

SRA EM BIOENERGY POWER PLANT



Project developer: IED Invest Cambodia
Location: Sra Em village, Kantuot commune,
Choam Khsant district, Preah Vihear,
Cambodia
Technology: Biomass
Project Cost: 1,935,000 Euro
EEP Contribution: 450,000 Euro (23% of project value)
Duration: May 2016 - June 2018



Project Description

The project aims supply electricity to the existing mini-grid in Sra Em village, generated by a biomass (waste wood gasification) power plant. At present electricity generated by a diesel generator (DG) set is supplied to the mini-grid, connected to 425 out of 1,300 households in Sra Em village. The electricity generated by the biomass power plant will be cheaper by 25 - 30% as compared to the DG set.

The project will use locally available wood as fuel for the biomass power plant. The development of sustainable wood supply chains is part of the project layout, providing employment to unskilled workers and preventing deforestation. An additional activity of the project is to mobilise funds from the Rural Electrification Fund in order to connect poor households who cannot afford full connection costs. The Rural Electrification Fund is a financing instrument introduced by Electricité du Cambodge (EDC-national energy supplier) for improving access to energy for poor rural households in Cambodia.

Result-Based Financing Integration

Disbursement of the EEP Mekong funds will be done in five installments according to the project's milestones and results to be achieved. The first disbursement will be released after verified completion of civil works for the biomass gasifier system. The second installment will be released after verified completion and commissioning of the biomass gasifier system, starting to generate electricity. The third, fourth and fifth disbursements will be made after proof of sale of electricity to the grid of about 3,000 MWh.

Social and Environmental Impacts

Improved access to the mini-grid will allow more households in Sra Em village to benefit from clean electricity and improve their quality of life. The additional energy produced by the biomass power plant facility will allow the local distributor to provide electricity to an increased number of local businesses, and thereby improving the economic and social conditions in the village. The project approach actively involves the communities in project implementation and operation of the biomass power plant, ensures that biomass used for electricity production does not contribute to deforestation. Collection of waste wood as biomass fuel is moreover an opportunity

to create employment for women and vulnerable groups.

The use of waste wood as biomass fuel is CO₂ neutral but reduces the use of diesel for generation of electricity fed into the mini grid. The biomass power plant will reduce GHG emission of 2,160 t-CO₂eq, calculated for the period of operation until May 2018.

Sustainability and Scaling Up

The project will be useful for clean energy related government agencies in their efforts to adapt feed-in-tariffs for small independent power production and in the development of incentives for promotion of renewable energy in Cambodia. The project is seen as an opportunity to demonstrate the economic viability of a new business model for application of biomass gasification in decentralized power generation.

Business Innovation and Dissemination

The project combines a proven technology (biogas) with an innovative business model for introduction of a biomass power plant connected to a mini-grid. The project supports the development of wood plantations for biomass generation. The project approach represents a new income generation model for low-income households as well as a long-term fuel supply model for biomass power plants.

For more information, please contact:

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