



ENERGY AUDIT REPORT FOR SHRI GURU RAM RAI UNIVERSITY



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Acknowledgement

Elion Technologies and Consulting Pvt Ltd places on record it's thanks to Shri Guru Ram Rai University, Patel Nagar, Dehradun for entrusting the task of conducting energy audit study.

We acknowledge with gratitude the whole hearted support and cooperation extended by all team members while carrying out the study.



Site Information

Name of College	Shri Guru Ram Rai University
College Address	Patel Nagar, Dehradun
Execution Partner	ELION Technologies & Consulting Pvt Ltd
Communication Address	307, 3rd Floor DDA Lal Market H-Block Vikas Puri, New Delhi-110018
Date of Audit	11 th January, 2026
Year of Audit	2025-26
Main Energy Consuming Machines/Equipment's considered for Energy Audit	• Lighting & Fans • Air Conditioners • Motors & Pumps • Desktops & Printers



Executive Summary

Shri Guru Ram Rai University was established by a religious and philanthropic leader, Shri Mahant Devendra Dass Ji Maharaj in the year 2017. It is situated in the heart of city, Uttarakhand. We are extremely privileged.

SGRR University to impart quality education and in successfully placing more than 80% students in various companies across the globe. SGRR University has humongous campus spread over 100 acres of land . Its state-of-art facilities give opportunities to develop leadership skills and to achieve professional excellence. It has 10,000+ students from different countries, 29 states and Union Territories and providing cultural melange and global exposure to our students. One of the biggest boosts from University is its unmatched experience of 72 years of in delivering quality education that helps to develop confidence

List of courses offered by the institute:

S.No	Name of the Program
1	Bachelor in Business Administration
2	B.Com (General)
3	Master in Business Adminstration
4	MHA
5	<u>M.Com</u>
6	BHA
7	BHM
8	Bachelor of Computer Applications (BCA)
9	Master of Computer Applicatiohs(MCA)
10	Bachelor of Science in Information Technology (BSc IT)
11	Bachelor of Technology in Computer Science and Engineering (BTech CSE)
12	Bachelor of Technology in Computer Science (BSc CS)
13	Doctor of Philosophy (PhD CS)
14	Diploma In Pharmacy (D.Pharm)
15	BACHELOR IN PHARMACY
16	BACHELOR IN PHARMACY (Lateral Entry)
17	MASTER OF PHARMACY
18	Pharm.D (Doctor of Pharmacy)
19	Pharm.D (Post-Baccalaureate)
20	B.Sc biotechnology
21	Bsc Microbiology
22	B.Sc PCM
23	B.Sc CBZ
24	B.Sc. PMS
25	B.Sc PMG



26	B.Sc. PMD
27	Bsc ZBG
28	M.Sc. Biotechnology
29	M.Sc. Microbiology
30	M.Sc. Botany
31	M.Sc. Zoology
32	M.Sc. Geology
33	M.Sc. Physics
34	M.Sc. Mathematics
35	M.Sc. Chemistry
36	M.Sc. Environmental Science
37	M.Sc. (Pharmaceutical Chemistry)
38	B.Sc.(Hons.) Agriculture
39	M.Sc.(Ag.) Agronomy
40	M.Sc.(Ag.) Horticulture
41	M.Sc.(Ag.) Soil Science
42	M.Sc.(Ag.) Seed Science and Technology
43	M.Sc.(Ag.) Entomology
44	M.Sc.(Ag.) Plant Pathology
45	MSC Genetics and Plant Breeding
46	Bachelor Of Arts
47	B.A Honors Journalism & Mass Com
48	M.A History
49	M.A Geography
50	M.A Political Science
51	M.A Mass Com
52	M.A Statistics
53	M.A Economics
54	M.A Music Vocal
55	M.A English
56	M.A Home Science
57	M.A Garhwali Language & Culture
58	M.A Hindi
59	MSc Statistics
60	M.A Drawing & Painting
61	B.Sc. Nutrition & Dietetics
62	M.A Music Tabla
63	MSW
64	M.A Psychology
65	B.Sc. Yogic Science
66	M.Sc. in Yogic Science
67	M.A in Human Consciousness and Yogic Science



68	M.Sc. in Yogic science & Alternative Therapies
69	M.Sc. in Yogic science & Naturopathy
70	PG Diploma in (Early Childhood care and Education)
71	PG DIPLOMA IN (GUIDANCE AND COUNSELLING)
72	BMLT
73	BMRIT
74	BPT
75	B.Sc Medical Microbiology
76	B.Sc Optometry
77	<u>B.SC</u> OTT
78	M.Sc MLT
79	MPT (Ortho)
80	MPT (Neuro)
81	MPT (Sports)
82	MPT (Cardio)
83	MPT (Paedia)
84	MPT (Obs. & Gynae)
85	M.Sc. Nursing
86	B.Sc. Nursing
87	Post Basic B.Sc. Nursing
88	GNM
89	ANM
90	MBBS
91	MD Anatomy
92	MD Physiology
93	MD Pharmacology
94	MD Microbiology
95	MD Biochemistry
96	MD Community Medicine
97	MD Pathology
98	MD Anaesthesia
99	MS Otorhinolaryngology
100	MD Psychiatry
101	MD Respiratory Medicine
102	MS General Surgery
103	MS Ophthalmology
104	MD DVL
105	MD General Medicine
106	MD Radiodiagnosis
107	MD Paediatrics
108	MS Orthopaedics
109	MS Obstetrics & Gynaecology



110	MD Emergency Medicine
111	MD Radiation Oncology
112	DM Cardiology
113	DM Medical Gastroenterology
114	M.Ch. Plastic & Reconstructive Surgery
115	M.Ch. Urology
116	M.Ch. Neurosurgery
117	DM Neurology
118	M.Ch. Surgical Oncology
119	DM Nephrology
120	DM CRITICAL CARE MEDICINE
121	M.Sc. Anatomy
122	M.Sc. Physiology
123	M.Sc. Biochemistry
124	M.Sc. Microbiology
125	Doctor of Philosophy (Ph.D. All disciplines)



Chapter 01: Introduction

M/S Shri Guru Ram Rai University, Patel Nagar, Dehradun evinced interest in availing the services of Elion Technologies and Consulting Pvt Ltd for conducting energy audit of their premises.

Elion Technologies and Consulting Pvt Ltd team conducted the Detail Energy audit on 11th January, 2026.

This report is on the energy audit carried out in Shri Guru Ram Rai University, Patel Nagar, Dehradun. The detailed energy audit comprised of the following activities:

- Data collection of power consuming equipment's.
- A brief session on energy management was conducted to seek more inputs from the personnel engaged in operation and maintenance of electro mechanical services.
- Analysis of collected data.
- Discussion with the officials on the identified proposals.
- Discussion and reporting of the findings of energy audit with the Engineers and management staff.

All the identified energy savings proposals have been discussed with the executives concerned before finalizing the projects.

The contents of the report are based solely on the data provided by Shri Guru Ram Rai University, Patel Nagar, Dehradun officials during the energy audit.

The management should implement the suggestions made in the report after verifying requisite safety aspects.

Methodology for Energy Audit:

The following is a list of general procedure and information undertaken during the energy audit:

- General information of the site.
- Baseline energy description.
- On site data collection
- Energy analysis of different sectors.
- Recommendation of energy conservation measures.

The primary goal of the energy audit was to identify sources and areas of potential energy savings and cost saving throughout the college by measures of optimization, replacement, retrofitting, and on the other hand, to also provide recommendations on operational and maintenance practices improvements.



Chapter 02: Energy Consumption Details

List of equipment present in the campus:

S. No.	Location	Load (kw)	Transformer (Kva)	DG Set (Kva)	Solar Capacity (kwh)
1	Admin Block, Medical College	100	100	125	100
2	Nursing Hostel ,Paramedical College Patel Nagar	75	100	62.5	-
3	Anatomy, Medical College	120	250	125	75
4	Nursing College, Patel Nagar	75	100	125	65
5	B.ed College,Girls Hostel	10	-	82.5	-
6	J.R.Hostel Medical College	200	400	500	-
7	Sgrru ,Pathribagh campus	75	100	82.5	60
8	Sgrru ,ITS Campus		400	250	190
9	PG College	10	-	-	-
10	PG College	25	-	-	-
11	PG College	4	-	-	-

The main areas of energy consumption as observed during the audit are as follows:

- Lighting & Fans
- Motors & Pumps
- Desktops & Printers

The main sources of energy to meet the required consumptions are as follows:

- Electricity supply from Distribution Company.
- DG sets present
- Multiple Solar power plant available



DG SET



Chapter 03: Electrical Appliances

Location	Fan (60W)	Exhaust Fan (50watt)	Wall Fan (50Watt)	Cooler (200 Watt)	UPS	Geyser (2000W att)	Water cooler + RO (100/500Watt t)	Heater Pillar (2000W att)
Library	89	6	3	1			1	
Physiology	104	1			10			
Bio- Chemistry	77	15						
Molecular Lab	6	3						
Community Medicine	9	3						
Micro	100	18			6			
Pharmacology	83	29			30			2
Pathology	129	14			16			
Admin + MEU + Skill Lab	94	7					1	
Staff Nursing Hostel	121	8					3	
Photographi + Boys Comm. Room	33	3						
FMT	103	2						
LT3	27	1					1	
Exam 2	44							
LT 2	11							
LT 1	8						1	
Exam 1	11							
LT 4	27				2		1	
Anatomy	118	11						
SR Hostel	265	230						
MBBS Boys Hostel	265	29				42	1	
MBBS Girls Hostel	294	21				38	11	
J.R. Hostel	400	589					7	
Aduditorium	33	3						
C- Block	35	17				4	2	
D- Block	55	21				8	4	
E- Block	58	24				8	5	
F-Block	18	15				7	5	
G- Block	94	53				19	14	
H-Block	36	16				10	3	



Observation:

- Ceiling fans constitute a major portion of the electrical load and are used extensively in classrooms, offices, laboratories, and common areas.
- Water coolers, RO systems, geysers, and heaters are installed at various locations to meet operational requirements.
- UPS systems are provided for critical equipment and uninterrupted power supply requirements.
- The electrical appliances observed during the audit were generally found to be in satisfactory operating condition.
- Preventive maintenance practices are being followed for major electrical equipment.

Recommendations:

- Ensure all electrical appliances are switched off when not in use.
- Continue procurement of BEE Star Rated energy-efficient appliances for future replacements.
- Conduct periodic maintenance of fans, UPS systems, water coolers, and other electrical equipment to maintain optimum efficiency.
- Display energy conservation signage near classrooms, offices, laboratories, and common utility areas.
- Periodically monitor electricity consumption to identify opportunities for further energy savings.
- Replace old or inefficient appliances with energy-efficient models whenever replacement becomes necessary.





Chapter 04: Pumps and Motors

Pump is generally used for pumping of ground water to the water tank. The details of the pumps are given below:

Location	Pump(HP=.75Kw)		
Staff Nursing Hostel	15		
SR Hostel	15	7.5	7.5
J.R. Hostel	15	7.5	5
H-Block	15		
Paramedical College	15	7.5	
Nursing College	15	7.5	
Total No. Fixture		132.5	
Appliance Load (Kw)		99.375	

Observation:

- The condition of the pumps is satisfactory, and they are being well-maintained to ensure reliable and efficient operation when needed.

Recommendation:

- Proper maintenance and regular upkeep of pumps, motors, and associated panels should be carried out to ensure optimal performance, longevity, and reliability of the equipment.
- The management should consider replacing the old pumps with energy-efficient, 5-star rated pumps to enhance operational efficiency and reduce energy consumption, contributing to long-term cost savings and sustainability.



Pumps



Chapter 05: Solar Energy Utilization

The university has installed solar photovoltaic (PV) systems across the campus to support renewable energy utilization and reduce dependence on grid electricity. Solar generation records are maintained for performance monitoring

S. No.	Location	Solar Capacity (kwh)
1	Admin Block, Medical College	100
2	Anatomy, Medical College	75
3	Nursing College, Patel Nagar	65
4	Sgrru ,Pathribagh campus	60
5	Sgrru ,ITS Campus	190
Total		490

Solar Energy Performance

- The university has installed a total solar power capacity of approximately 490 kW across various campus locations.
- Solar power generated through these installations contributes towards meeting a portion of the campus electricity demand and reduces dependence on conventional grid electricity.
- Monthly solar generation records are maintained by the institution to monitor system performance and renewable energy contribution.

Observation:

- Solar photovoltaic systems have been installed at various locations within the campus to generate renewable energy and reduce dependence on grid electricity.
- The institution is maintaining monthly records of solar power generation for monitoring the performance of the solar installations.
- The solar power systems are contributing towards energy conservation and supporting the university's sustainability initiatives.

Recommendation:

- Regular cleaning of solar panels should be carried out to maintain optimum energy generation efficiency.
- Periodic inspection and preventive maintenance of solar inverters, cables, and associated equipment should be undertaken to ensure reliable operation.
- Monthly solar generation data should be reviewed regularly to identify any decline in performance and take corrective actions promptly.



Monthly Solar Energy Generation and Consumption Data (FY 2025-26)

Year-2025-26		Nurshing College	Admin Block Medical College	Anatomy Medical College	Nurshing College	Medical College
1	Apr-25	8,760.00	120.00	120.00	8,690.37	47,680.21
2	May-25	12,360.00	200.00	120.00	8,419.00	47,908.32
3	Jun-25	8,640.00	40.00	-	6,564.50	31,650.29
4	Jul-25	4,200.00	-	-	5,868.63	31,450.96
5	Aug-25	5,520.00	-	-	4,828.68	25,347.02
6	Sep-25	4,920.00	-	-	5,739.10	29,479.69
7	Oct-25	14,880.00	440.00	360.00	6,946.66	36,361.95
8	Nov-25	6,000.00	40.00	-	6,363.81	31,325.60
9	Dec-25	N/A	-	-	5,095.81	25,428.54
10	Jan-26	N/A	-	-	5,956.12	29,409.89
11	Feb-26	-	N/A	N/A	6,149.26	31,719.50



Solar Panels



Conclusion

Shri Guru Ram Rai University, Patel Nagar, Dehradun, has demonstrated a strong commitment towards energy conservation and sustainable resource management through the adoption of renewable energy systems and efficient utilization of electrical equipment across the campus. The presence of solar photovoltaic installations, well-maintained electrical appliances, and water pumping systems reflects the institution's efforts towards reducing energy consumption and promoting environmental sustainability.

The energy audit provided an assessment of the major energy-consuming equipment and identified opportunities for further improvement through enhanced operational practices, preventive maintenance, and the adoption of energy-efficient technologies. The recommendations presented in this report are aimed at improving overall energy performance and supporting long-term energy conservation objectives.

The audit team appreciates the cooperation extended by the university management and staff during the assessment. Continued implementation of the suggested measures will further strengthen the institution's energy management practices and contribute towards the development of an energy-efficient, cost-effective, and environmentally responsible campus.

End of Report



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DISCLAIMER

All information contained in this report is based on the data available and observations made during the audit. All recommendations made in this audit report should be duly evaluated by the management before implementation.

Elion Technologies and Consulting is not liable for any damages incurred by the organization through implementation of the energy saving proposals either to it or to any third party getting impacted by the implementation of this report.

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