IRENA Practitioners Meeting

Enabling local renewable energy entrepreneurship – How can policy-makers, financial institutions and the private sector work together?

1st December 2011

Site Visits

The objective of the site visits is to explore and understand practical, economically viable, scalable and sustainable energy access models. The participants will have a first-hand experience of the technology, business model, end application, operations and maintenance and on the ground issues of a variety of energy access models. These include waste to energy, biomass and solar applications. A brief description of the models is mentioned here below.

1. TERI Biomass Gasifiers

Small scale gasifiers for thermal application have been setup by The Energy and Resource Institute (TERI) along with partner organizations across India. These gasifiers work on TERI's patented technology deploying a down draft gasifier for various end applications like baking food, silk reeling, cremation, chemical treatment amongst others. These gasifiers use wood pellets as feedstock and provide an excellent replacement for conventional fuel wood or diesel based heating. The gasifiers are low both on capital cost and operating cost and provide an excellent return on investment to the user.

2. ORB Energy Pvt. Ltd.

ORB Energy provides affordable and renewable energy for off-grid households and commercial sites in India through solar home systems. The company supplies solar systems

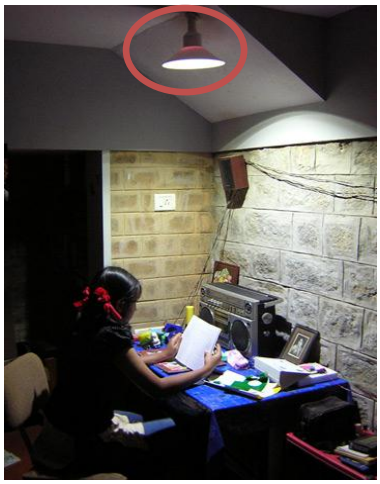
for electricity applications, including refrigeration, lighting, communications, computing, music, cool air, and television, as well as water heating applications. It serves families, health clinics, and security and retail businesses. ORB also helps customers arrange a loan and provides long-term service. It is headquartered in Bangalore. The company prices its systems at USD 4 per month and reaches low-income customers through its strong retail distribution network. With 90 branches currently in operation, ORB plans to double its branches and employees in the next two years, reaching 250,000 people.

ORB's model is unique in its strong retail channel. The company reaches out to the market directly through its branch network and field force, allowing the company to better control quality, as well as offer superior customer care – services often lacking in the rural solar industry.

3. SELCO India

Solar Electric Light Company (SELCO) is a social venture based in Bangalore providing reliable, affordable, and environmentally sustainable energy services to homes and businesses, especially in the rural areas.

Their system utilizes solar photovoltaic (PV) modules to provide electricity for lighting, water pumping, communications, computing, entertainment, and small business appliances. These products can be purchased by individual homes and businesses and do not require connection to a larger network. Their product range includes Solar Lighting (CFL & LED) for indoor and outdoor lighting and Solar Water Heaters for Domestic and Institutional use.



Selco realised that it was extremely difficult to change the Bottom of the Pyramid's (BOP) mindset (specially in the urban slums) and make them use solar products which were known to be extremely

expensive. Selco started with a financial model in which each customer would pay 25% of the cost upfront as down payment and will further pay a monthly instalment which is affordable and within the average monthly budget of a family in the region. Along with this, the SELCO INDIA also provided a year's guarantee to the warranty of the manufacturer along with free service for a year and a 90-day money back guarantee.

4. Waste to Energy Plants for Urban waste Management

NextGen has developed an in-house urban biogas technology for 'Organic waste to energy applications' in association with IISc, Bangalore. The biogas plant has been designed specifically for urban needs, keeping into account the factors like reliability, hygiene and aesthetic values. This technology is currently being deployed across IT parks, university campuses, housing complexes and hotel chains across India. The plant is a plug flow type model and the substrate is the canteen food waste. The biogas plants can process 25kgs/day to more than 50tons/day of food waste. The gas is used to replace the LPG requirement of canteens and is used for thermal applications. The project is subsidized by The Ministry of New and Renewable Energy, under the Special Area Demonstration Project Scheme. NextGen is also setting up Bio-CNG plants to power telecom towers.