Removal of Barriers to Biomass Power Generation in India (Phase-I)

Background

India’s growing energy requirements have put immense pressure on existing natural resources. The demand for electrical energy is growing at a rate of seven to eight percent annually, and remains largely fossil fuel dependent. This trend has significant environmental implications including emission of greater greenhouse gas (GHG), deforestation, land degradation and rising water and air pollution. Against this backdrop, there is growing emphasis on the use of cleaner energy sources, particularly renewable energy, to meet growing energy demand and complement fossil fuels. Biomass can potentially play an important role in this emerging energy mix. While less than 1,000 MW of electricity has been generated using biomass till date, estimates suggest a much higher potential of close to 19,500 MW electricity. This potential is being constrained by weak institutional and financing mechanisms, limited policy frameworks and technical capacities.

About the project

The project aims to accelerate the use of environmentally sustainable biomass power and cogeneration technologies in India. It promotes combustion, gasification and cogeneration technologies for electricity generation using different types of captive and distributed biomass resources. This will be achieved by removing identified financial, technical and managerial barriers,
and by improving access to financing towards building a stronger foundation for large-scale commercialization of biomass power.

Developments so far

- The project supported two categories of model investment projects (MIP). In the first category, support is being provided to strengthen fuel linkages for existing biomass power projects through biomass processing machines, storage facilities to reduce exposure to moisture, bailing machines for paddy straw, etc. In the second category, support is being provided to new green field projects.
- Demonstrated stronger fuel linkages for biomass combustion through MIPs, for example.
  ~ Malwa Biomass Power Plant (MBPL), Muktsar, Punjab, a 7.5-MW biomass combustion based plant has employed close to 1,000 people from neighbouring villages in auxiliary activities such as in sourcing biomass through 25 biomass collection centres. They adopted a combination of fuels such as firewood, cotton stalk, wheat straw, dung cake and waste from saw mills. The Plant Load Factor exceeds 85 percent.
- Demonstrated success in co-generation sugar mills, for example.
  ~ With support from the project, Pandurang SSK Ltd, Shreepur, Maharashtra, a 9-MW cooperative cogeneration biomass power plant has demonstrated successfully the use of sugarcane waste as support fuel.
- Demonstrated gasification of new projects MIP – new projects gasification.
  ~ With support from MNRE and the project, a 1.2-MW biomass plant set up in Sankheda tehsil in Gujarat has successfully demonstrated the operation of small capacity plants in rural areas using locally available agricultural residue and biomass. Ankur Scientific Pvt. Ltd. has now entered into a power purchase agreement to supply power to the grid and wheel it to M/s Aditya Nuva (Aditya Birla Group).
  ~ As a result of the findings from a study commissioned, biomass power plants under capacity of 15 MW are now considered green projects, and are therefore exempt from environment impact assessments.
  ~ The project supported the preparation of a biomass roadmap which envisages adding about 5,700 MW of biomass power by 2017, and a cumulative 20,000 MW by 2022.
  ~ Knowledge sharing enabled through a quarterly magazine on biomass power technologies, policy and regulatory issues and best practices published since 2009.

Looking to the future

- Set up an online repository of information on generating energy from biomass which can compliment the efforts to encourage greater use of biomass for power generation. Comprehensive biomass atlas that has updated information on production, consumption and availability of biomass at taluka, district and state levels.
- Share learnings from model investment projects to support policy and develop model agreements based on different business models.
- Provide inputs to regulatory commissions, state governments on scope for revisions of approvals and approval processes.
- Provide inputs on tariff setting and revisions.

Last Updated: September 2012