
Energy Audit Certificate

This to certify that an Energy Audit for Siddhinath Mahavidyalaya, established in 2013, a Govt. of West Bengal aided co-educational undergraduate college affiliated to Vidyasagar University, located in Panskura-1 Block in the Purba Medinipur district of West Bengal, was conducted during January 2023 – April 2023 to assess energy consumption, cost, availability, energy conservation technologies installed within the campus.

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EHS Auditor

Dt. 16 Nov. 2023

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EHS INTERNAL AUDITING
(ISO 14001:2015 & ISO 45001:2018)

Energy Audit Report

of

Siddhinath Mahavidyalaya

Vill+P.O.-Shyamsundarpur Patna, P.S.-Panskura, Dist.-Purba
Medinipur, Pin-721139, State - West Bengal, India

(affiliated to Vidyasagar University)

30 April 2023

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EHS Auditor

(ISO 14001:2015 & ISO 45001:2018)

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Scope

Energy consumption by equipment/ appliances in buildings and outdoor places

Aims and Objectives

1. To assess energy consumption and energy management plans of Siddhinath Mahavidyalaya.
2. To identify the energy efficiency, conservation and energy savings opportunities within the premises

Observation***1. Units consumed from the State Electricity Board supply***

The electrical equipment are located in college campus that includes faculty room, principal cabin, office, library, classrooms, student common room, canteen, open ground, washrooms and support services storage etc.

The Figure 1, shows the consumption pattern, which is based on the data provided by the college.

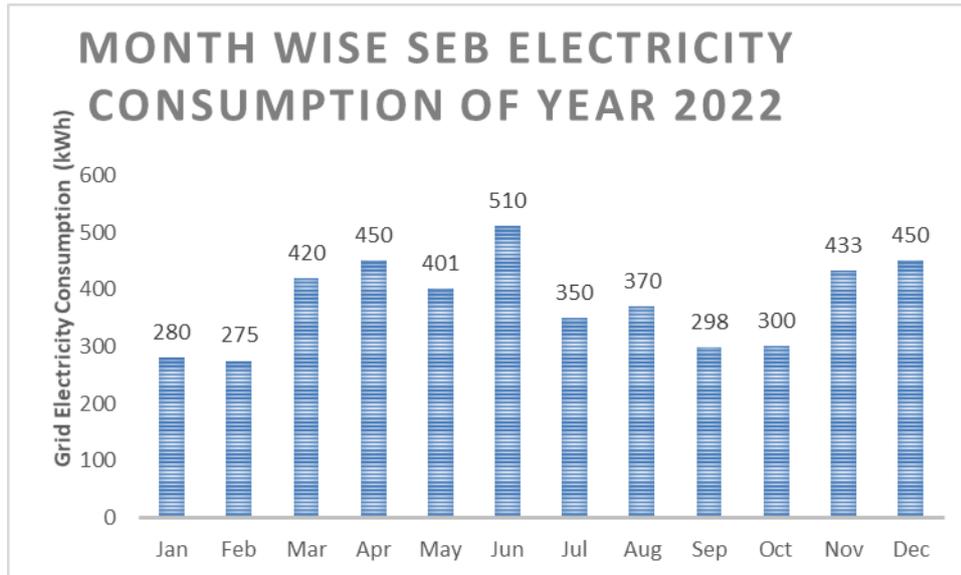


Figure 1: Energy consumed by electric equipment in the year 2022

The college has installed solar power plant. The energy harnessed in Year 2022 is provided in Figure 2.

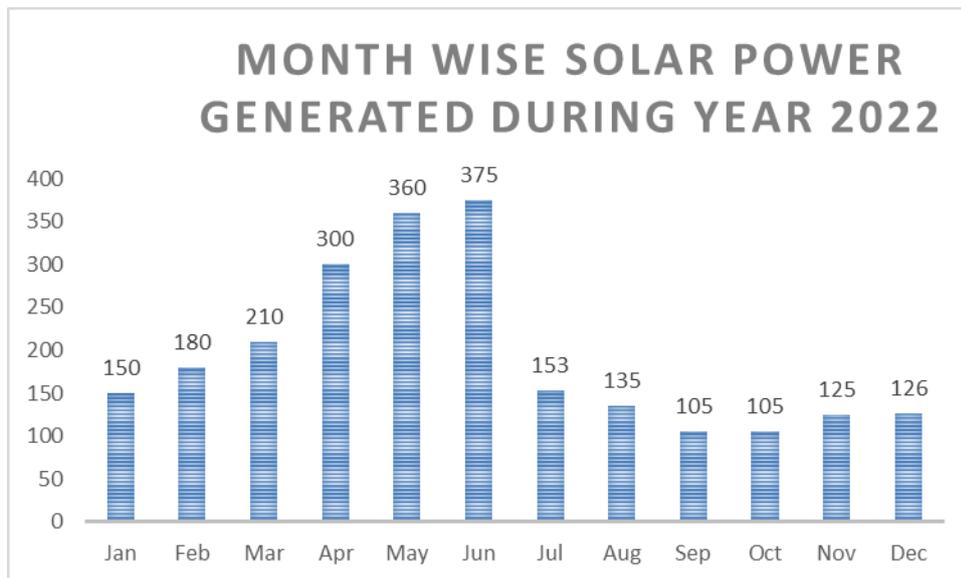


Figure 2: Solar plant and Solar powered equipment output, year 2022

2. Inventory Analysis

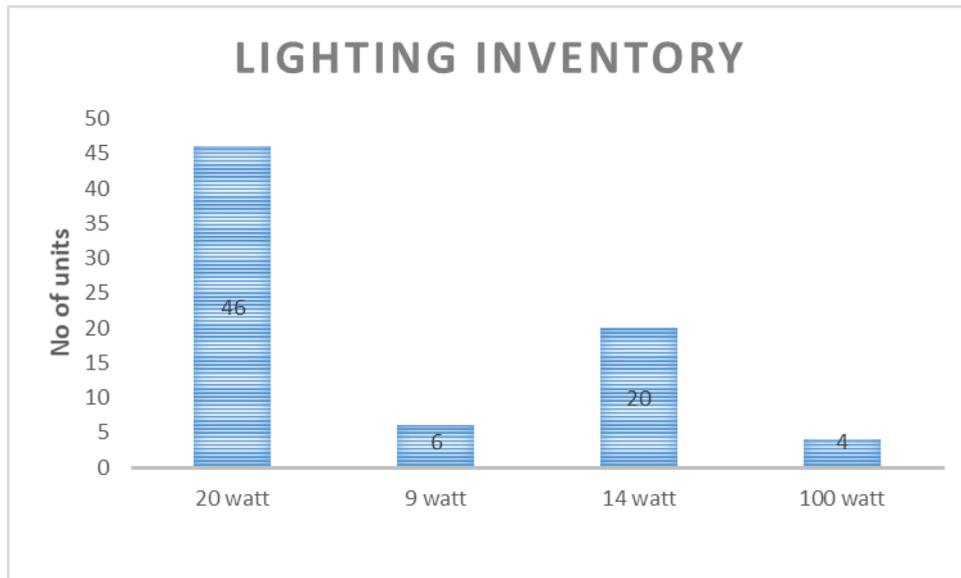


Figure 3: Consumption by lighting units within campus of Siddhinath Mahavidyalaya, Panskura.

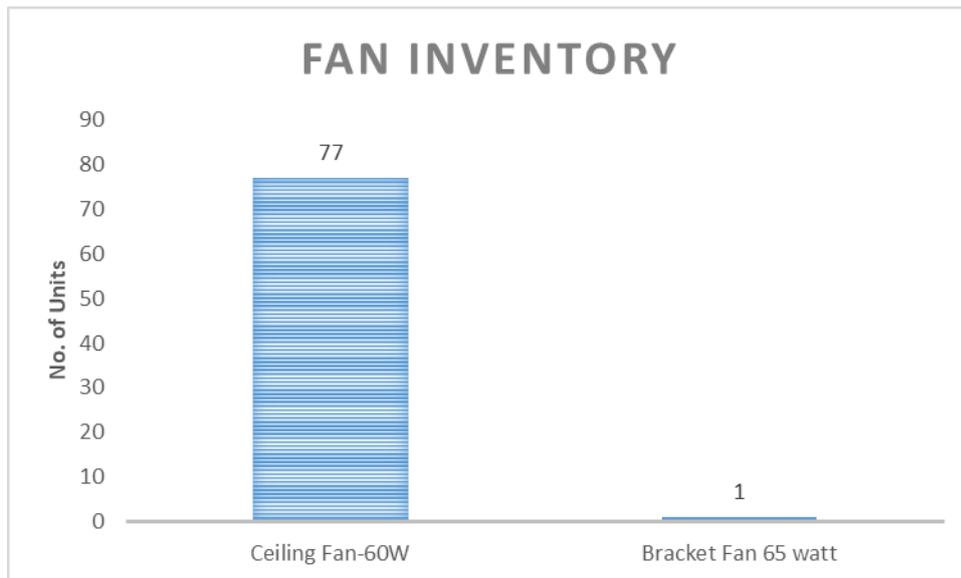


Figure 4: Consumption by Fan within campus of Siddhinath Mahavidyalaya, Panskura.

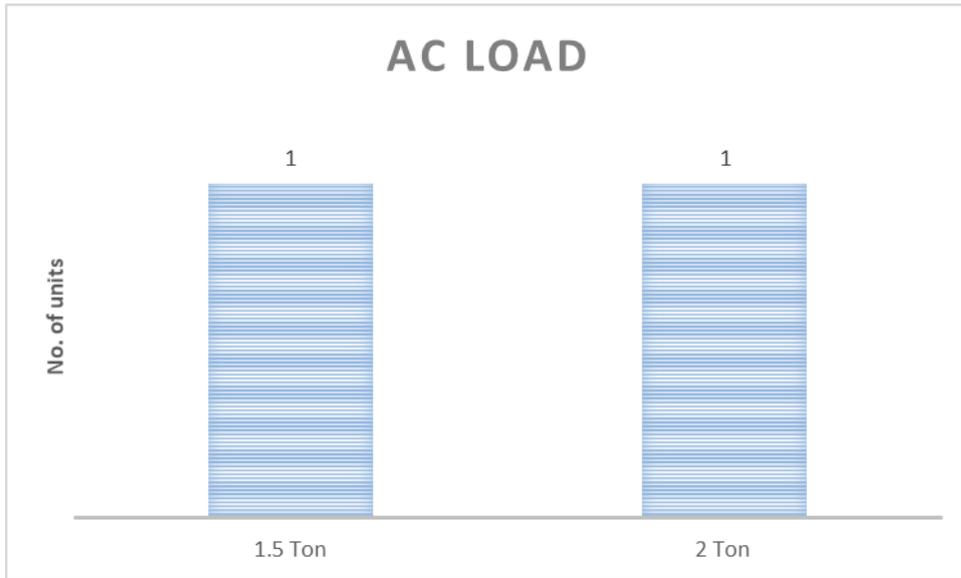


Figure 5: Consumption by AC units within campus of Siddhinath Mahavidyalaya, Panskura.

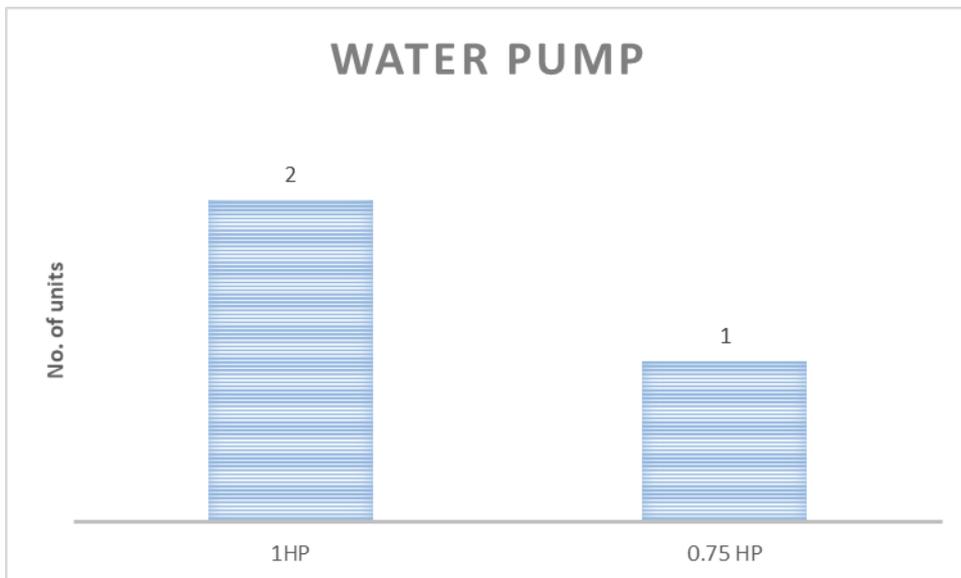


Figure 6: Consumption by motors used for pumping water

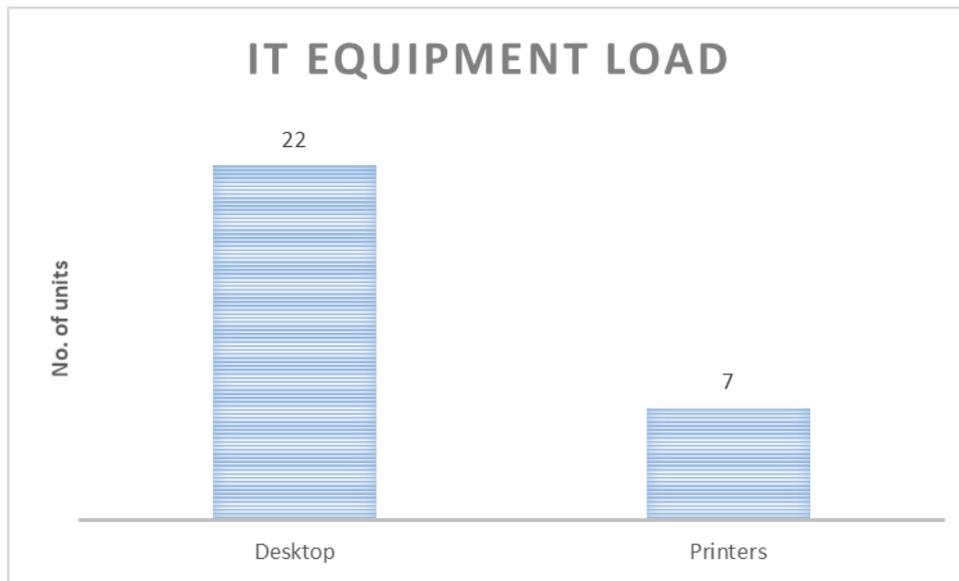


Figure 7: Consumption by electronic appliances used specifically for IT

3. Energy Consumption

Table 1: Annual consumption by electrical appliances and equipments within campus of Siddhinath Mahavidyalaya, Panskura.

Sl. No.	Appliances and Equipment's annual usage	Energy Consumption (kWh) per yr., approx.
A	Lighting Inventory (180 days, 6h / day)	
	20 watt	994
	9 watt	58
	14 watt	302
	100 watt	432
B	Fan inventory (7 months, 4h/day, 20 day/ month)	
	Ceiling Fan-60W	2587
	Bracket Fan 65 watt	36
C	AC inventory (4 months, 20 day/ month, 4 h/ day)	
	1.5 Ton	480
	2 Ton	640
D	Water Pump inventory (2h, 280 days)	
	1HP	418
	0.75 HP	209
E	IT equipment inventory (2h,150 days)	
	Desktop	1320

	Printers	105
F	Other load taking units	–
	Water Chiller	–
	Drinking Water Purifier	–
G	Grand Total (A+B+C+D+E+F)	7,581

4. Recommendations

Power consumption depends on the extent of use and the energy rating of the appliances / equipment. Higher star ratings indicate greater energy efficiency, meaning the appliances will use less electricity.

1. During next purchases, tenders may be floated to procure appliances of BEE, above three star, rating to reduce energy consumption.
2. Installation of sensor based electrification items like fans, lights, pump etc. can save energy.
3. Communicating the awareness, to all stakeholders, that unnecessary use of lights, fans and computers at places where no one is doing any work, may reduce energy consumption.
4. Availing the opportunity to install rooftop solar panel off-grid/ on-grid system may reduce the dependence on the power supply by the State Electricity Board.