

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.



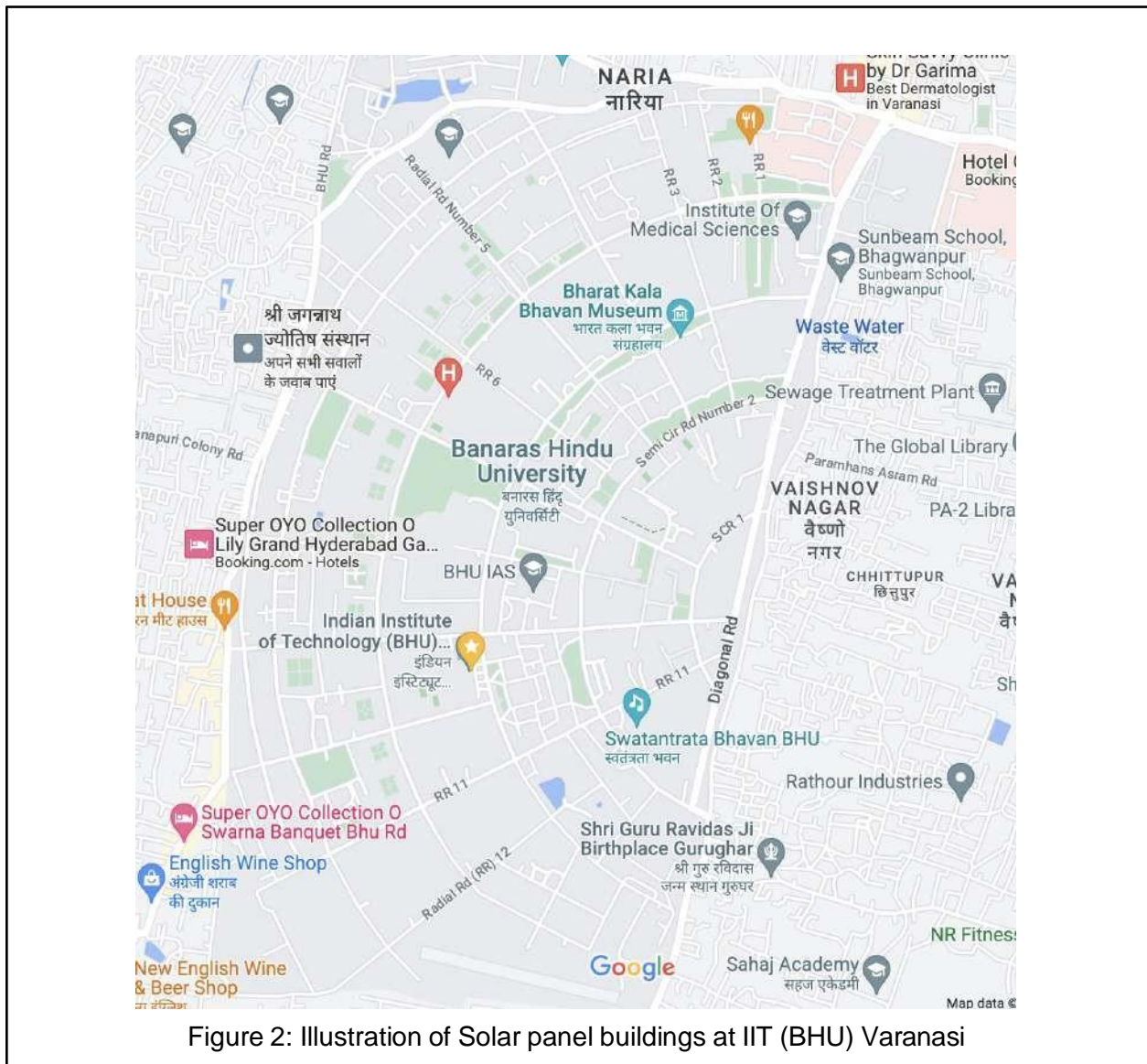
Figure 1: Illustration of Solar panel at IIT (BHU) Varanasi

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 2024 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 2024 at IIT (BHU) Varanasi.

Max Enviro Energy S

Clean Max Enviro Energy Solutions Pvt. Ltd.



IIT BHU Electrical New Bldg								
IIT BHU Electrical Old Bldg								
IIT BHU Cvd Old Bldg								
IIT BHU Cvd New Bldg								
IIT BHU Electronic Bldg								
IIT BHU Chemistry Building								
IIT BHU Mechanical Building								
IIT BHU PHARMACY Bldg								
IIT BHU Ceramic								
IIT BHU Mining Bldg								
IIT BHU Arvabhata Hostel								
IIT BHU Vivekananda Hostel								
IIT BHU S N BOSE Hostel								
IIT BHU Library and Director Bldg								
Total								
Payee Name	Indian Institute of Technology Hindu University							
Payee Address	Indian Institute of Technology Banaras Hindu University, IIT - Banaras Hindu University, Varanasi Uttar Pradesh							
Solar plant total capacity	1518.3kWp							
Bill date	25 May 2024							
Bill Supplies upto	30-Apr-24							
Location/Building	Capacity (kWp)	Reading Type	Current reading (A)	Previous reading kWh (B)	Billable units (C= A-B)	Billable units (C= A-B) including Deemed & Inverter	Rate per kWh (D)	Comment
IIT BHU Electrical New Bldg	88.20	Energy Meter	122557.66	109746.98	12,810.68	12,810.68	6.15	
IIT BHU Electrical Old Bldg	126.00	Energy Meter	899190.25	895075.94	4,114.31	4,114.31	6.15	
IIT BHU Cvd Old Bldg	81.90	Energy Meter	211930.63	203938.27	7,992.36	7,992.36	6.15	
IIT BHU Cvd New Bldg	63.00	Energy Meter	221592.13	214408.88	7,183.25	7,183.25	6.15	
IIT BHU Electronic Bldg	119.70	Energy Meter	918540.06	904217.83	14,322.43	14,322.43	6.15	
IIT BHU Chemistry Building	37.80	Energy Meter	26929.84	21978.72	4,951.12	4,951.12	6.15	
IIT BHU Mechanical Building	113.40	Energy Meter	822487.56	821899.31	588.25	588.25	6.15	
IIT BHU PHARMACY Bldg	151.20	Energy Meter	1083256.5	1072231.13	11,025.37	11,025.37	6.15	
IIT BHU Ceramic	88.20	Energy Meter	756081.75	748202.75	7,879.00	7,879.00	6.15	
IIT BHU Mining Bldg	214.20	Energy Meter	820365.79	819503.25	862.54	862.54	6.15	
IIT BHU Arvabhata Hostel	220.50	Energy Meter	615699.2	597967.89	18,131.51	18,131.51	6.15	
IIT BHU Vivekananda Hostel	88.20	Energy Meter	975697.63	963527.25	12,170.38	12,170.38	6.15	
IIT BHU S N BOSE Hostel	63.00	Energy Meter	820761	805096	15,665.00	15,665.00	6.15	
IIT BHU Library and Director Bldg	63.00	Energy Meter	505042.41	495305.63	9,736.78	9,736.78	6.15	
IIT BHU S N BOSE Hostel	63.00	Energy Meter	204220.63	199294.55	4,926.08	4,926.08	6.15	
IIT BHU Library and Director Bldg	63.00	Energy Meter	130471.15	126154.93	4,316.22	4,316.22	6.15	
Total	1,518.30		9244824.19	90,88,144.91	1,56,679.28	1,56,679.28		

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