Pandit Deendayal Upadhyaya
Adarsha Mahavidyalaya

Dalgaon :: Darrang :: Assam
(A Govt. Model Degree Science College)
Estd. - 2017

Energy Audit Report

Prepared by
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APDCL, Kharupetia

Principal
P.D.U.A. Mahavidyalaya
Dalgaon, Darrang

ENERGY AUDIT REPORT 2022-2023

GENERAL INFORMATION	
1. Name of the college:	PANDIT DEENDAYAL UPADHYAYA ADARSHA MAHAVIDYALAYA DALGAON
2. Date of establishment:	2017
3. Location:	Vill. – Ruhinikash, P.O.-Dalgaon, Dist. Darrang, Assam, Pincode-784116
4. Campus Area:	60468.56 sq. mtr.
5. Buildup Area:	22548.8 sq. mtr.
6. Total no. of employees:	1(Principal)+28(faculties)+1(Librarian)+15(Non-teaching) = 45
7. Total no. of students:	309(UG)+114(XII)=423
8. Mode of education:	Full time
9. Official Website:	www.pdduamdalgaon.in

ABOUT THE COLLEGE

Dalgaon Pandit Deendayal Upadhyaya Adarsha Mahavidyalaya also known as PDUAM, Dalgaon is a Govt. model degree college in Dalgaon, Dist.-Darrang, Assam named after Pandit Deendayal Upadhyaya, a great thinker, philosopher, economist, sociologist of the country. The college was established in 2017 and is funded by RashtriyaUchchattar Shiksha Abhiyan (RUSA), Ministry of Education, Government of India. Currently, the college is imparting higher education to students in science stream.The college campus is 300 meters to the southern side of NH 15 and is well connected with roads. The campus is eco-friendly and covers an area of 14.1386 acres and it is surrounded with concrete walls. The college provides faculty as well as staff quarters, making it a residential campus. The college receives 24x7 electricity from Assam Power Distribution Company Limited, Assam. The average units of electricity consumed by college (including residence) is 4152.07 KWh per month.

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ENERGY CONSERVATION INITIATIVES

India is one among the fastest growing economy today. And due to the increase in industrial activity and urbanization, the demand for electrical energy has elevated. The peak power supply in a day was 192.53 gigawatt (GW) in February 2022, which rose to rose to 209.66 GW in February 2023(Source). With the rising demand, there is a necessity for conserving electricity and generating electricity from green sources. The following are the initiatives taken up by college:

a. A 10KW solar plant has been setup in the college.
b. Solar powered street lamps are installed inside the campus.
c. Class rooms and laboratories are designed such as a way that it receives sufficient sunlight during the day.
d. Five star rating Air conditioners are installed in the Principal's office and Computer Laboratory.
e. The college uses low power consuming LED bulb to save electricity.
f. Designated persons are allotted to run the water pumps in order to prevent loss of water as well as electricity due to overflow.
g. Awareness among the students and employees to turn off lights and fans when not in use.
h. Laboratory equipments are not left unattended.

MAIN SOURCE OF ELECTRICITY

Name of consumer	Tariff Category	Consumer Number
The Principal Model College	HT IV BULK SUPPLY (Government Education)	086000000344

OTHER SOURCES OF ELECTRICITY

Sl. No.	Source	Capacity	Usage
1	SOLAR PLANT	10 KVA	Office, Few Classrooms, Computer Lab
2	Honda Generator	850 KVA	Emergency purpose

ELECTRICALAPPLIANCES (INCLUDING RESIDENCE)

Sl. No.	Name of appliance	Quantity	Average Watt (W)	Total Watts (W)
1	LED Bulbs	183	10	1830
2	Tube lights	306	36	11016
3	Fans	343	60	20580
4	Exhaust Fans	22	40	880

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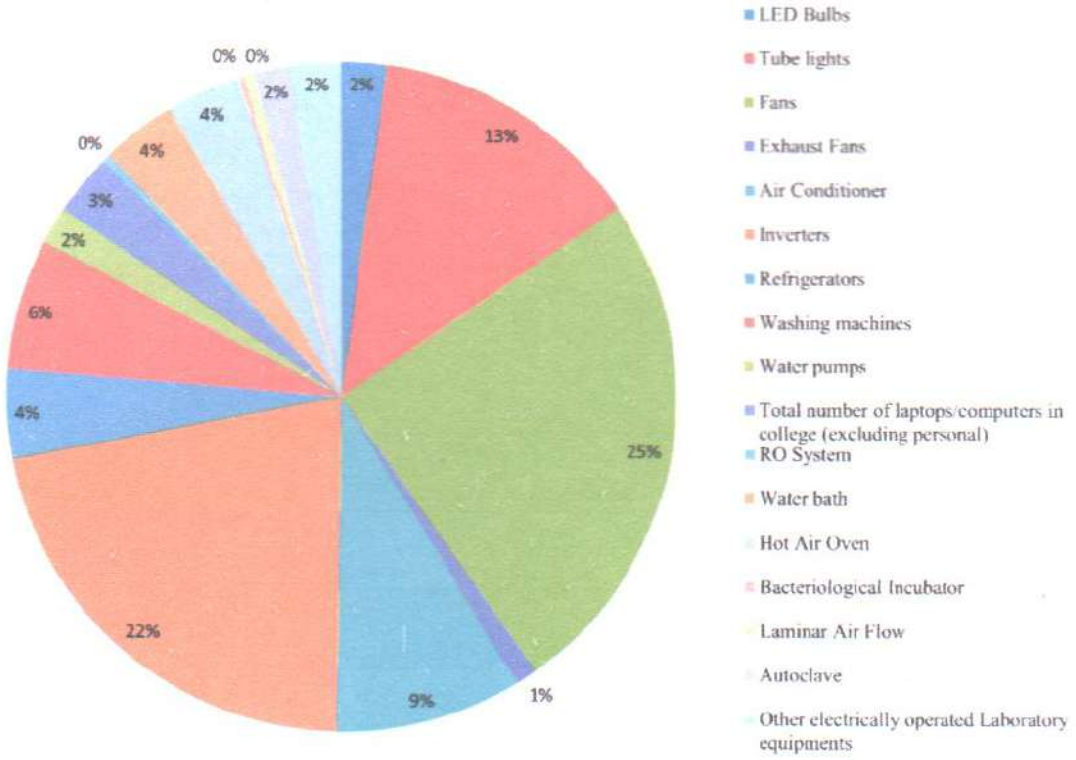
5	Air Conditioner	5	1500	7500
6	Inverters	25	723	18075
7	Refrigerators	24	150	3600
8	Washing machines	7	750	5250
9	Water pumps	2	746	1492
10	Total number of laptops/computers in college (excluding personal)	25	100	2500
11	RO System	1	300	300
12	Water bath	2	1500	3000
13	Hot Air Oven	3	1000	3000
14	Bacteriological Incubator	1	200	200
15	Laminar Air Flow	1	400	400
16	Autoclave	1	1500	1500
17	Other electrically operated Laboratory equipments	102	20	2040
			TOTAL CONNECTED LOAD	**83.163 KWatt**

Connected Load (in Watts)



MONTHLY ENERGY CONSUMPTION (DURING 2022 - 2023)

Month	KWh	Avg. PF	Max demand (KVA)	Billing Demand (kVA)	Total Current Bill (Rs.)
Jul-22	4741.17	77.1	19.2	158.0	57037.00
Aug-22	5355.40	81.2	19.2	158.0	63454.00
Sep-22	5054.94	85.3	19.2	158.0	41033.00
Oct-22	3906.63	67.2	15.5	158.0	51946.00
Nov-22	3707.98	56.3	18.7	158.0	52375.00
Dec-22	3715.09	55.3	13.8	158.0	51891.00
Jan-23	3705.99	56.3	18.6	158.0	51791.00
Feb-23	3535.19	62.1	16.5	158.0	48981.00
Mar-23	3787.50	59.7	14.1	158.0	52605.00
Apr-23	3576.69	67.4	18	158.0	52182.00
May-23	4356.60	78.6	17.7	158.0	61890.00
Jun-23	4381.62	81.2	18.0	100.0	52413.00

Units consumed per month in the session 2022-2023

AUDIT SUGGESTION

The following are the audit suggestions for energy conservation in the college:

1. Increase the use of non-conventional energy sources such as solar power. Thus, maximizing the use of rooftop area for solar power generation.
2. Raise awareness among students and employees to use energy efficient electrical appliances.
3. Exploit rain water harvesting to reduce energy charges due to pumping of ground water.
4. Install power capacitor to increase the power factor in the college.
5. Replace the ceiling fans with 5-star rating ceiling fans.
6. Installation of good quality MCCB/RCCB for protection and safety against leakage current.
7. For safety point of view, installation of proper earthing and periodic maintenance of said earthing.
8. Raise awareness among staff & students for proper & economic use of electric energy and switching off the electrical appliances when they are not in use.
9. Replacement of existing fluorescent tube lights with LED ones to reduce consumption of energy.

Mr. B. Saikia
Assistant Engineer
APDCL, Kharupetia

Kharupetia Elect. Sub Division
APDCL (LAR), Kharupetia

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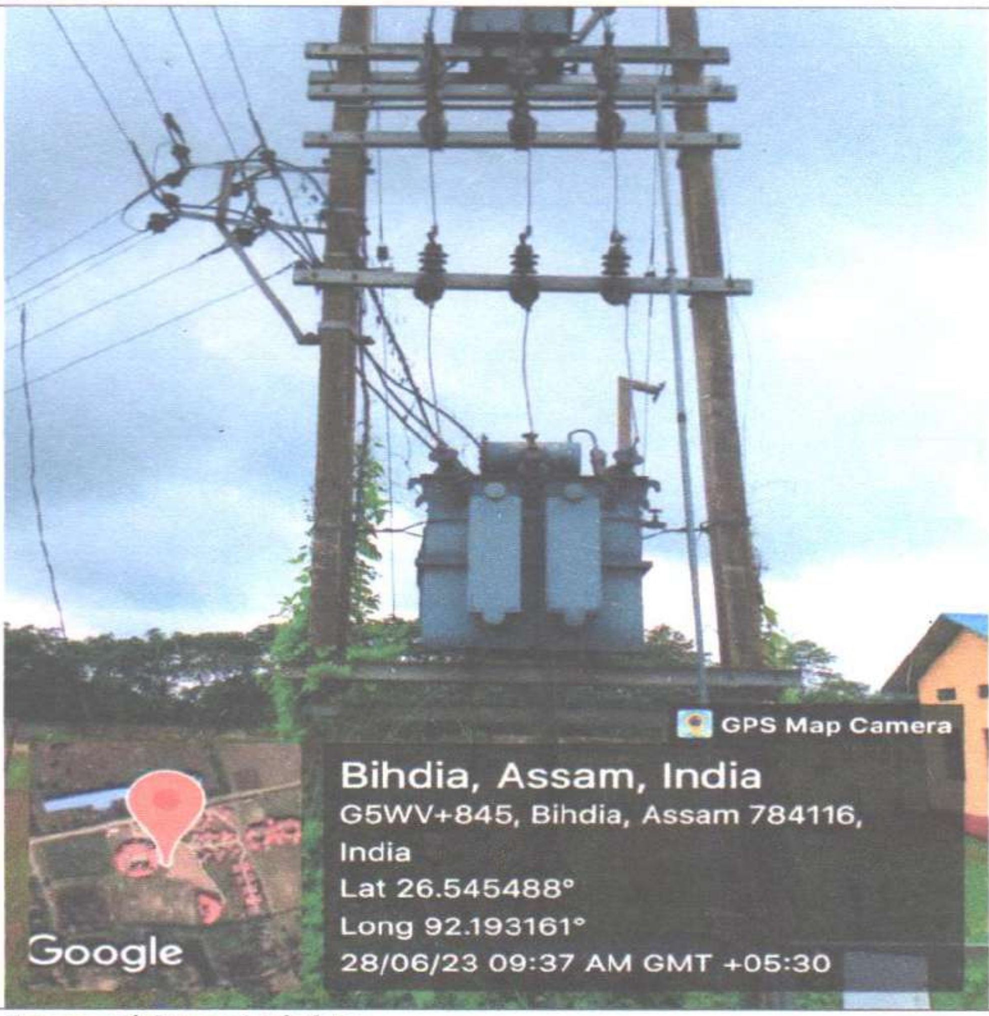
GEOTAGGED PHOTOGRAPHS

10KW Solar Power Plant

Transformer



Solar Powered Street Lights

Proper daylight at class rooms and Laboratories