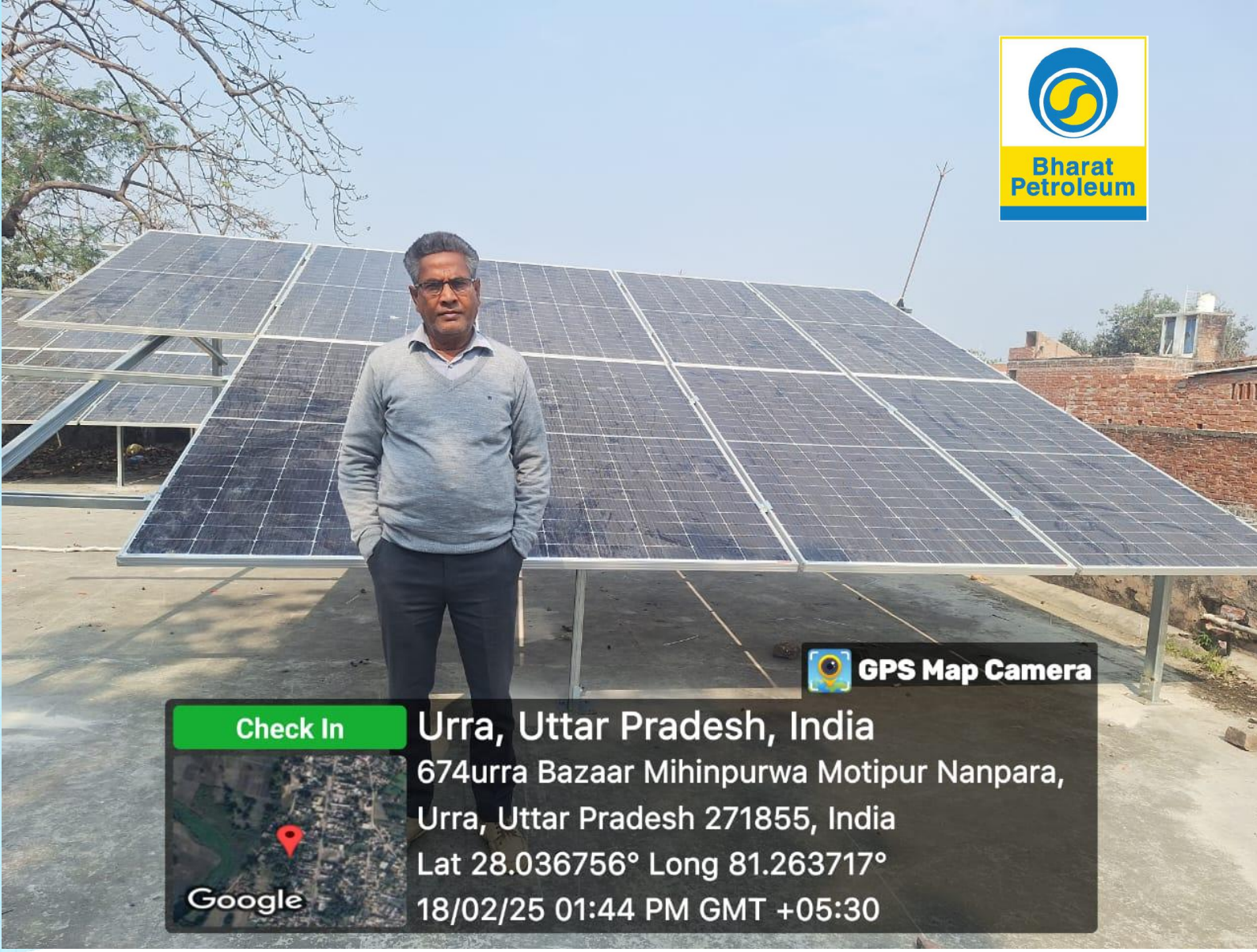

15KW Solar Plant

Progress Report- District Bahraich (U.P.)

Submitted By:

GRAMIN VIKAS SEWA SAMIT

Mohalla-Purana Dakkhana (Civil Line) Post Gandhi Nagar, District Basti (U.P.) 27200,
Mobile No.: +91 9616081836

Submitted To:

Bharay Petrolieum Corporation Limited

(BPCL)

EXECUTIVE SUMMARY

On the initiative of Shri Anand Kumar Gaur, Honorable MP of Bahraich, a 15 kW plant was set up in the Community Health Center, Mihipurwa by the Gramin Vikas Sewa Samiti.

Recognizing the need to expand the scope of other renewable and non-fossil options in sync with Bharat Petroleum Corporation Limited's plan to increase the share of solar energy in the energy mix by utilizing wastelands, rooftops and canal banks. Gramin Vikas Seva Samiti submitted a proposal to Bharat Petroleum Corporation Limited for setting up a 15 kW solar plant.

The present report is prepared to determine the feasibility and viability of installing a 15 KWp grid-connected Solar PV Power Plant. This report covers project benefits, various aspects of ground-mounted PV systems, meteorological data analysis, technology selection, location & satellite image of the project site, description of solar PV technologies, design criteria for SPV power plant including electrical equipment, plant facilities, power evacuation requirements, proposed site layout, identified location of installation and civil structure, plant cost, project implementation schedule, and Risk analysis along with tentative technical details the levelized cost of energy (in kWh) from the Solar Power plant under the guidelines of BPCL and the financials of the project.

The sun which is the source of abundant energy is being tapped in an endeavor to power the economy and transform the lives of people. However, the question uppermost in everyone’s mind is the techno-economic viability of the project.

OBJECTIVES OF THE REPORT

This report covers project benefits, various aspects of ground mounted PV systems, meteorological data analysis, technology selection, location & satellite image of the project site, description & comparison of solar PV technologies, design criteria for power plant including electrical equipment, plant facilities, power evacuation requirements, proposed site layout, identified location of installation and civil structure, plant cost, project implementation schedule along with Risk analysis. Along with tentative technical details the levelized cost of energy (in KW) from the Solar Power plant under the guidelines of BPCL and the financials of the project.

The specific objectives of the report are:

1) The considerations for going in for the proposed 15 KW PV solar project will be enumerated towards justification of the project.

2) The basis for selection of the site and least cost options as elaborated in the Feasibility Report will be brought out and discussed.

3) To detail out the plant technical features, brief specifications of the major equipment and the techno-economic justification for the technology adopted.

4) Selection of PV plant components as also detailing out the mechanical, electrical and control & instrumentation technical systems involved.

5) To establish the viability of the project from the power generation scheme and simulation results.

6) To carry out a financial analysis based on present day capital cost of plant for arriving at the levelized generation tariff.

BACKGROUND

Several Hospital including CHC and PHC and towns in the Bahraich district are experiencing a substantial growth in their peak electricity demand. Municipal Corporations and the electricity utilities are finding it difficult to cope with this rapid rise in demand and as a result most of the Hospital/towns are facing severe electricity shortages. Various industries and commercial establishments e.g. Malls, Hotels, Hospitals, Nursing homes, etc., housing complexes developed by the builders and developers in cities and towns use diesel

generators for back-up power even during the day time. These generators capacities vary from a few kilowatts to a couple of MWs. Generally, in a single establishment more than one generators are installed; one to cater the minimum load required for lighting and computers and other emergency operations during load shedding and the others for running ACs and other operations such as lifts and other power applications. Under such conditions use of grid interactive roof top and small Solar Photovoltaic systems seem to be feasible solutions. Similar solar PV system can be employed in rural areas on vacant land to feed cluster of households where space is not a constraint. The implementation of standalone system in such rural areas would give an opening to setting up of small-scale industries.

General Details Site

- ✓ Site Name : PHC/CHC Urra,Mihipurwa Bahraich,
- ✓ Location : Bahraich, Uttar Pradesh
- ✓ District - Bahraich
- ✓ Capacity : 15KW
- ✓ Latitude : 28.036922^0
- ✓ Longitude : 81263768^0
- ✓ Nearest Bus Station : Bahraich

Photo Graphs


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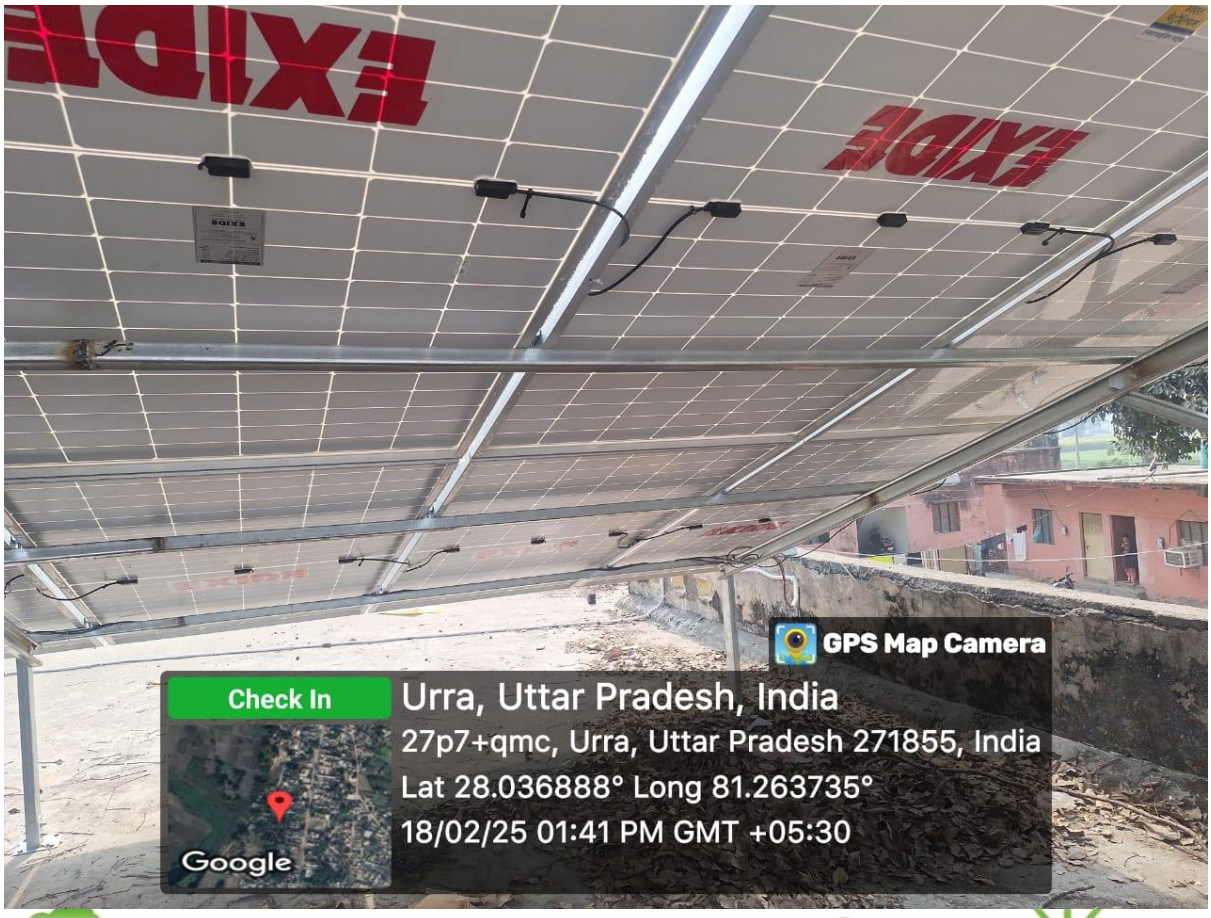
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