

# Floating solar power plant in West Bengal, India

## India's First 10 kW Floating Solar Power Plant

Date of Commissioning - 24.12.2014



INSTALLATION	
Owner	Arka Renewable Energy College
Project	10 kW
Location	New Town, West Bengal
Module Type	Polycrystalline - 250Wp
Connection Type	Grid connected
Installer	Vikram Solar Pvt. Ltd.

TECHNICAL SPECIFICATIONS	
Rated System Power	10 kW
Number of Modules	40
Space Coverage	.025 Acres
Inverter	Solar Grid Connected Inverter: 1 nos.
Coordinates	Latitude:22°56'N; Longitude: 88°46'E
Annual Energy Yield	1765.3 kWh
Number of Avg. Homes Powered	Lightening the Park along with the street lights of the adjoining areas
CO <sub>2</sub> savings per annum(approx.)	2942.167 Kgs/yr

## Background

The 10 kW floating solar power installation in Rajarhat, Kolkata is the first of its kind in India. The Project was part of an R&D venture jointly undertaken with Arka Renewable Energy College in Kolkata and New Town Kolkata Development Authority and was funded by the Ministry of New and Renewable Energy. The solar power facility was designed using 1 kW fibreglass PV modules to produce a minimum of 14 MWh of solar power annually.

## **Objective**

The main objective was to explore unutilized water bodies and not consume the ever-decreasing land. The requirement was of a solar power generating system that would be suitable for any water body, with the flexibility of being expanded in any other given environment.

## **Challenges**

The biggest challenge in this Project was installing the solar power plant in water. The system had to be suitably designed to stay afloat and be able to withstand the force.

## **Planning and execution**

Following extensive research and planning, the floating solar power facility was designed to be completely flexible and efficient. The system consists of ten 1 kW fibreglass modules which make up the floating platform or pontoon. The floating mechanism functions successfully with the system anchored firmly to the bottom of the lake and connected to the grid using submersible cables.

The installation consists of 40 highest efficiency 250 Wp Tier 1 Eldora Prime Series polycrystalline modules and a Kaco-made inverter. The inverter's inbuilt data logger is used for remote monitoring via GSM modem and a bi-directional meter is installed to monitor the NET export.

## **Results**

Vikram Solar is proud to have successfully completed the installations of India's first ever floating solar power plant. The overall system is designed to last for more than 25 years and generate a minimum of 14MWh solar power annually.