

ENERGY AUDIT

Certificate by

ADYA ENVIRONMENTAL SERVICES

Flat No - I, Wing A, Mukti Park, Vanjarwadi, Baramati, Pune -413102

Registration number - 1931000312846203, GSTNIN - 27BIIPMID7961Z4

This Certificate is presented to: Rayat Shikshan Sanstha's Savitribai Phule Mahila Mahavidyalaya, Satara for successfully completing the Energy Audit. An Audit was performed in March-April 2025.

Adya Environmental Services

Proprietor

Awarded on: 21/4/2025



ENERGY AUDIT REPORT

2024 - 2025

Prepared for
Rayat Shikshan Sansta's
Savitribai Phule Mahila Mahavidyalaya, Satara

Prepared by
Adya Environmental services, Baramati

Adya Environmental Services



Proprietor

Submitted on 21st April 2025





Adya Environmental Services

FLAT NO 1 WING A MUKTI PARK, VANJARVADI, BARAMATI, PUNE- 413102

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We dare to walk thin green line

Date: 21st April 2025

To,

The Principal

Rayat Shikshan Sanstha's

Savitribai Phule Mahila Mahavidyalaya

Subject: Detailed Green/Environmental and Energy Audit at your College.


Respected Sir,

Based on field visit, Environmental baseline data collection, field study and our discussion, we are pleased to submit herewith Combined Green/Environmental and Energy Audit Report. We are thankful for your timely help and contribution towards making this Report.

Thanking you

Rupali A More

Adya Environmental Services


Proprietor



ENERGY AUDIT

ENERGY SCENE

Primary source of energy at SPMM is electricity. Electricity is used for all electrical appliances like lighting, fan, pumps, computer and lab instruments. Also water is used for drinking, domestic & gardening purpose.

ENERGY: SOURCES & UTILIZATION

Primary energy / natural resources utilized at the service center are electricity & water. These sources are consumed for the generation of motive power and water for drinking, washing & domestic usage, gardening respectively. The source of electrical power for the service center is from MSEDCL grid

Objectives

- Collect historical data to analyze background activities
- Collect & analyze monthly billing data & energy consumption data for the period of one year.
- Review on billing demand, load factor, etc. and suggest method to reduce maximum demand

Monthly Electricity Consumption of College building Electricity bill analysis

Sr. No.	Months	Average Units Consumed (kWh)	Bill Amount
1	MARCH 2025	1275	12606.24
2	FEBRUARY 2025	595	6290.34
3	JANUARY 2025	649	6888.8
4	DECEMBER 2024	0	464
5	NOVEMBER 2024	967	9989.11
6	OCTOBER 2024	567	6089.35
7	SEPTEBER 2024	631	6713.31
8	AUGUST 2024	0	464
9	JULY 2024	0	464
10	JUNE 2024	0	464
11	MAY 2024	426	4688.91
12	APRIL 2024	1109	10691.36

Sr. No.	Parameter	Value	Unit
1	Sanctioned demand	15	KW
2	Avg. Unit Consumption	518	Units/month
3	Avg. Unit Consumption by college (Electricity bill) 2024 (before Installation of Solar Power unit)	1473	Units/month
4	Average monthly bill	5484	Rs/Month
5	Average unit consumption per day (Electricity bill)	17	Unit/day
6	Overall Calculated Energy requirement (Electricity audit)	23	Unit/day

Electricity bill analysis

WATER

For water quantification there is no any metering system available at building section.

Water flow meter has to install at all major water line for recording consumption of water.

LEVEL OF AWARENESS

College should organize different training programs for general awareness. Trainings on energy conservation are not found on records. It should be ensured that everyone knows the operating energy conservation parameters

The electricity bill consists of following parts

- Demand charges
- Unit charges•
- Time of Day Charges
- Other charges, which cannot be controlled
- Load factor is an indicator to assess if the billed maximum demand charges can be reduced. The monthly load factor is calculated as follows:
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SHARE OF NON-CONVENTIONAL ENERGY RESOURCES

- Solar water heater system is being used for Girls hostel.
- Solar Power generation unit of 15 KW is installed in May2023



Solar power generation @SPMM

A STEP BY SPMM TOWARDS SUSTAINABLE ENERGY

SPMM is increasingly focusing on sustainability and renewable energy innovation. Integrating solar energy is crucial for educational institutes, offering multiple benefits: reducing greenhouse gas emissions, promoting environmental responsibility, and providing a reliable energy source that reduces dependency on fossil fuels.

TRANSFORMING EDUCATIONAL INSTITUTES INTO SOLAR POWERED GREEN SOLUTIONS HAS WIDE-RANGING IMPACTS:

SOCIAL: Raises environmental awareness, promotes eco-friendly practices, reduces air pollution and engages the community, reduces air pollution and engages the community.

ECONOMIC: Lowers electricity costs, creates local jobs, and enhances energy independence.

EDUCATIONAL: Provides practical STEM learning. Supports reliable power in rural areas, and integrates renewable energy in curriculum.

CULTURAL: Fosters environmental stewardship and promotes inclusivity in education.

Conclusion:

- Average monthly MAHADISCOM average unit's consumption before solar power installation i.e before 1st May 2023 was high. Average monthly consumption shown by current electricity bill is much lower. Moreover SPMM exports its extra solar power Units to MAHADISCOM.
- Renewable Energy emits less CO₂ than fossil fuels. In fact, renewable like solar power –apart from construction and maintenance don't emit any Co₂ at all. Educational institutes serve as a platform for educating students and promoting awareness on environmental issues as well as inspiring action towards sustainable development. Using renewable options like Solar PV system as well as walking on 5Rs steps of waste management, we can create a more sustainable and comfortable world for generations to come.

Recommendations:

1. College should do water pumping in the hours of 4am to 6 am OR 10pm to 12pm to minimize its unit charges.
2. We can see the reduction in electricity bill after solar PV installation. There is still chance for reduction in electricity bills. Considerable savings can be realized by monitoring power use.
3. College should organize training programs for general awareness on energy conservation.