Environmental Goods & Services: Case for Wind Energy

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Structure of the Presentation

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  o Increasing Focus on Renewable Energy Technologies Today
  o Leading Edge for Wind Energy
  o Global Footprint: CY 2008
  o Policy Support for Wind: USA & Europe
  o Policy Support for Wind: India & China

• The Suzlon Group
  o About Suzlon
  o Suzlon’s Footprint: Exports From India

• Country Wise Profile: Tariff & Non Tariff Barriers
  o Brazil
  o Australia & USA
  o Turkey
  o Other Countries

• Learnings and the Way Forward
The Context
Market Overview for Environmental Goods & Services

- Global Market for EGS estimated at $5,635 Bn with a growth rate of 4% in 2007-08

- Asia at the forefront with 38% of Market Share, followed closely by Americas (30%) and Europe (27%)

- Within Asia, China emerges as the most active player in the EGS Space (CY 2008 & 2009)

- However, at present USA takes the lead with 20.6% share in the global market

- Of the 23 Products & Services included in this analysis, Alternative Fuels hold the Largest Market Value (18.5%), with Wind Sources following closely at 11.5%

- Growth performance has been varied across sectors, but was higher for Renewable Energy Sub Sectors

Source: Department of Business Enterprise & Regulatory Reform (BERR, March 2009)
Increasing Focus on Renewable Energy Technologies Today

- Definition of What Constitutes these goods is important – Finished Products may not be beneficial to the Developing World Economy
  - Finished Goods ~ Solar Modules, Wind Turbine Generators, Small Hydro Generators
  - Intermediate Goods ~ Solar Cells, Silicon Ingots, Gear Box, Associated electronics et al

- This definition is expected to change over time due to High Obsolescence in RE Goods
  - High Levels of R&D lead to Betterment and Upgrade of Technology Employed
  - Definition should be Dynamic so as to accommodate for Latest Technology Trends

- Wind and Solar Sources of Renewable Energy ~ Drivers for Renewable Energy in the future
  - Traditional Sources such as Small Hydro and Biomass would witness slower growth trends
  - Upcoming Technologies like Wind and Solar are envisaged to be Front-runners in the future

Source: Suzlon Internal
Leading Edge for Wind Energy

- Expansive Market for Wind
  - Historical Growth recorded at an impressive 25% (starting 2003)
  - Rising Global Imprints ~ 28000 MW ($ 36.4 Bn) installed in 2008 vis-à-vis 19000 MW ($ 24.7 Bn) in 2007 (Growth of 47%)

- Future Outlook
  - Annual Installations to touch 58,000 ($ 75.4 Bn) MW by 2013
  - US to compete closely with EU
  - For Asia, China and India to exhibit strong growth in demand
  - CAGR for Cumulative Installations ~ 23% p.a

Source: BTM World Market Update March 2009

- USA: Installations: 8,358 MW
- Europe and South America: Installations: 10,474 MW
- China: Installations: 6,246 MW
- Australia & New Zealand: Installations: 619 MW
- India: Installations: 1,810 MW

Note:
- Europe includes Denmark, France, Italy, Portugal, UK, Netherlands, Turkey
- Americas includes United States, Canada
- Data as for Total Installations in 2008

Source: BTM World Market Update March 2009
### Policy Support for Wind: USA & Europe

<table>
<thead>
<tr>
<th>Country</th>
<th>RPS</th>
<th>Tax Credits</th>
<th>Grants</th>
<th>Finance Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>Waxman-Markey Bill proposes 6% by 2012; 20% by 2020 [Applicable for each electricity producer supplying more than 4 Mn MWh Units]. RPS present already in 22 states</td>
<td>Extension of PTC and ITC Under ARRA, till 2012</td>
<td>Allocated by DoE, Grants up to 30% of Wind Project Cost</td>
<td>Introduction of Clean Renewable Energy Bonds worth $1.6 Bn</td>
</tr>
</tbody>
</table>

| European Union  | Proposed RPS of 20% by 2020                                           |                                                                                |                                                                            |                                                      |
| Germany         | Attractive Feed in Tariffs                                             | Grid Investments for Offshore are Forthcoming                                 | RPS Target of 18% by 2020                                                   |                                                      |
| France          | RPS Target of 23% by 2020                                             | Loans available at lower interest rates for “Green Projects”                  |                                                                            |                                                      |
| Spain           | RPS Target of 20% by 2020                                             | Possible Upward Revision of Lower Feed in Tariffs                             | Investment Fund available for EUR 5 Bn ~ Could be increased to EUR 20 Bn    |                                                      |
| UK              | RPS Target of 15% by 2020                                             | Allocation of GBP 100 Bn by 2020                                             | Introduction of Feed in Tariff by 2010                                      |                                                      |

*Source: New Energy Finance*
## Policy Support for Wind: India & China

### India

| RPS | • Majority of the States have allocated RPS Ratios  
• Prime Ministers Action Plan recommends National RPO of 15% by 2020  
• 19 states have passed RPS orders |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GBI</td>
<td>Proposal to Introduce GBI for IPPs (~ € .007 per kWh)</td>
</tr>
</tbody>
</table>
| Feed in Tariffs | • Constantly Under Revision to Increase Project Attractiveness  
• Differential Tariffs for Windy and Non Windy regions (by CERC) |
| RECs | Structure for Use of **Renewable Energy Certificates** is under consideration, which would aid in meeting RPS in non windy states |

### China

| RPS | • 100 GW by 2020, possible revision to 150 GW  
• 10% by 2020  
• 3% Portfolio from Non Hydro Sources, for Power Producers with Capacity > 5 GW |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid Up gradation</td>
<td>Proposed transfer of responsibility from Govt to Utilities</td>
</tr>
<tr>
<td>“Look Local”</td>
<td>70% assembly Localization requirement to continue</td>
</tr>
</tbody>
</table>

*Source: New Energy Finance*
About Suzlon

- **Company Overview**
  - End to End Solution ~ Concept to Commissioning Mode
  - 3rd Largest Manufacturer in the world (*including REpower*)
  - Maintaining top position in the Indian Market for Last 10 years
  - Export coverage spreads across Europe and Americas
  - Manufacturing Base in India, China and the US
  - Extensive Product Coverage for Varied Investor Appetite
    - (.60 MW, 1.25 MW, 1.50 MW, 2.1 MW ~ Onshore Capacities)
  - Recently Acquired RE POWER for enhancing Offshore Capacities

- **Our Vision**
  - Market Diversification ~ Exploring new market segments
  - Exploiting the potential for Repowering
  - Developing Expertise for Solar and Hybrid Technologies

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**Market Share: Wind Turbine Manufacturers**

- Source: BTM Consultants Report March 2009

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**New Markets**

**Re Powering**

**Solar and Hybrid**

**Source: BTM World Market Update, Suzlon Internal**
SUZLON’s Foot Print : Exports From India*

* Company has established full fledged manufacturing unit in China; foot print in China is treated as domestic sales

Source: Suzlon Internal
# Brazil

## Adopted Duty and Tax Structure

<table>
<thead>
<tr>
<th>HS CODE</th>
<th>Product</th>
<th>Type of Levy</th>
<th>Levy Rate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>85023100</td>
<td>Wind Turbine Generator</td>
<td>Maritime Merchant Renewal Fee</td>
<td>25% of Ocean Freight Charges</td>
<td>Charges for Upkeep of Ports and Waterways</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Import Duty</td>
<td>0% of CIF Value</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Industrial Products Tax (IPI)</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Merchandise Circulation Tax</td>
<td>17% of (CIF, Duty, IPI, PIS, COFINS etc)</td>
<td>Tax Imposed on Circulation of Manufactured Products</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PIS and COFINS</td>
<td>PIS : 1.65% of CIF</td>
<td>Levies towards contribution to Social Security</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>COFINS: 7.6% of CIF</td>
<td></td>
</tr>
</tbody>
</table>

### Non Tariff Barriers

- Local Content Requirement of 60%
- Restricted Movement of Resources ~ Difficult to get Work Visa
- Shipping Vessels are Mandated to Carry Brazilian Flag

*Source: Management Dynamics*
## Australia and USA

### Australia: Adopted Duty and Tax Structure

<table>
<thead>
<tr>
<th>HS CODE</th>
<th>Product</th>
<th>Type of Levy</th>
<th>Levy Rate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>85030090</td>
<td>Parts associated with Electric Generating Sets (Associated with HS Code 8501/8502)</td>
<td>Customs Duty</td>
<td>10% of FOB</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Goods Service Tax</td>
<td>10% of (CIF + Customs Duty + Wine Equalization Tax)</td>
<td></td>
</tr>
<tr>
<td>73082000</td>
<td>Tower and Lattice Masts</td>
<td>Customs Duty</td>
<td>5% of FOB</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Goods Service Tax</td>
<td>10% of (CIF + Customs Duty + Wine Equalization tax)</td>
<td></td>
</tr>
</tbody>
</table>

### USA: Adopted Duty and Tax Structure

<table>
<thead>
<tr>
<th>HS CODE</th>
<th>Product</th>
<th>Type of Levy</th>
<th>Levy Rate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>85023100</td>
<td>Wind Turbine Generator</td>
<td>Harbor Maintenance Fee</td>
<td>.125% of Merchandise Value</td>
<td>Imposed to upkeep Importer’s use of the harbor and ports</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Import Duty</td>
<td>0%</td>
<td>For Imports from developing countries (GSP*)</td>
</tr>
</tbody>
</table>

Source: Management Dynamics
Turkey

- **Adopted Duty and Tax Structure**

<table>
<thead>
<tr>
<th>HS CODE</th>
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<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>73082000</td>
<td>Tower and Lattice Masts</td>
<td>Stamp Tax</td>
<td>33.9 TRY Per Transaction</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Custom Duty</td>
<td>0%</td>
<td>0% Custom Duty for Imports from Developing Countries (GSP), else 2.7% Duty is charged</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Value Added Tax</td>
<td>18% of (CIF + Customs + Stamp Tax + Agriculture Tax + Mass Housing fund + Special Consumption Tax)</td>
<td></td>
</tr>
</tbody>
</table>

- **Non Tariff Barriers**
  - Restricted Movement of Resources ~ Difficult to get Work Visa
  - Non Lucrative Tariff for Wind Power Generation, Currently Under Revision

*Source: Management Dynamics*
### Other Countries

- **Duty and Tax Structure for HS Code 73082000, Tower and Lattice Masts**

<table>
<thead>
<tr>
<th>Type of Levy</th>
<th>Spain</th>
<th>Portugal</th>
<th>Germany</th>
<th>Bulgaria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Custom Duty</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
</tr>
<tr>
<td>Value Added Tax</td>
<td>16%*</td>
<td>21%*</td>
<td>19%*</td>
<td>20%*</td>
</tr>
</tbody>
</table>

- **Duty and Tax Structure for HS Code 85030090, Parts of Electric Generating Machine**

<table>
<thead>
<tr>
<th>Type of Levy</th>
<th>Spain</th>
<th>Portugal</th>
<th>Germany</th>
<th>Bulgaria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Custom Duty</td>
<td>Free**</td>
<td>Free**</td>
<td>Free**</td>
<td>Free**</td>
</tr>
<tr>
<td>Value Added Tax</td>
<td>16%*</td>
<td>21%*</td>
<td>19%*</td>
<td>20%*</td>
</tr>
</tbody>
</table>

* : Value Added Tax calculated on CIF + Duty + Excise Value, for all countries

** : Free for Imports from Developing Countries (Under Generalized System of Preferences (GSP))

Source: Management Dynamics
Learnings and the Way Forward

LEARNINGS

- Different Kinds of Trade Barriers are Imposed on Trade of RE Goods (Suzlon has been able to overcome those, may not be possible for others to replicate)
- Non Tariff and Structural Barriers greatly Impede Market Access for Developing Countries
- Visible lack of “Made in Developing Economies” Brand Equity, dampening Trade Prospects
- Non Recognition of Indian Testing Standards also act as a deterrent to the same

WAY FORWARD

- Thrust on ‘Carbon Neutral, or even Positive’ in Developing Countries ~ Increased demand for EGS is expected
- ‘Need of the Hour’
  - Creation of a Level Playing Field for Developing Nations ~ Break down of Stringent Non Tariff and Structural Barriers
  - Higher Acceptance of Indian Testing Standards
  - Encouraging South-South and South-North Trade Dialogues
- Multi Pronged Strategy to boost Liberalization of Trade in EGS
  - Appropriate Voicing of Concerns at Multilateral Trade Forums
  - Increased number of Bilateral Trade Agreements, with Focus on EGS
  - Introspect to Improve Internal Systems and Remove Unwarranted Trade Restrictions
Thank You

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