D.E.S.I Power™

Renewable Energy Markets

Issues Challenges & Way Forward

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Renewable Energy – Issues & Challenges

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- Why Renewable Options have not taken off in a big way, like Wind Energy?
- Wind Energy has an installed base of 12,500 MW whereas others are still in few hundreds?
- What are these barriers and what can be done to over come and make these options take off?

Status of Renewable Energy Options

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GRID CONNECTED

Wind:

- Success due to Tax Benefits not based on Generation.

Solar PV

- Subsidies & Tariff Protection.
- New Policy based on GBI.
- Reasonable IRR.
- Roof Top Applications & Large PP should come up but still uncertain.

Solar Thermal

- Weak Technology Base.
- Complex O&M.
- Costs Uncertain.

Large Bio Mass

- Successful Sugar co-gen .
- Others have mixed results.

OFF- GRID

Bio Mass:

- Mainly Rural Decentralized application.

Bio Gas:

- Typical Small Rural Application.
- Established Technology.

PV

- Looks promising as a hybrid and for niche lighting applications.

Small Hydro

- Small Scale
- Seasonal
- Establsihed Technology

Issues Today

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- Supply Side Issues.
- Demand Side Issues.
- Capacity Building & Training
- Management Issues.
- Regulatory Issues.
- Grid Connected v/s Off Grid.
- Rural v/s Urban
- Investor Confidence.

What are these Barriers in an Off Grid Scenario ?

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- Supply Side Issues:
  - Reliable Technology
  - Local Resources Capacity and Training.
  - Feed Stock Availability and price control.
  - Generation not in full control.
  - Operation & Maintenance Issues.
  - Cost of laying a Micro Grid.
  - Financing of Projects.

- Demand Side Issues:
  - Lighting Demand not enough for sustainable economic operations.
  - Demand from Micro Enterprises inadequate .
  - Village Loads not uniform.
  - Affordability issues- Purchasing Capacity.
  - Financing for Micro Enterprises.
  - Training & Capacity Building.

Low Investor Confidence

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- Supply & Demand Side Issues.
- Bankability Issues.
- Low interest in investing when profitability is dependent on subsidies.
- Building up Local Management – Time consuming & cost.
- Revenue protection issues – Long Term contracts /tariffs /Collection.
- Weak & non-transparent Regulatory frame work.
- Not knowing enough about Rural Environment (No first Hand experience).
- Not many success stories.
- ROI risky.
- Fuel Supply Chain not established for Bio Mass.

How to Overcome these Barriers

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- Successful demonstration projects necessary. Gain on ground experience! Example – DESI Power EmPower Partnership projects.
- Investment in Human Resource Development, Capacity building and Training initiatives.
- Work on Demand Side Issues – Build the ecosystem to ensure sustainability of the operations.
- Get aligned to an ANCHOR Load like Telecom Tower, Cold Storage, Hariyali Rural Outlets.
- Establish fuel Supply Chain for Bio Mass.
- Demonstrate Hybrid PV & Wind for non-grid projects.
- SPEED Program – Smart Power for Environmentally-sound Economic Development.

Telecom as an Anchor Load

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- Telecom is becoming more and more Rural.
- Energy cots is their biggest pain.
- Current way of producing power will not be sustainable!
- Pushing in a big way for non-renewable energy sources.
- Solar Solutions already being deployed in major problem areas.
- SPEED proposes hybrid model of Bio Mass/Bio Gas/ Bio Fuel with PV.
- A 50 village pilot (covering about 100+ towers) being iniiatied under phase II of SPEED.

Thank You