



WWF

FACTSHEET

IND

2014

Sustainable Energy Access

MICRO SOLAR PV POWER STATION

Bajgundi Forest Village, District Balaghat, Madhya Pradesh



Introduction

Satpura Maikal Landscape

WWF-India is engaged in conservation activities in Satpura Maikal Landscape (SML) in Central India. SML is the region surrounding Satpura in West and Maikal hill ranges in East. It is spread across 14 districts of Madhya Pradesh, Chhatisgarh and Maharashtra, over an area of 1,18,867 km². 34 per cent or 39,875 km² of this is under forest cover, which is roughly the size of Netherlands!

In India, over 300 million people do not have access to electricity. A large part of the population remains without access to basic energy services and infrastructure. Besides, 43.2 per cent of rural households are still dependent on kerosene for lighting purposes. In Balaghat district of Madhya Pradesh alone, over 1.14 lakh households are dependent on kerosene for their main source of lighting.

Powering lives through solar energy

With an aim to provide clean energy access, WWF-India has undertaken a pilot programme for the demonstration of a solar PV power plant. Under this project, a 10 kWp micro solar PV power station has been installed in Bajgundi Forest Village, Aamgahan Panchayat, Balaghat District, Madhya Pradesh in the Satpura Maikal Landscape (SML). The village is about 80km from Mandla and about 40km from the Mukki gate of Kanha National Park.

This project provides energy access to 62 households, one school, one anganwadi and one community hall in the village. In addition, stand-alone solar home lighting systems are also provided for two remote households. Each household is connected with a solar off grid distribution line, two CFL points and a mobile charging port. In addition to this, 27 street lights have been provided in the village.

Project Details

Project Name	Micro Solar PV Power Plant with Distribution System
Project Size	10 kWp
Location	Bajgundi FV, Aamgahan Panchayat, Balaghat District, Madhya Pradesh
Geographical Location	22° 18'45" N 80° 53'31" E
Provision of Energy Access	62 households, 1 school, 1 anganwadi and 1 community hall; 2 remote households provided with solar home lighting systems
Key System Parameters	40 solar PV modules (250Wp each), power conditioning unit (10kVA/120V), 60 batteries (600Ah/2V), 142 CFLs (11W each); 27 street lights (12 W LED), solar home lighting systems (5W LED Luminary 2 Nos)
Installation and maintenance (for 3 years)	EnergyGREEN, Bhopal, Madhya Pradesh
Management & Operation	Eco Development Committee, Bajgundi
Project Cost	₹36.31 lakh
Commissioning Date	June 2014

Installation & Maintenance

EnergyGREEN, a local organization with a registered office at Bhopal, is the implementing agency, responsible for setting up the solar plant with distribution system on a turnkey basis. It will provide comprehensive maintenance services for the next three years after installation.

Operation & Management

Bajgundi Village Energy Committee has been constituted through a resolution passed by the Eco Development Committee (EDC) of the village on 20 February 2014. The Committee comprises of 11 members representing all the hamlets, castes, community groups and women in the village. The tenure of this committee is three years. After successful commissioning, EDC, Bajgundi is managing and supervising the day to day operations and functioning of the solar power plant through the Village Energy Committee.

Lighting the sustainable way

One operator and two-three youth have been trained during installation of the plant in order to equip them in handling minor repairs and day-to-day maintenance. In addition, awareness and capacity building exercises have also been carried out for the villagers.

The beneficiaries will contribute a pre-decided amount each month which would go into a bank account operated by the President, Secretary and Treasurer of the Energy Committee. The collected amount will be used to pay an honorarium to the operator as well as maintenance activities such as replacement of the batteries after three years. This will help in making the plant operations self-sustaining in the long run.

Improving lives through clean energy

Clean energy access is expected to improve the lives and livelihoods of the community members. Besides improved quality of lighting, there are also health benefits in terms of reduced pollution from kerosene usage. The project is also expected to help reduce human-wildlife conflict in this forest village.

Key Features

The plant is operated & maintained by the Eco Development Committee, Bajgundi.

In addition to setting up of the micro solar PV plant, street lights have also been installed in the village.

Load Limiters for each household ensure availability of electricity for eight hours which can be utilized any time during the day.

Energy usage charges are decided by the community itself to take care of the operation costs, including battery replacement after three years.

Local villagers have been trained to operate the plant on a day to day basis. This has instilled a sense of ownership for the solar plant among the community.



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