

2020-21

Brief Report of Solar Power Plant

Invertis University is contributing to the larger picture of effective energy conservation as it has installed solar panels on the rooftops of more than three buildings. It has assisted in lowering utility expenses to a great extent. The campus has installed 800 kWp Solar PV. Solar generation power is connected to the panel and consumed energy in-house plant. A photovoltaic power system is an electricity generating Solar PV power system that is connected to the main LT panel.

The Power Purchase Solar Agreement was made between Uttaranchal Welfare Society, B-249 Patel Nagar – 2 Ghaziabad, Uttar Pradesh and Fourth Party Energy Private Limited, 704 Krishna Apartments, Tilak Road Hyderabad on 28th January 2017.

The Plant consists of 29 inverters and 13 meters for reading. Solar panels are from Vikram Solar and the panel model number is 320. Extra Solar power Generated is exported to Madhyanchal Vidhut Nigam through Net Metering system. We also ensure the regular maintenance and working of the solar power plant and are highly committed to contributing to save energy and its resources to which we as one nation can allocate the saved resources in the development of our country.

Benefits of Solar Power Plant:

1. It has the least negative impact on the environment compared to any other energy source as it does not produce greenhouse gases and does not pollute the water.
2. Generating electricity from solar panels helps in using less electricity from the utility supplier which immediately helps in savings on your energy bill.
3. Solar energy systems have low maintenance costs and thereby only cleaning them a couple of times per year will help in maintaining their efficiency.
4. Solar panels are an eco-friendly addition that can also have wide-reaching social and cultural impacts

Total Savings :

Analysis of the data of year reflects that from July 2020 to June 2021 total 992990.8 (kWh) units were generated amounting to the savings of 6024122.

Details of Power Generation from Solar Plant

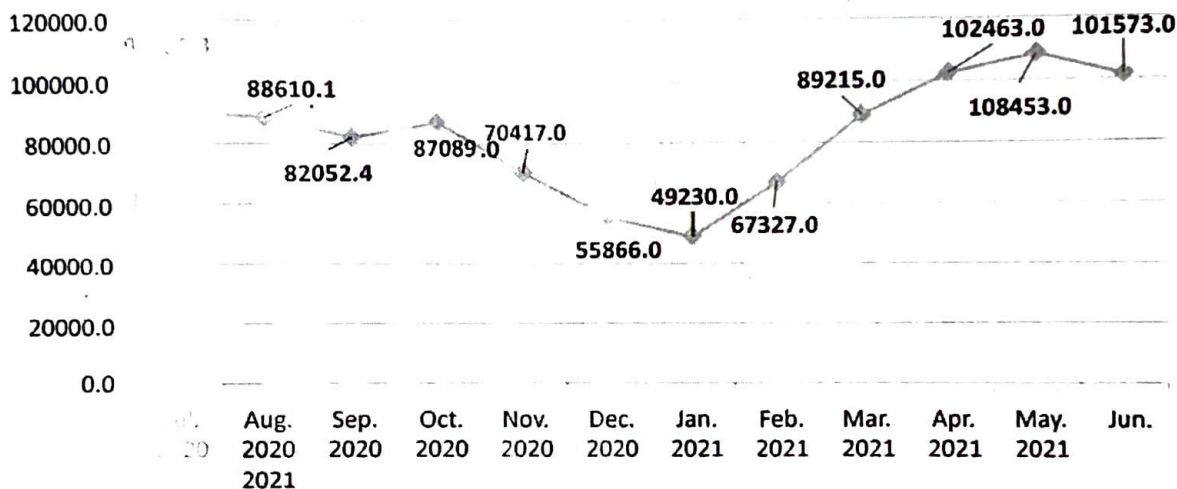
Sr No.	Month	No of days	Unit Generated (kWh)	kWh/Day	kWh/kWp /day	Amount	CUF (%)
1	Jul. 2020	31	90695.3	2925.65	3.66	545079	15.2
2	Aug. 2020	31	88610.1	2858.39	3.57	532547	14.9
3	Sep. 2020	30	82052.4	2735.08	3.42	493135	14.2
4	Oct. 2020	31	87089.0	2809.32	3.51	523405	14.6

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5	Nov. 2020	30	70417.0	2347.23	2.93	423206	12.2
6	Dec. 2020	31	55866.0	1802.13	2.25	335755	9.4
7	Jan. 2021	31	49230.0	1588.06	1.99	295872	8.3
8	Feb. 2021	28	67327.0	2404.54	3.01	404635	12.5
9	Mar. 2021	31	89215.0	2877.90	3.60	536182	15.0
10	Apr. 2021	30	102463.0	3415.43	4.27	634246	17.8
11	May 2021	31	108453.0	3498.48	4.37	671324	18.2
12	Jun. 2021	30	101573.0	3385.77	4.23	628737	17.6
		365	992990.8			6024122	14.2

Monthly Units



The units of output of a solar panel will depend on the panel efficiency and availability of sunlight in a location. The factor that defines this output is called CUF (or Capacity Utility Factor). For example, it is typically taken as 19% and the calculation of units goes as:

$$\text{Capacity Utilization Factor (C.U.F)} = \frac{\text{Actual energy from the plant(kwh)}}{(\text{Plant Capacity (kWp)} \times 24 \times 395)}$$

Solar photovoltaic technologies convert solar energy into useful energy forms by directly absorbing photons—particles of light that act as individual units of energy—and either converting the energy to electricity.

Average solar irradiation in U.P state is 1156.39 W / sq.m. 1 kWp solar rooftop plant will generate on average over the year 4.6 kWh of electricity per day (considering 5.5 sunshine hours)

The performance of Solar PV plant is national average of 17 & 19%.

Coordinator

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