Renewable Energy Markets
Issues Challenges & Way Forward

Sanjay Khazanchi
DESI Power
Renewable Energy – Issues & Challenges

• 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

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
– Established Technology
Issues Today

• 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?

• 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

- 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

• 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

- Telecom is becoming more and more Rural.
- Energy costs 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 initiated under phase II of SPEED.
Thank You