Summary of Wind India 2008

Proceedings

Inaugural session

Mr G M Pillai, Director General, WISE
Dr Pramod Deo, Chairman, Central Electricity Regulatory Commission
Dr Andrew Garrad, CEO & Founder, Garrad Hassan and Partners
Mr Chetan Mehra, MD, Wiezmann Limited
Mr Hans Jorgen Koch, Deputy State Secretary, Danish Energy Agency, Denmark
Mr Ramesh Kymal, MD Vestas Wind Technology India Pvt. Ltd

Dr Pramod Deo, CERC	• Policies and Electricity regulator were major growth driver • MERC issued Bagasse Order in 1998 under the provisions of National Policy • CERC has initiated the tariff setting for renewable energy sources • **Obligation** is not on the distribution licensee but also **on Open Access and captive consumers** • Issue of mandatory sale to state distribution company • Real solution is REC mechanism • Technical solution to be devised for more grid penetration • Needs to **develop the market** • **Independent management of SLDC** is required for avoiding restriction practice

Dr Andrew Garrad	• **Clean Energy and Green Energy a future fuel** • Significant engineering and technology development during last 25 years – Intelligent turbine • Optimum size of wind turbine – bigger is better –Size of WTG is increasing • Significant development in turbine generator technology is expected • Turbines design should be **customised to local conditions** • Forecasting – Short term forecasting – day ahead is crucial for any market. With more penetration, it compares with conventional. • Wind is variable, Wind is predictable. **Wind is not intermittent** • Change in incentive and tax structure is needed for Indian market to develop • Germal initiatives are driven by political move, Sapin political and commercial, US- zrazy • Fiscal incentives **- Consistency and competence** – for building investor confidence

Session 1

CEOs' Vision: Wind Power 2015

V. Subramanian, Former Secretary, MNRE	• **Capacity creation to generation increase** - through GBI • GBI objective – output based incentive- promote turbine manufacturers for increasing the efficiency • Most of the States are not keen to promote the RE – forceful implementation
Mr Sune Kjeldsen, Trade Commissioner of Denmark, Bangalore	**Vision 2015 – A Danish Perspective** •200 Companies in Danish Wind Sector •Wind – 20% of energy generation and 25% likely to be in 2008 •Wind Turbine size is getting matured as like other conventional technologies •**Electrical Storage – for abating the intermittency** •Developing the technical resource •Increasing reliability and low cost will be a success factor
Mr Chintan Shah, VP, Strategic Business Development, Suzlon Energy Limited	• Current market scenario demands revisiting of tariff and enabling framework • **Long term policy framework**, **Market oriented tariff framework**, Financial institutions to come forward for wind sector investment, Utilities and consumers have moral duty to include renewable, hybrid system

Mr D V Giri, Chairman, IWTMA	• Indian Manufacturers have multiple role – concept to commissioning one stop shop • Key drivers – Accelerated depreciation, income tax benefit, State Policies, Carbon credit • Issues – **No national framework, RPO and RPS Framework** • **Re-powering** and retrofitting can lead to multiplier effect of 0.5. • Social, commercial and political will is required for accelerated growth
Mr Madhusudan Khemka, MD, ReGen Powertech	Challenges and Opportunities for new Entrants • **Commercial challenges-** Sourcing of components, Indenisation, High Manufacturing and production cost, Apprehension by FIs for new technologies, Lack of minimum qualifying criteria - • **Technical challenges**- Lack of technical record, Certification and Approvals, Wind Potential Sites, Technical skill sets
Mr Rajindra Valsalan, ED, WinWinD	• For a strong vision we need a strong leadership • **Nurturing of Human Capital** would be a key of success • Surplus fund available in other sector which are observing low growth can be siphoned to wind sector or renewable sector during this meltdown stage

Session 2

Expanding the Wind Market: Challenges and Opportunities

Mr Chetan Mehra, MD, Weizmann Ltd, Mumbai (Session Chairman)	• China has set the target that By 2020, 15% of the primary energy should be produced from renewable • IRR of 15-20% should be through the project life to ensure the project viability
Dr Madhu Patel, MD, Vivvid Renewable Energy Ltd., Pune	**Wind Energy system with constant output using air batteries** •**Compressed Air storage and generation** system with variable wind speed •New technology result in steady voltage and frequency, PLF up to 50%, Economic viability
Mr Ruediger Kipke, Project Manager, 8.2G Consulting, Germany	**Offshore wind harnessing** •No land availability and high population density in Europe pushed for off shore wind harnessing •In Germany, transmission companies bear the cost of energy evacuation •**Issues in offshore – Environment impact studies, risk analysis for mercantile ships, military issues, soil analysis** •High Capex between 1.5 to 2.7 Million pounds/MW

Mr A S Karanth, Independent Wind Consultant	**Supply and infrastructure issues** •**Supply of critical components** had been a major problem – Localised components for the higher quantum at right quality, Technology support, technology transfer and certification, Construction and design of blades, cranes availability •**Land and infrastructure developments** - approach road, support staff habitat, crane pad, Power evacuation issue, Right of way
Mr Chintan Shah, Suzlon Energy Limited	**Policy and Regulations: Perspective and Issues** •States are revisiting RPS due to increase in RE availability •**Metering** is an important aspect to define the project boundary •**Cost associated with high wind penetration** should be worked out To be done - RPS Framework and applicability, Transmission pricing, Carbon tax and domestic emission reduction, Best practices

Session 3

Grid Integration Issues and Way Forward

Mr A Velayutham, Member and Acting Chairman, MERC	• Grid integration is a major issue in harnessing the renewable energy wind energy • Connection Standards, Grid Code etc to be modified for renewable energy sources • Forecasting would be a requirement in coming years
Mr Ajit Pandit, Director, ABPS Infrastructure Advisory, Mumbai	**Grid Integration Challenges in Indian States** •Challenges in planning - **no system plan**, Planning standards, planning process, planning process criteria •Challenges in construction --defining inter-connection point, Battery limits, no renewable related provisions in CEA Regulations **•Need for creation of RE Transmission Agency**
Mr Jeremey Parkes, Garrad Hassan and Partners Limited	Wind Energy forecasting and its integration with the Grid **•Uncertainly should be mapped by System operator** to quantify imbalances •Significant cost reduction and benefits due to accurate forecasting •Distributed or centralised forecasting methods can be used. Its value is greater than the cost associated with it.

Session 4

Economics, Financing and Carbon Benefits

Mr Dabashish Majumdar, CMD, IREDA, Chairperson	• Viability of a project– Project cost, revenue – tariff structure, incentives- Performance based incentive, Carbon Credit • **Mechanism for reducing the cost** should be worked in spite of increase in input cost –steel and copper • **Project should be at least marginally viable** itself without CDM benefit. In this direction, Govt Policies play important role.
Mr R N Nayak, Executive Director, PGCIL	**Wind Energy- Grid connection issues and way forward** •Issues with wind power -Generator frequency, **dynamic reactive power management**, variability ,No information at RLDC level •What to be done - **standardise grid connection**, Frequency range control, Variable speed control generator, System stability,

Mr Ajit Menon, General Manager, Vestas Wind Technology India Pvt. Ltd	**Cost Cutting – Possibilities and Challenges** •Improve efficiency, reduce cost and more profitable •Focussed approach, budgeting exercise, Procurement, logistic, **Localisation and import substitution,** Benchmarking, Vendor optimisation etc •Challenges - perception, **cost saving through reduction in quality**
Mr Swaminathan Krishnamurthy, Ernst & Young	**Carbon Credit benefits for wind power** •Increasing industrialisation has significantly increased the green house gases and so the global warming •Wind projects are not conventional CDM project – project viability, location, commissioning date of different WTGs, •Challenges – **Clear cut start date**, CDM is considered before the project start date, Purchase Order •**Information asymmetry** is an issue – mentioned in PDD and statements made by company in public

Session 5

Performance Improvements

Mr K P Sukumaran, Chairperson	
Mr Pranay Mundra, Suzlon Infrastructure Services Ltd	**Optimisation of land use in wind farm** •Land constitutes only approx. 5% of total turbine cost but very important aspect in energy generation •Problems – **Local issues**, poor documentation, Govt clearance •Re-powering of old wind farms will result in optimum land utilisation. GIS sub-stations, LTHS Conductors can supplement the land optimisation
Mr D G Kamath, Head, Marketing, Enercon India Limited	**Improved performance of Wind Farms** •Improvement – maximising the output energy •Design of WTG, Design of Wind Farm, Grid interfacing and O&M are the four aspects for improved performance •Load flow study, network reliability and availability, contingency analysis to be worked out for smooth transmission
Mr V K Krishnan, MD, Shriram Leitwind Limited	**Operation and maintenance aspects of Wind farm** •Present concerns – reduction in output, **increase maintenance cost**, lack of trained manpower, **non-availability of cranes at short notice**

Session 6

Innovating for Growth

Mr Ramesh Kymal, Chairperson,	
Mr V Subramanian	**Generation based incentive** •Mechanism for encouraging IPPs, and generation from RE. •**GBI incentive is very less** as compared to benefits given to **conventional projects** – export duty, coal facility •Long term PPA of 20 years by the distribution companies •Renewable generation should come under Must run units •Committed incentive amount should be calculated on the basis of NPV
Mr G M Pillai	**National RPS and RE Law for India** •**National RPS provides** a platform for nation wide trading of Renewable energy •EA 2003 doesn't address the transition issues – carbon emission, fossil fuel resources, Price volatility •**Proposed RE Law**, a comprehensive document for the requirement of various renewable energy technologies •**Dynamic resource assessment**, Open access, supplement role of bio-fuels in transportation

Mr Mahesh Vipradas, Senergy Global Limited	**Renewable Energy Certificates: Benefits for Wind Power** •Renewable energy growth is limited within the States which have potential •**Issues – cost and percentage absorption** in a state grid system, inter-state transmission for national RPS – technical issues, open access •High RPS to be required for Operationalisiation of REC •Pricing of electricity and REC would be a major issue.
Mr Rajendra Kharul	**Re-powering** •5000 Machines have capacity of less than 300 KW. •Land issues for new wind sites •Re-powering is most optimal solution in comparison to retrofitting, Refurbish and relocation •Challenges – disposal of old machines, Regulatory and Policy issues, financing issues
Dr Stephen Joeckel, Wind Direct Gmbh, Germany	**New Turbine design for low wind regime** •Objective - reduced capital cost, reduced O&M cost, redundancy •Reduced O&M cost through the simple design – passive cooling system, direct drive arrangement, no breaks •Increasing energy capture – tall towers, low specific wind turbine, wide range variable speed

Session 7

Panel discussion: Policy and Regulatory Innovations

Mr Ajay Vikram Singh, Chairperson	
Mr Balawant Joshi, Managing Partner, ABPS Infrastructure Advisory	• Size of market is determined on the basis of cost competitiveness of product – Long term marginal power purchase cost • **NAPCC targets are very close to business** as usual scenario – will not drive the market growth • **Nationwide RPS and REC** is one of the mechanism • Introduce new regulatory mechanism – Green tariff, REC, nationalwide RPS, net metering
Mr D V Giri, President IWTMA	• Policy uncertainty – policies on paper should be implemented • **Creation of National Wind Power Corporation** • China is far away in terms of generation capacity addition as well as carbon credits • Incentive is required for private sector participation

Mr K P Sukumaran, Advisor MNRE	• Implementation challenges are much larger than the process challenge • 5000 MW is reliable and achievable? • Roadmap should be prepared detailing out responsibility of each stakeholder • **Human resource development is a major issue**
Mr Rajeeva Swarup, MD, RREC	• Critical shortage of electricity • RE to fill the gap • **Capacity addition in wind sector is declining – high interest rates** • Potential wind states are energy deficit and drawing heavily from grid`
Mr Joseph Chaly, MD, LM Glasfiber	• Driver has been tax incentives • Market is stagnating • **Viability of project on stand alone basis – depends on tariff** • Implementation of legislative and regulatory framework is an issue

Thank You