

Promoting Renewable Energy at IIT (BHU) Varanasi



Greenhouse Gas Protocol (GHG Protocol)

Solar Power

The Greenhouse Gas Protocol (GHG Protocol) is a renowned tool developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) to manage greenhouse gas emissions. It offers comprehensive standards for companies to measure, report, and reduce their carbon footprint. Solar power, a renewable energy source, converts sunlight into electricity with minimal greenhouse gas emissions. Though emissions are associated with solar panel manufacturing and installation (Scope 3), they are significantly lower compared to fossil fuels. Solar power also aids in reducing indirect emissions (Scope 2) by generating clean electricity on-site. Embracing solar energy plays a vital role in sustainable practices and climate change mitigation.

Solar panel at IIT (BHU) Varanasi: IIT (BHU) Varanasi has shown commendable dedication to promoting sustainable practices and mitigating the impact of climate change. By actively embracing renewable energy solutions, particularly solar power, the institute has set an inspiring example for other educational institutions and communities to follow.

The installation of solar panels at IIT (BHU) Varanasi is a testament to their commitment to harnessing renewable energy and reducing carbon emissions. These solar installations serve multiple crucial purposes within the campus, showcasing the institution's forward-thinking approach to sustainable development.



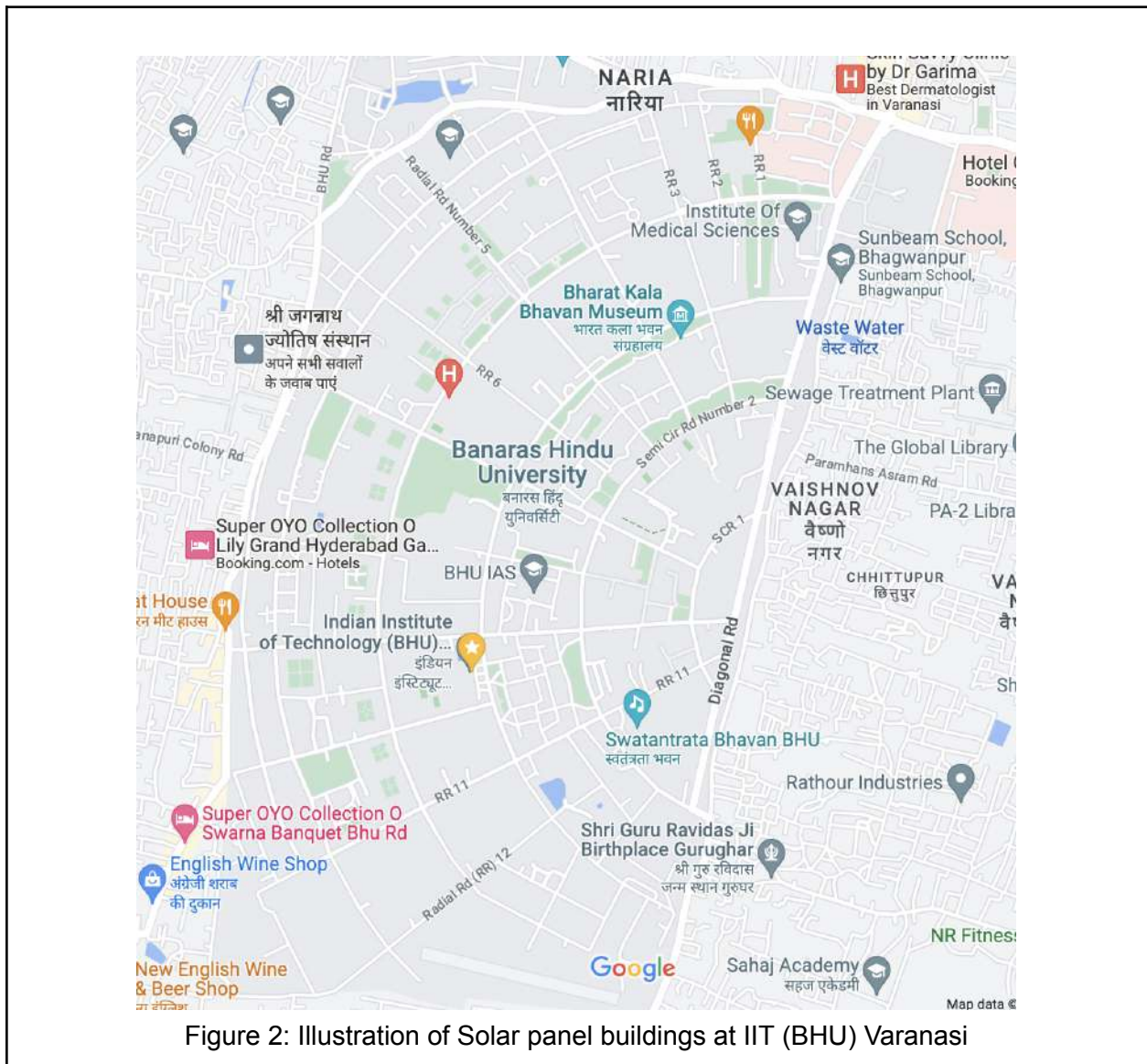
Figure 1: Illustration of Solar panel at IIT (BHU) Varanasi

Figure 1 showcases the remarkable Solar panel array at IIT (BHU) Varanasi, an impressive sight that reflects the institute's progressive mindset. With solar panels gracing ten academic buildings and departments, three hostels, and one library, the campus has become a shining example of how educational institutions can actively contribute to a greener and cleaner future. The locations of such buildings are shown in Figure 2.

These solar panels not only generate clean electricity for the institute's on-campus consumption but also power street lights, further enhancing the campus's sustainability efforts and ensuring a safer environment for all. By incorporating solar energy into their daily operations, IIT (BHU) Varanasi reduces its dependence on conventional energy sources and thereby minimizes its

carbon footprint. Table 1 illustrates the generated solar power in kWh for May 2023 at IIT (BHU) Varanasi.

The positive impact of such initiatives extends beyond the institute's boundaries. By showcasing the successful integration of solar power, IIT (BHU) Varanasi inspires and educates the broader community about the benefits of renewable energy adoption. The institute's proactive approach to sustainable practices contributes significantly to the nation's renewable energy targets and aligns with global efforts to combat climate change.



The commitment of IIT (BHU) Varanasi to renewable energy sets a precedent for other educational institutions, industries, and organizations to follow suit. As solar power becomes an increasingly viable and cost-effective solution, more entities can adopt similar initiatives, collectively contributing to a cleaner and greener planet.

Table 1: Illustration of the generated solar power in kWh for May 2023 at IIT (BHU) Varanasi.

Clean Max Enviro Energy Solutions Pvt. Ltd.



Power Name	Indian Institute of Technology Bhubaneswar
Power Address	Indian Institute of Technology Bhubaneswar University, BWO, IIT - Bhubaneswar University, Vinod Biju Prasad 221005
Solar plant total capacity	1219.3 kWp
Bill date	14 Jun 2023
Bill	
Supplier	31-May-2023

Location / Building	Capacity (kWp)	Reading Type	Current reading (A)	Previous reading (kWh (S))	Billed value (C-A-D)	Billed units (C-A-B) including Demand & Inverter	Rate per kWh (D)	Comment
IIT BHU Electrical New Bldg	88.30	Energy Meter	28645.81	18002.222	11,643.59	11,643.59	6.15	
IIT BHU Electrical Old Bldg	126.00	Energy Meter	889120.70	874993.815	14,126.89	14,126.82	6.15	
IIT BHU Civil Old Bldg	81.80	Energy Meter	149323.77	131752.350	8,571.41	8,571.41	6.15	
IIT BHU Civil New Bldg	53.00	Energy Meter	138620.68	132224.690	9,605.99	9,605.99	6.15	
IIT BHU Chemistry Bldg	119.70	Energy Meter	822077.94	810807.813	11,995.13	11,995.13	6.15	
IIT BHU Chemistry Building	77.30	Energy Meter	914302.72	309744.70	4,537.97	4,537.97	6.15	
IIT BHU Mechanical Building	113.40	Energy Meter	749094.3	749088	8,525.50	8,525.50	6.15	
IIT BHU PIAJMDA CV Bldg	151.20	Energy Meter	989705.25	874894.76	13,765.50	13,765.50	6.15	
IIT BHU Ceramic	88.20	Energy Meter	668862.38	858474.126	10,488.26	10,488.26	6.15	
IIT BHU Mining	214.20	Energy Meter	710280	774213	6,667.60	6,667.60	6.15	
IIT BHU Agribhata	338.50	Energy Meter	476287	489738	16,472.89	16,472.89	6.15	
IIT BHU Virology & Hand	88.20	Energy Meter	872383.44	858915.370	12,753.68	12,753.68	6.15	
IIT BHU Virology & Hand	88.20	Energy Meter	68806.68	604954.120	13,852.70	13,852.70	6.15	
IIT BHU S N Bose Hall	63.00	Energy Meter	425180.5	412648.913	7,604.69	7,604.69	6.15	
IIT BHU S N Bose Hall	63.00	Energy Meter	142297.88	135991.094	6,366.79	6,366.79	6.15	
IIT BHU Library	63.00	Energy Meter	92347.7	90833.352	4,444.35	4,444.35	6.15	
Total	1,578.30		82,29,692.00	80,67,711.00	1,41,380.00	1,41,380.00		



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