Institute of Technology, US

**Assessment of Aeolic Resource for Energy Generation in the Province of Mendoza. (Argentina)**  
Rivarola, A. and Arena, P.

#### Session B3

##### Control systems:

Chair Persons : Taeko Maeda & S S Murthy

**Adaptive control in independent electric pitch regulated variable speed wind turbine**  
Xing Zuoxia, Chen Lei and Yao Xingjia, Beijing Jiao tong University, Beijing, China

**Control of Grid Connected Wind Generator for Domestic Installation**  
Saju Rajendra Prasad and Sasi K. Kottayil, Department of Electrical and Electronics Engineering, Tamil Nadu, India

**Development of Wind Power Control System with Six-Phase Permanent-Magnet Synchronous Generator**  
Sheng-Nian Yeh, Taiwan

**The Control Strategy of Improving Tracing Performance of Tip Speed Ratio on the Low Wind Speed**  
Jiangming Huo, Goldwind Science & Technology Co., Ltd., China

**The Integration of Advanced Wind Turbine Control Strategies**  
A S Mercer & E A Bossanyi, Garrad Hassan and Partners Ltd, UK

**Wind turbine hydraulic collective pitch control based on Neural Network method**  
Yao Xingjia, Liu Guangde,

	<p><b>State-of-the-Art International Certification for Wind Turbines</b> Reinhard Schlesselmann, Germanischer Lloyd WindEnergie GmbH, Germany</p>	<p>Universidad Tecnológica Nacional, Mendoza, Argentina</p>	<p>Xing Zuoxia, Wang Fada, Wind Energy Institute Shenyang University of Tech., China</p>
13.00	<b>Lunch</b>		
14.00	<p><b>Session C1</b></p> <p><b>National Policies and Markets II: Country focus India</b> <b>Chair Persons:</b> G M Pillai, Rakesh Kacker, Sukumaran</p> <p><b>Emergent Policy Frameworks in India</b> To be announced</p> <p><b>Wind Power Generation in India – Issues and Non-Issues</b> Anoop Kumar, Oil And Natural Gas Corporation Ltd., India</p> <p><b>Assessing India’s Renewable Energy Policy Statement</b> Centre for International Sustainable Development Law</p> <p><b>RPO to RPS – Maharashtra Experience</b> Pramod Deo, Balawant Joshi, Mumbai, India</p> <p><b>Comparative Economics of Wind and Conventional Electricity</b> Bharat J. Mehta, Vijayant Consultants, Ahmedabad, India</p> <p><b>Grid Integration Issues in India</b> Jami Hossain, InWEA, India</p> <p><b>Rural and Remote Area Electrification</b> S P Gon Chowdhury</p> <p><b>Capacity Building issues in India</b> Author to be announced</p>	<p><b>Session C2</b></p> <p><b>Wind resource assessment and prediction II:</b> <b>Chair Persons:</b> M P Ramesh and Roberto Sauro</p> <p><b>Numerical Simulation of Local Flows in Kathmandu Valley: Prospects of Wind Resource Assessment over the Himalayan Complex Terrain</b> Ram P. Regmi, Purbanchal University, Biratnagar, Nepal</p> <p><b>The overview of Wind Energy Resources in China</b> Yang Zhenbin and Zhu Ruizhao, Chinese Academy of Meteorological Sciences, China</p> <p><b>Applicability of wind power forecasting models in Japan</b> Atsushi Yamaguchi, Takeshi Ishihara and Torben Skov Nielsen, University of Tokyo, Japan</p> <p><b>The Result of Benchmark Test for Regional Wind Power Forecasting in Japan</b> Isao Aoki, CRC Solutions Corporation, Tokyo, Japan</p> <p><b>Wind Energy Simulation Toolkit (WEST) and its application for the creation of Canadian wind energy atlas</b> Wei Yu, Robert Benoit, Anna Glazer, Nathalie Gauthier, and Laurent Chardon, Meteorological Service of Canada, Canada</p> <p><b>A synoptic study of wind energy in Sistan region (Zabol Station)</b> A.Gandomkar, Dr.S.A. Masoodian, F.Kiarsi, Islamic Azad University - Najafabad Branch, Isfahan, Iran</p>	<p><b>Session C3</b></p> <p><b>Wind Turbine Technology: Components</b> <b>Chair Persons:</b> Johannes Lackmann &amp; Choong-Yul Son</p> <p><b>Wind Turbine Blade Design Criteria For Indias Low Windspeed Zones</b> Biju Nanukuttan and Suja Vijayappan, WindPower Limited, Ahmedabad, India</p> <p><b>Hydrodynamic Gear Drive Train for Variable Speed Wind Turbines to Reduce the Load and Increase Reliability without Power Electronics</b> Andreas Basteck and Martin Tilscher, Voith Turbo GmbH &amp; Co. KG, Germany</p> <p><b>Practical Checklist for Wind Turbine Gearbox Design Audit</b> Jose Martinez Escanaverino and José A. Llamas Soriz; JA Echeverria Higher Polytechnic Institute; Havana, Cuba</p> <p><b>Design of Single-Phase Three-level Inverters for Wind Power Systems with Double-Winding Permanent-Magnet Synchronous Generators</b> Ming-Hung Chen, Sheng-Nian Yeh and Jonq-Chin Hwang, Department of Electrical Engineering, National Taiwan University of Science and Technology, Taiwan</p> <p><b>The study and realisation on the decoupling control of active and reactive power of a variable speed constant frequency doubly-fed induction generator</b> Zhao Dongli, Wuxin Zhaobin and Xu Honghua, Institute of Electrical Engineering, Chinese Academy of Sciences, China</p>
16.00	<p><b>Session D1</b></p> <p><b>National Policies and Markets III:</b></p>	<p><b>Session D2</b></p> <p><b>Wind Farm Siting and Modelling:</b></p>	<p><b>Session D3</b></p> <p><b>Components and Offshore:</b></p>



## DAY 2

Country focus: Germany  
Organised by German  
Government

### **Wind energy development in Germans**

Josef Pesch, German Wind  
Energy Association BWE

### **Renewable Energy Development in Germany**

Johannes Lackmann,  
German Renewable Energy  
Association BEE

### **Offshore activities in Germany**

Jörg Kuhbier, Senator a.D.,  
President Offshore  
Foundation

### **German hybrid technology**

Nico Peterschmidt, Technical  
University Clausthal

### **Local acceptance and involvement - important success factors for big renewable energy projects**

Heinrich Bartelt, BEE,  
Germany

Chairman: Tanay Sidki Uyar  
& Khalid Benhamou

### **New Developments in Wind Farm Modelling**

Roberto Sauro, Wolfgang  
Schlez & Joseph Phillips,  
Garrad Hassan and Partners  
Ltd, U.K.

### **The impact of turbulence intensities for site class studies and layout of wind farms**

Thomas Hahm and Steffen  
Wussow, TÜV NORD SysTec  
GmbH & Co. KG, Germany

### **Towards a regional methodology for wind energy site selection**

Derek Chittenden, CNdV  
africa planning & design  
(Pty) Ltd, South Africa

### **Wind farm site assessment using measure –correlate- predict (mcp) analysis**

E. Sreevalsan, S.S. Das, R.  
Sasikumar and M.P. Ramesh,  
Centre for Wind Energy  
Technology, Chennai, India

Conrado Moreno & Gunnar  
Grusell

### **On the Fatigue Life of Wind Turbine Structural Components**

Shanmuga-Priyan  
Subramanian, Germanischer  
Lloyd WindEnergie GmbH,  
Germany

### **Protecting Wind Turbine Electronics from Lightning**

K.V.Varadarajan, General  
Manager- Marketing, Cape  
Electric Corporation, Chennai

### **A Study of Natural Frequency of Offshore Wind Turbine Tower**

Choong-Yul Son, Jung-Tak  
Lee, Jong-Bum Won, Kang-  
Su Lee

### **Tuned Liquid Column Dampers in Offshore Wind Turbines**

Shane Colwell and Biswajit  
Basu, Department of Civil,  
Structural and  
Environmental Engineering,  
Trinity College Dublin,  
Ireland

### **VSC control in offshore wind park HVDC Transmission based on DFIG Variable Speed**

Yao Xingjia, Liu Yingming,  
Xing Zuoxia, Wang Chao,  
Wind Energy Institute  
Shenyang University of Tech.  
Shenyang,

18.00 **Poster Session**

19.00 **Cultural Programme**



## DAY 3

### 8th November: Program and Closing Ceremony

Time	Program		
9:00	<p><b>Session E1</b></p> <p><b>Industry strategies:</b> Heinrich Bartelt &amp; Galal Osman</p> <p><b>Becoming a Market Leading Wind Turbine Manufacturer</b> Rain Byars, WindForce GmbH, Germany</p> <p><b>China Builds Up: Manufacturing Initiatives Drive the New Tender-Based Market</b> Keith Hays, Emerging Energy Research, USA</p> <p><b>The Global Market for wind power projects</b> Christian Grütte, Managing Partner, Leonardo Venablers, Barcelona, Spain</p> <p><b>Wind – a competitive renewable energy choice for power generation in Pakistan</b> G. D. Valasai, Pakistan</p> <p><b>Energy Rich Japan: A 100% Renewable Energy Scenario</b> Harry Lehmann, German Federal Environment Agency UBA, Germany</p>	<p><b>Session E2</b></p> <p><b>Technology of Small-scaled Wind Turbines:</b> <b>Chair Persons:</b> Paul Gipe and K Raghavan</p> <p><b>Application of Small Wind Generator for On-boat Primary School of Honghu lake</b> Shen Dechang, Chinese Academy of Agricultural Mechanization Sciences</p> <p><b>Conergy Small Wind Turbine for Remote Power Supply Field-proven Safety and Reliability</b> D. Lecoufle and K. Pötter, Co – Energy AG, Germany</p> <p><b>Mathematical Modelling of Aerodynamic Loading of small wind turbine blades</b> Biju Nanukuttan and Suja Vijayappan, India WindPower Limited, Ahmedabad</p> <p><b>Modification of wind rotor to improve starting performance of a small wind turbine</b> Mahinsasa Narayana</p> <p><b>NorthWind™ 100 Wind Turbine: Designed for the Rural Village</b> Jesse Stowell, Northern Power, USA</p> <p><b>Small Wind Turbine Simulation as a Design Tool</b> Irfan Ullah, University of Engineering &amp; Technology, NWFP, Pakistan</p>	<p><b>Session E3</b></p> <p><b>Adaptation of wind turbine technology to local conditions:</b> <b>Chair Persons:</b> Sheng-nian Yeh &amp; Grigori Dmitriev</p> <p><b>Dynamic analysis of wind turbine under wind and seismic loading</b> Lei Zhu, Luong Van Binh, Pham Van Phuc, Takeshi Ishihara and Yozo Fujino, The University of Tokyo, Japan</p> <p><b>Hurricanes: A Challenge for Wind Farm in Tropical Countries</b> Vilalta, G, Herrera S, O &amp; Blanco A., Centre of Study for Renewable Energy Technologies, Havana, Cuba</p> <p><b>Selection of wind turbines for Cuban conditions</b> Conrado Moreno &amp; Jose Martinez Escanaverino, Centro de Estudio de Tecnologias Energeticas Renovables, Havana, Cuba</p> <p><b>Site Specific Optimization of Wind Turbine Parameters for Improved Machine Availability and Life Cycle</b> Prashant Shingare, Suzlon Energy Ltd., Pune, India</p> <p><b>Wind Turbine Design for Algerian Climates</b> S. Ettayeb, L. Kadi, M. Kühn, Energy, Environment and Sustainable Development Laboratory, University of Mostaganem, Algeria</p>
11.00	<p><b>Session F1</b></p> <p><b>National policies and markets IV:</b> Shi Pengfei and Jami Hossain</p> <p><b>Electricity Generation from Wind in Sri Lanka – Practical Action’s approach</b> Namiz Musafer, Programme Coordinator, Practical Action (ITDG), Sri Lanka</p> <p><b>Potential of wind power for rural electrification in Pakistan</b> M. D. Memon, K. Harijan and M. A. Uqaili, Mehran</p>	<p><b>Session F2</b></p> <p><b>Hybrid Systems:</b> S P Gon Chowdhury and Nico Peterschmidt</p> <p><b>A Hybrid Wind-Diesel Power System for an Isolated Village in Saudi Arabia</b> S. M. Shaahid, I. El-Amin, S. Rehman, A. Al-Shehri and F. Ahmad, J. Bakashwain; King Fahd University of Petroleum and Minerals, Saudi Arabia</p> <p><b>Fernando de noronha island-brazil wind diesel system – operating</b></p>	<p><b>Session F3</b></p> <p><b>CDM, Economics &amp; Finance:</b> Ajay Mathur and Dipal Barua</p> <p><b>Cost estimation of a Surfkite Laddermill</b> Bas Lansdorp &amp; W.J. Ockels, Delft University of Technology</p> <p><b>Economic Evaluation of the Use of Wind and Photovoltaic Energy in Seawater Desalination</b> César A. Cisneros Ramírez, Centre for Renewable Energy Technology</p>



## DAY 3

University of Engineering and Technology, Pakistan

### **Possibilities and Prospects for**

#### **Development of Grid-Integrated Wind Power Generation in an Eastern Africa Country: The Case of Ethiopia**

Wolde-Ghiorgis, W., Addis Ababa University, Addis Ababa, Ethiopia

#### **Prospects of wind power plants in the southern highlands of Tanzania**

R. M. Kainkwa, Tanzania

#### **Wind energy potential, application and future prospect in Sudan**

EI FADIL BIRAIMA HAMID, KHARTOUM, Sudan

#### **Wind Energy in North Korea**

PIINTEC, North Korea

#### **experience, control and measurements**

Everaldo Alencar Feitosa and Andréa Carla  
Brazilian Wind Energy Centre

#### **Hybrid Total Solution Combining Wind, Solar and Bio-energy**

Umraz Ahmed N, SunTechnics, Bangalore, India

#### **Low RPM High Torque Small Wind Generator for Hybrid System**

S.N. Jha and J.R. Gandhi, Sardar Patel University, India

#### **Magnetic circuit optimisation to improve the performance and versatility of the hybrid-field generator**

R.T. Harris, H. A. Van der Linde, S. Schoombie, Nelson Mandela Metropolitan University

#### **The WESTA Corporation Innovation Project on Development and Production of Hybrid Power Systems and Storage Batteries**

Sergey V. Tarasov (Dnepropetrovsk, Ukraine, Viktor A. Dzenzersky, Vasiliy I. Podlubniy, Vladimir A. Zadontsev, Sergey V. Burilov, Sergey V. Plaksin; Ukraine

#### **Wind Electricity Changed into Steady Current and Zero emission Fuel – Energy Storage by Hydrogen**

A. Mieke, C. Sponholz, J. Lehmann, O. u. T. Luschtinetz, H. Sandlaß ; University of Applied Sciences Stralsund

#### **Wind Electric Generation to be competitive**

C.R.Bhattacharjee, Consulting Engineer, Kolkata

#### **Wind turbine parameter optimal Design based on cost modelling method**

CHEN Lei, XING Zuo-xia1, YAO Xing-jia, LI Ke, Wind Energy Institute, Shenyang University of Technology, China

#### **CDM potential of wind power projects in India Maximizing CDM Benefits for Wind Projects**

Pallav Purohit and Axel Michaelowa, International Climate Policy, Hamburg, Germany

13.00 **Lunch**

14.00 **International Capacity Building and Technology Cooperation**

#### **Roundtable comprising international experts**

Dr. Osman Benchikh, UNESCO, Gabriele Groneberg, MP, German Parliament, Klaus Knecht, InWEnt, Prof Erico Spinadel, AAEE, Tore Wizelius, Gotland University, and more. The audience will be invited to contribute.

16.00 **Tea / Coffee**

16:30 **Valedictory Session**

#### ■ CHAIR PERSONS

Prof. Everaldo Feitosa, Brazil Wind Energy Center , Hermann Oelsner, African Wind Energy Association, Tanay Sidki Uyar, Prof. Marmara University

#### ■ CHIEF GUEST

Dr. R K Pachauri, Chair Person, Intergovernmental Panel on Climate Change



## DAY 3

- CONFERENCE SUMMARY  
Prof. Niels Meyer

### Presentation of WVEC 2006 Resolution

17:30 Closing Ceremony and Presentation of Host of WVEC 2007