

Report

On

GREEN, ENERGY & ENVIRONMENT AUDIT

For

Ramanand Arya D A V College
Bhandup, Mumbai

Prepared

By

Senergy Consultants Pvt Ltd
Mumbai

April - 2026

Helping You to Conserve Energy

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I Introduction

Green & Energy Audit was undertaken Ramanand Arya D A V College, Bhandup Station Road, Bhandup C G S Colony, Bhandup East, Mumbai 400042 during the month of March 2026.

The organization is very keen to promote green culture wherever possible, as a commitment towards better environment and conservation of energy. A lot of efforts have already been put up to bring down the carbon footprint. To further optimize consumption and identify saving opportunities, M/s Senergy Consultants was assigned to carry out Green & Energy Audit of the premises.

This Audit Report presents the analysis of the data collected, observations made at the facility and is governed by the objectives, scope of work, methodology etc. discussed in the ensuing paragraphs.

Team:

The team members of the audit study.

- Mr. Ravindra Datar
- Mr. Nitesh Kharche
- Mr. Vivek Pawar
- Mr. Nitin Chavan

Acknowledgment:

We wish to express our gratitude towards Dr. Balachandra Shetty (Principal) and Mr. Padmakar Mane (Administrator) for having given us the opportunity for conducting the study and the support provided during the study.

We are also thankful to Mr. R. Kathiresan (Assistant Professor) and Ms. Shraddha Ghorpade (Assistant Professor) for extending the necessary help and co-operation from their side.

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II

Executive Summary

The premises were evaluated against the various criterions laid down by the National Assessment and Accreditation Council (NAAC). The major observations are.

Renewable Energy

- A 20 kWp Solar Photovoltaic System has been installed with net metering facility to generate clean and renewable power.
- The quantity of plate waste (organic waste with higher starch contents) is negligible, consequently, there is no potential for biogas generation.
- There is no application of solar thermal system and does not find attractive in this case.

Air Quality & Ventilation

- The classrooms and other area are well ventilated to ensure proper air quality.
- The fans are appropriately installed to ensure proper air circulation.
- The outdoor plants have been provided to improve the environment.
- The air-conditioned rooms are provided with proper ventilation and fresh air.

Lighting System

- The usage of natural light is optimized through well designed structure and windows.
- Almost all the conventional lights are replaced with Energy Efficient LED lights.
- It is suggested to automate the switching of lamps in the common areas and washrooms with sensor-based control.

Green Campus Initiative

- The movement of vehicle inside the campus is restricted with vehicles of staff and special dignitaries are allowed to enter the campus till designated parking area.
- The usage of plastic (80-90%) is banned inside the campus.
- The campus is surrounded with a lot of greenery, trees, and proper landscaping.
- Pedestrian friendly pathways have been constructed for easy movement inside the campus.
- The college has internal committee for conservation of resources like energy, water.
- The student participation may be encouraged in such activities through student clubs and groups.

Environment & Energy Initiative

- The college has formed internal committees and student groups / clubs for promoting environmental and conservation activities.
- Social and Sustainability Committee and Green Club have implemented an innovative and eco-friendly practice to promote environmental sustainability.
- Various Eco-Friendly activities like Exhibition on Climate Change were undertaken by students and staff members.

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- In March 2026, the Green Club conducted a water audit and awareness drive using posters and slogans, along with regular monitoring to prevent leakages and ensure efficient water management.
- In September 2025, the Green Club organized a beach cleanup drive in collaboration with Bisleri, including a post-Ganpati Visarjan cleanup, promoting a cleaner and healthier environment.
- In November 2025, the Green Club initiated a compost pit activity, later maintained daily from November to April by adding water and flower waste, promoting waste reduction and eco-friendly practices.
- A plastic collection drive was conducted to promote environmental sustainability and reduce plastic waste on campus.

Water Quality & Conservation

- The water supplied by the Municipal corporation is used only for drinking & other applications like toilets, washing of utensils and other requirements.
- Water purifiers & coolers are provided at convenient locations.
- The toilets are provided with water efficient (low usage) fittings.
- The distribution network and piping are satisfactory and adequate.

Waste Management

- The sewage / effluent water is discharged in the common municipal drain, which is a common practice in and around Mumbai & Navi Mumbai.
- The organic waste may segregate and converted into manure by installing the composting pits.
- The general solid waste is disposed through municipal corporation.

Air Conditioning System

- The Air Conditioners are operated as required with manual control. The operation is minimal consequently automation may not be economical.
- The room temperature is maintained at 24 to 25 °C, which is well within the recommended values.
- The Air Conditioners are serviced regularly and properly maintained.
- Most of the Air Conditioners units are energy efficient with star rating of 3 and above.

Infrastructure usage

- Ramps are provided on the ground floor to address the needs of differently abled persons.
- The special toilet is available to address the needs of differently abled persons.
- There were no seepages observed in the building premises.
- The on-campus movement is distributed with multiple entrances as well as staircases.
- There are adequate fire extinguishers located in key areas.
- The draining system for washrooms is efficient and effective.

Green IT culture

- The Energy efficient computers and laptops have been procured.
- The electronic communication is encouraged to minimize usage of papers.
- Most of the papers are reused for doubled sided printing to further minimize usage of paper.

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III Electrical Gadget

Lamps:

Location	LED			TL
	15 W	22 W	27 W	36 W
Ground Floor				
Hall	-	40	-	-
MSEB Office	-	-	-	1
Administration Office	-	21	-	-
Gents Washroom	-	2	-	2
VP Room	4	-	-	-
VP Room Jr. college	-	8	-	-
Server Room	-	1	-	-
Staff Room	21	9	9	20
NSS Room	-	-	-	1
MSEB Cabin	-	-	-	1
Common Room	-	-	-	6
Conference Room	-	4	-	14
Principal Cabin	10	3	8	0
Mini Conference Room	-	-	16	-
Computer Lab-1	-	7	4	10
ICT RN 8	-	4	4	-
ICT RN 10	-	4	4	15
Corridor-1	-	-	4	15
Corridor-2	-	6	6	15
First Floor				
Room No. 101	-	-	-	4
Room No. 102	-	-	-	4
Room No. 104	-	-	-	2
Room No. 105	-	-	-	4
Room No. 106	-	-	-	12
Room No. 107	-	-	-	12
Room No. 108	-	-	-	2
Room No. 109	-	-	-	8
Room No. 110	13	-	-	21
Corridor 1	-	-	-	9
Second Floor				
Room No. 201	-	-	-	4
Room No. 202	-	-	-	4
Room No. 203	-	-	-	4
Room No. 204	-	-	-	6

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Location	LED			TL
	15 W	22 W	27 W	36 W
Room No. 205	-	-	-	6
Room No. 206	-	-	-	6
Room No. 207	-	-	-	6
Room No. 208	-	-	-	1
Room No. 209	-	-	-	4
Room No. 210	-	-	-	5
Room No. 211	-	-	-	2
Room No. 212	-	-	-	42
Corridor-1	-	-	-	5
Corridor-2	-	-	-	5
Third Floor				
Room No. 301	-	-	-	4
Room No. 302	-	-	-	4
Room No. 303	-	-	-	4
Room No. 304	-	-	-	4
Room No. 305	-	-	-	5
Room No. 306	-	-	-	5
Room No. 307	-	-	-	6
Room No. 308	-	-	-	6
Room No. 309	-	-	-	6
Room No. 310	-	-	-	2
Room No. 311	-	-	-	1
Room No. 312	-	-	-	4
Room No. 313	-	-	-	24
Corridor-1	-	-	-	6
Fourth Floor				
Room No. 401	-	-	-	4
Room No. 402	-	-	-	5
Room No. 403	-	-	-	6
Room No. 404	-	-	-	6
Room No. 405	-	-	-	6
Room No. 406	-	-	-	6
Room No. 407	-	-	-	6
Room No. 408	-	-	-	6
Room No. 409	-	-	-	6
Room No. 410	-	-	-	2
Room No. 411	-	-	-	1
Room No. 412	-	-	-	5
Corridor-1	-	-	-	7
Total	48	109	55	425

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Observations and Recommendations:

- The illumination level is generally as per the norms; the illumination level is higher mainly due to usage of daylight.
- Almost all the conventional lamps are replaced with Energy Efficient LED lamps.
- The lamps are strategically located to optimize usage of daylight.
- The use of daylight has been maximized through windows.
- The practice of switching off the lamps in the unoccupied areas has been followed.

Ceiling Fans:

Location	Rating W	Quantity (Nos)
Ground Floor		
Hall	50	12
MSEB Meter Room	50	1
Corridor 1	50	1
Conference Room	50	1
V.P Room	50	2
Office	50	14
Server Room	50	1
Staff Room	50	11
NSS Room	50	1
MSEB Cabon	50	2
Boys Common Room	50	0
Conference Room	50	4
Principal Cabin	50	1
Corridor 2	50	1
ICT Room No. 7	50	6
ICT Room No. 8	50	10
ICT Room No. 9	50	7
ICT Room No. 10	50	9
First Floor		
Room No. 101	50	9
Room No. 102	50	9
Room No. 103	50	9
Room No. 104	50	2
Room No. 105	50	8
Room No. 106	50	9
Room No. 107	50	6
Room No. 108	50	2
Room No. 110	50	26
Corridor	50	2
Second Floor		
Room No. 202	50	9
Room No. 204	50	6
Room No. 205	50	6

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Location	Rating W	Quantity (Nos)
Room No. 206	50	6
Room No. 207	50	3
Room No. 211	50	2
Room No. 212	50	28
Washroom	50	2
Third Floor		
Room No. 301	50	2
Room No. 302	50	9
Room No. 303	50	9
Room No. 304	50	9
Room No. 305	50	5
Room No. 306	50	5
Room No. 307	50	5
Room No. 308	50	5
Room No. 309	50	5
Room No. 310	50	1
Room No. 311	50	1
Room No. 312	50	3
Room No. 313	50	9
Fourth Floor		
Room No. 401	50	9
Room No. 402	50	9
Room No. 403	50	9
Room No. 404	50	9
Room No. 405	50	6
Room No. 406	50	6
Room No. 407	50	6
Room No. 408	50	6
Room No. 409	50	6
Room No. 410	50	2
Room No. 411	50	1
Room No. 412	50	2
Room No. 413	50	2
Total		369

Observations:

- The fans are switched off, when not in use.
- It is suggested to procure energy efficient fans with High Efficiency Fans with BLDS Motors / or fans with 5-star rating while making new purchases.

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Air Conditioners:

Location	Type	Quantity
Ground Floor	Split	18
	Window	6
First Floor	Split	1
Second Floor	Split	4
Third Floor	Split	1
Fourth Floor	Split	4
Total		34

Observations:

- The air conditioners are switched off, when not in use.
- The temperature is maintained at 24 to 25 °C for air conditioning spaces, which is within the recommended values.
- The Air Conditioners are operated as required with manual control. The operation is minimal, consequently automation may not be economical.
- The overall condition of indoor as well as outdoor units is satisfactory.
- The Air Conditioning Units have star rating of 3 & above, which intrinsically operate at high energy efficiency. It is suggested to procure energy efficient machines of 5-star rating while making new purchases.

Electricity Bill:

Consumer Name: Ramanand Arya DAV College				Consumer No.- 000055045445				
Tariff Category: 89LT VII B I				MSEDCL				
Meter No.: 055-X2152024				Contract Demand: 51 KVA				
Description	Unit	Apr-25	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26	Average
Energy Consumption	KWH	2902	4592	2327	3373	2306	2589	3014.83
Bill	Rs	51880.0	74890.0	44070.0	57560.0	45020.0	45930.0	53225.00
Cost	Rs/KWH	17.88	16.31	18.94	17.06	19.52	17.74	17.91

Consumer Name: Ramanand Arya Junior College				Consumer No.- 10000002024				
Tariff Category: 88LT VII B I				MSEDCL				
Meter No.: 055-X2118649				Contract Demand: 61KW				
Description	Unit	May-25	Jun-25	Sep-25	Nov-25	Dec-25	Jan-26	Average
Energy Consumption	KWH	5754	8954	10330	5646	4077	3985	6457.67
Bill	Rs	127580.0	185310.0	202170.0	188940.0	38540.0	38400.0	130156.67
Cost	Rs/KWH	22.17	20.70	19.57	33.46	9.45	9.64	19.17

- The average cost of power and power consumption is within the normal range.

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IV Environmental System

Ventilation & Air Quality:

- The air ventilation is adequate.
- Several indoor & outdoor plants have been installed to improve air quality.



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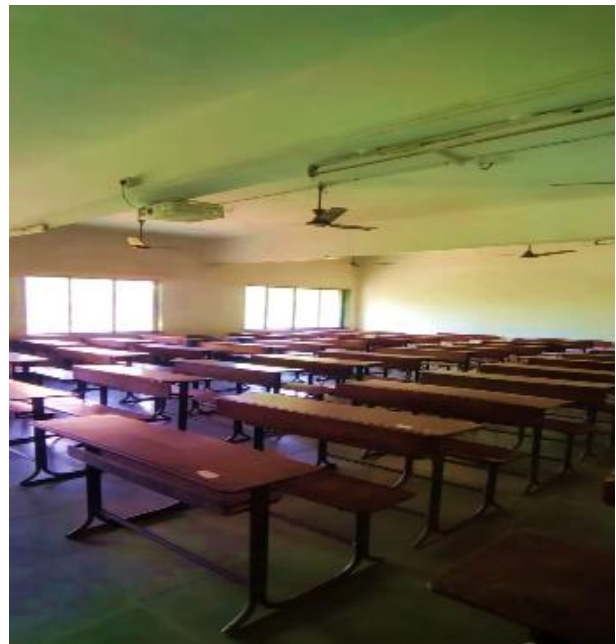
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- Along with trees, many medicinal samplings have been planted within the campus.



Natural Lighting:

- Natural light has been used for maximum illumination during daytime.
- It has been a general practice to switch off the fans & lights in an unoccupied area.



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Sr. No.	Description	Type	Height	Quantity
			M	Nos
Indoor Plants				
1	Christmas Tree	Exotic	1.5	2
2	Dracaena	Exotic	2	2
Outdoor Plants				
1	False Ashoka	Local	20	10
2	Neem	Local	15	1
3	Mango	Local	15	1
4	Banyan	Local	30	1
5	Tamarind	Local	24	2
6	Eucalyptus	Exotic	45	2
7	Fig	Exotic	3	10
8	Coconut	Local	25	4
9	Drumstick	Local	12	1
10	Indian Almond	Local	35	2
11	Papaya	Local	8	4
12	Kanchan	Local	10	2
13	Trema Orientals	Exotic	15	1
14	Guava	Local	3	15
15	Palm	Local	10	2
16	Peepal	Local	30	1

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V Water Management

Water Source:

The water supplied by the municipal corporation is used only for drinking & Well water is used for other applications like toilets, washing of utensils and other requirements.

The incoming water from the municipal corporation is metered.



The consumption pattern was analyzed by the water bills. The details are as under.

Period	Days	Consumption	Bill Amount	Cost	Total No. of Person	Water Consumption
		KL	Rs	Rs/KL		L/Person/Day
Connection No: SX@0382574						
07-02-2025 To 07-03-2025	28	498	10787	21.66	5877	3.03
07-03-2025 To 07-04-2025	31	552	11954	21.66	5877	3.03
07-04-2025 To 07-05-2025	30	534	11565	21.66	5877	3.03
07-05-2025 To 07-06-2025	31	552	12054	21.84	5877	3.03
07-06-2025 To 07-07-2025	30	534	11565	21.66	5877	3.03
07-07-2025 To 07-08-2025	31	552	11954	21.66	5877	3.03
07-08-2025 To 08-09-2025	32	570	12345	21.66	5877	3.03
08-09-2025 To 08-10-2025	30	534	11565	21.66	5877	3.03
08-10-2025 To 07-11-2025	30	534	11565	21.66	5877	3.03
07-11-2025 To 08-12-2025	31	552	11954	21.66	5877	3.03
08-12-2025 To 08-01-2025	31	552	11954	21.66	5877	3.03

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Observations:

- The water consumption is within the normal range.

Water Coolers & Purifiers:



Water purifiers & coolers are provided at individual floors and in convenient locations; the details are as under.

Sr. No.	Location	Purifier	Coolers
1	Ground Floor	2	2
2	First Floor	1	1
3	Second Floor	1	1
4	Third Floor	1	1
5	Fourth Floor	1	1

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Rainwater Harvesting:

The rainwater is harvested in a pit & there is a provision to recharge the ground water or use rainwater.



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VI Waste Generation & Management

Sewage & Wastewater:

The sewage is fed into the municipal drainage. This is a common practice and the municipal corporation which charges towards the sewage charges.

Solid Waste:

- The organic as well as inorganic waste is segregated in the college premises.
- The organic waste is used to generate manure by composting.
- The dustbins for Recyclable waste and Non-Recyclable Waste have been provided at appropriate locations.
- The non-organic waste is collected in garbage bins and disposed of through municipal system.



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The organic as well as inorganic waste is segregated in the college premises. The organic waste is used to generate manure by composting.



Electronic Waste:

- The College has taken steps for proper disposal of all kinds of electronic waste, such as batteries, cells, obsolete electronic devices, computers, monitors and printers, UPS etc.
- The electronic gadgets / waste may be donated if useful or handed over to BMC authorized E-Waste Collection Vendor.

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VII Infrastructure & Safety



Movement on-campus (Distributed / non-distributed leading to crowds)

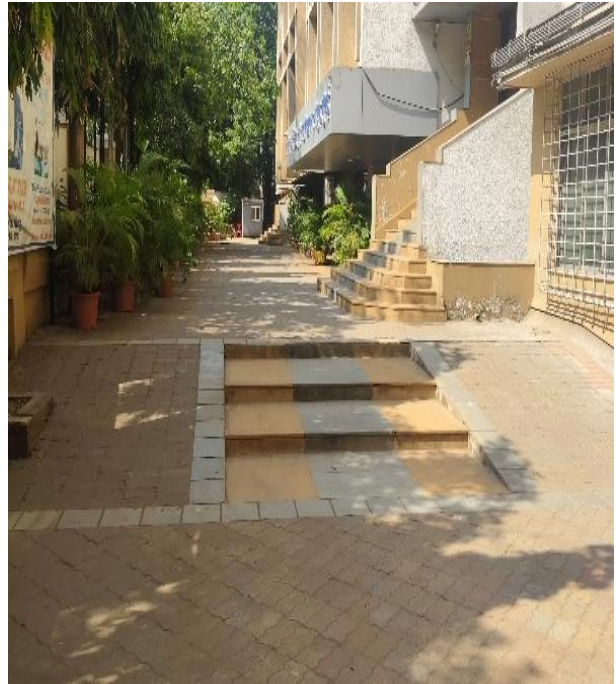
- The premises are provided with multiple staircases with necessary entrances to ensure quick and effective movement in normal as well as emergency conditions.
- The movement of vehicle inside the campus is with vehicles of staff, faculties, students and Guests are allowed to enter the campus.
- The usage of plastic is almost banned inside the campus.
- The bicycles are allowed for in campus movement as required.

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- Ramp is available for specially abled students.

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Firefighting & fire escape system:



There are efficient fire extinguishers in the premises, which are checked / refilled as per the stipulated frequency.

The premise is provided with multiple staircases with requisite entrances to ensure quick and effective movement in emergency conditions.

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Sr. No.	Location	Type	Quantity
1	Ground Floor	Powder	4
2	First Floor	Powder	4
3	Second Floor	Powder	4
4	Third Floor	Powder	4
5	Fourth Floor	Powder	4
6	Terrace	Powder	2
Total			22

Draining system:

The drains from the washrooms are connected to the municipal drainage, which is a common practice in the colleges in and around Mumbai.

The municipal corporation charges for water disposal.

Seepage in the building:

The premise was visually inspected for seepages.

No seepages were observed in any of the places.

Parking Area:

There is no parking space for vehicles/four wheelers. However, almost all the students and many of the faculty members avail public transport system which is very convenient due to proximity to railway station and bus services.

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VIII Green Culture

Computers/Laptops:



1. The LED / LCD monitors & Laptops has been procured, which are energy efficient.
2. These monitors are not only energy efficient but also generate minimal heat and cut down on air conditioning load.

The following steps may be initiated to further enhance efficiency of the systems.

1. An efficient power management system may be incorporated to
 - a. Switch off the display if not in use.
 - b. Put the computer in Sleep mode / switching off the machines, if not used for prolonged period.
2. Optimize brightness of the screen.
3. Discourage use of screen savers, which has similar power consumption.

Paper-less communication:

The major internal as well as external communication is through electronic medium.

Re-using one sided paper for printing:

It was observed that two side printing / printing on the back side of used paper in more than 80% of the cases.

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Green Club Activities:

In November 2025, the Green Club initiated a compost pit activity, later maintained daily from November to April by adding water and flower waste, promoting waste reduction and eco-friendly practices.



In September 2025, the Green Club organized a beach cleanup drive in collaboration with Bisleri, including a post-Ganapati Visarjan cleanup, promoting a cleaner and healthier environment.



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In March 2026, the Green Club conducted a water audit and awareness drive using posters and slogans, along with regular monitoring to prevent leakages and ensure efficient water management.



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IX

Renewable Energy

Solar Photovoltaic:

A 20 kWp Solar Photovoltaic System has been installed with net metering facility to generate clean and renewable power.



Solar Thermal:

There is no application of solar thermal system and does not find attractive in this case.

Biogas Plant:

There is no possibility of installing biogas plant for cooking as the quantity of plate waste is negligible.

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Certificate

This is to certify that Green Audit was carried out at Ramanand Arya D A V College, Bhandup Station Road, Bhandup C G S Colony, Bhandup East, Mumbai 400042 during the month of March 2026

The scope, coverage, findings and recommendations are submitted vide our report SCPL-PR-2602-240326 dated March 24, 2026.

For **SENERGY CONSULTANTS PVT LTD**



Tushar Kamble
(Project coordinator)

Certificate

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