



Energy Audit Report

Dada Ramchand Bakhru Sindhu
Mahavidyalaya, Nagpur (Year 2022-23)

Prepared by



Onkar Services

Aggregators of National & International Quality Audits




Officiating Principal
Dada Ramchand Bakhru
Sindhu Mahavidyalaya, Nagpur-17

Acknowledgement

We at Onkar Services, Nagpur, express our sincere gratitude to the management of DRB Sindhu Mahavidyalaya, Nagpur for awarding us the assignment of Energy Audit of their college premises.

We are also thankful to academic & administrative staff members for helping us during the field measurements.

We hope that the recommendations stated in this report will be useful and worthy of discussions to take things forward to help implementation of energy conservation measures through energy savings. While we have made every attempt to adhere to high quality standards, in both data collection and analysis through the report, we would welcome your suggestions so as to improve upon this report further.

vUdar

Vaishali Udar

Director,
Onkar Services, Nagpur




Officiating Principal
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Sindhu Mahavidyalaya, Nagpur-17

Executive Summary

After the Field measurements & analysis, we present herewith important observations made and various measures to reduce the Energy Consumption & mitigate the CO₂ emissions. College consumes Energy in the form of Electrical Energy used for various gadgets, Office & other facilities.

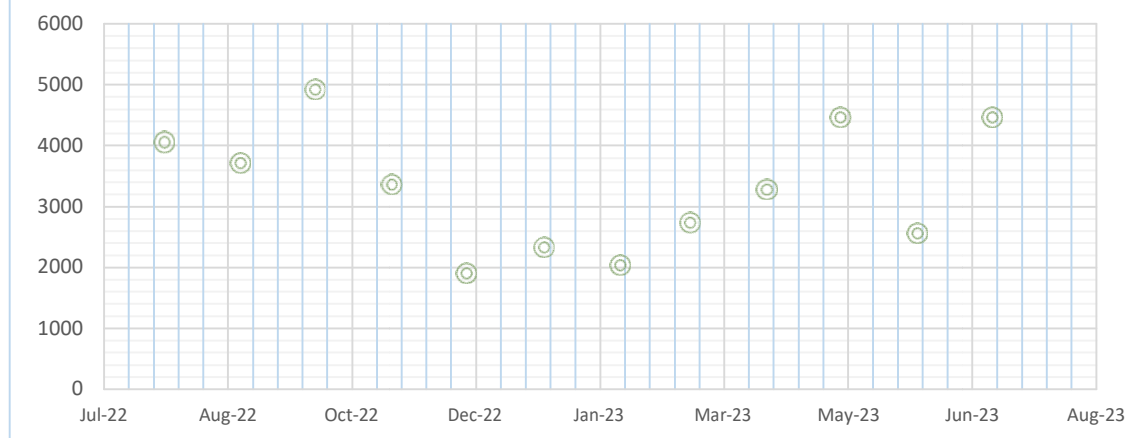
Present Energy Status

Number of Electricity Board meters /Sources : 05 (02 Three Phase + 03 single Phase)

Installed : Across time line of 50 years

Analysed consumption :

Total Consumption



Total CO₂ Emission (Metric Tonne)

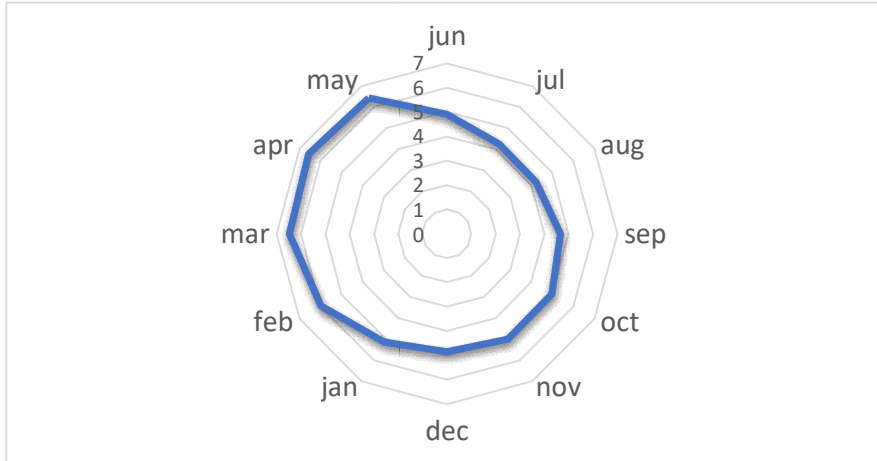


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Grid Connected Rooftop System (GCRT)

Capacity 13 kW

Analysed Generation



Solar Rooftop Calculation

Average solar irradiation in MAHARASHTRA state is 1266.52 W /sq.m












1kWp solar rooftop plant will generate on an average over the year 5.0 kWh of electricity per day

1. Size of Power Plant	13kW
2. Cost of the Plant :	
MNRE current Benchmark Cost (without GST) :	Rs. 38236 Rs. / kW
3. Total Electricity Generation from Solar Plant :	
Annual :	19500kWh
4) Financial Savings :	
Tariff @ Rs.8/ kWh (for top slab of traffic) - Monthly :	Rs. 13000
Carbon dioxide emissions mitigated is	400 tonnes
This installation will be equivalent to planting	640 Teak trees over the life time. (Data from IISc)
Disclaimer: The calculation is indicative in nature. Generation may vary based on maintenance condition & location.	




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Energy Conservation Status

Usage of STAR Rated ACs at new installations	 
Usage of STAR Rated Laboratory Equipment	
Usage of STAR Rated Computer / Gadgets	 
Usage of LED lights at indoor / outdoor locations	
Usage of sensor based lighting	 
Usage of power efficient fan	 
Earthing	



Available / Good



Good on energy consumption, needs recycling



Proposed replacement in Phases



Needs improvement



Continue practice to replace old electrical lighting with New LED / BLDC systems

New distribution panel and re-segmentation of load, is needed

Solar Power generation should be increased by 15 kW additional along with high earthing

Automation & sensor based gadgets can be incorporated wherever necessary & feasible

Next Energy Audit is suggested only after major changes or after end 2 years validity of this report.




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