



ENERGY AUDIT REPORT FOR RAI UNIVERSITY



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Acknowledgement

Elion Technologies and Consulting Pvt Ltd places on record it's thanks to Rai University, Ahmedabad, Gujarat 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 University	Rai University
University Address	SH 144, Village – Saroda, Taluka – Dholka, Dist. – Ahmedabad – 382260, Gujarat (India)
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	03 th September 2024
Year of Audit	2024 – 2025
Audit Participants from Site	Prof. Deepesh Kumar Saxena-Registrar Dr. G. G. Shastri – Director, IQAC Yashesh Darji – Coordinator, IQAC Mr. Sanjeev Bhardwaj – Admin Head, Administration Mr. Ranjeet Tank – Sr. Manager, Administration
Total University Area	24 Acre
Total Green Area	11.07 Acre



Executive Summary

Rai University was established by Gujarat State Legislature under Gujarat Act No. 12 of 2012. Rai University is at the forefront providing Quality Education and committed to upholding societal values through inclusive growth of all related Stakeholders. Rai University is spread over an environment friendly lush green campus within striking distance of Ahmedabad. Skill oriented curriculum in the disciplines of Engineering and Technology, Management, Sciences, Pharmacy, Law, etc. are being offered at Rai University. Life Skills embedded with Curriculum Knowledge are an excellent blend for shaping an Individual. Rai University thrives to develop thinking mindset, educate, enrich and elevate Students who are globally competent, ethical leaders working and serving in our complex and changing world.

Rai University believes in the overall development of the Students and adopts a holistic approach which bring a 360° transformation in the personality of the Students. Curricular and Extra Curricular Development is supported by many other activities which improves leadership skills, managing ability, being part of a team, excel in talents, explore hidden talents and many more. Industry Academia tie up is the need of the hour. Rai University has collaborations with various Industries for imparting Industry relevant concepts and develop skills for meeting the different challenges. Leading Industries have joined hands with Rai University and actively participated in imparting Practical and Corporate Skills. Rai University is a Research-Intensive University with focus on quality Research and Publications. The main focus is on creating a Research Forum consisting of pool of Scholars in related areas which can lead to sharing resources and leading to collaboration between like-minded Scholars. Rai University is providing Research opportunities in Computer Science, Management, Mechanical and allied disciplines.

Department of International Affairs, Rai University has International Collaborations with many renowned International Universities like University of Pardubice, Czech Republic etc. to provide exposure to Students and Faculty through Student Exchange and Faculty Mobility (Erasmus+) program. Rai University is focusing on Outcome based Education and continuous assessment of the students throughout the year. Feedback from Students, Alumni and Stakeholders are taken regularly and are treated as Key Partners in the Teaching Learning process.

Students need support for their overall development and challenges faced by them. Rai University has a strong Mentoring process in place and guide Students not only when they are in the Campus but also after passing out guide the Alumni building a strong relationship and developing a ownership among the stakeholders. Need of the hour is Project based learning which can empower the students in meeting future challenges. Employable Skills and the right attitude is developed in the Students. Innovative Learning practices that ignite the curiosity of the student fostering an Entrepreneurial mind-set.

Rai University believes in providing equal opportunities to the underprivileged sections of Society. Extensive Scholarships are being provided to the needy and meritorious Students in addition to the Gujarat Government Scholarships.



List of courses offered by the institute:

- B.Tech. (Information Technology)
- B.Tech. Computer Science and Engineering)
- BCA
- B.Sc. (Information Technology)
- B.Com.
- BBA
- B.Sc. (Microbiology)
- LLB
- B.Pharma.
- M.Sc. (Microbiology)
- M.Tech. (Information Technology)
- M. Tech. (Computer Science and Engineering)
- MCA
- M.Sc. (Chemistry)
- MBA
- PhD or DPhil (Commerce)
- PhD or DPhil(Management)
- PhD or DPhil(Chemistry)
- PhD or DPhil(Microbiology)
- PhD or DPhil(Computer Science and Engineering)
- PhD or DPhil (Computer Science)

Electricity is supplied by Local Electrical Distribution Company at and is stepped down to 415V using a transformer of rating 400KVA.

The energy audit included detailed data collection, analysis of data and identification of specific energy saving proposals.





Chapter 01: Introduction

M/S Rai University, Ahmedabad, Gujarat evinced interest in availing the services of Elion Technologies and Consulting Pvt Ltd for conducting energy audit of their premise.

Elion Technologies and Consulting Pvt Ltd team conducted the Detail Energy audit on 03th September 2024.

This report is on the energy audit carried out M/S Rai University, Ahmedabad, Gujarat. 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 Rai University, Ahmedabad, Gujarat 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.
- Past energy consumption bills which includes electricity bills.



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- 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 campus 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

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

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

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

- Electricity supply from Power Distribution Company.
- Backup power from DG Set of 125KVA, and UPS with 20 KVA and 40 KVA Capacity.



Chapter 03: Lighting System

Following is the summary of lights installed at various locations of the university campus:

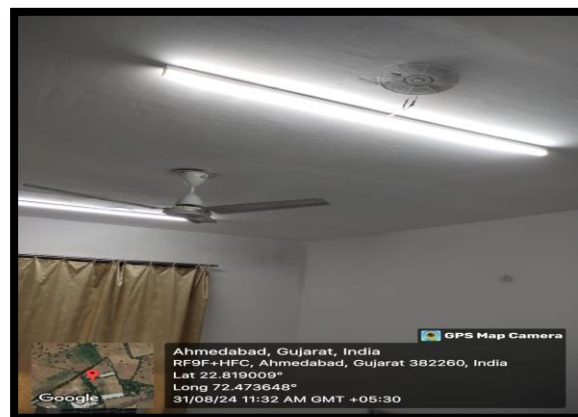
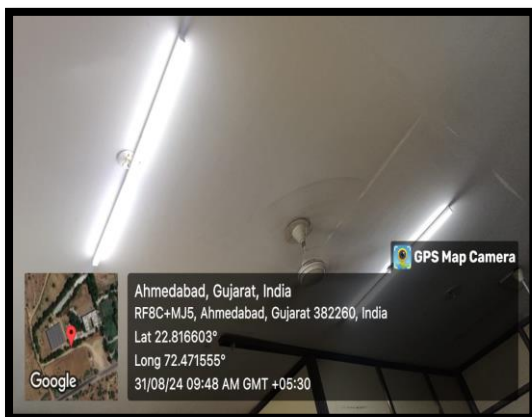
Type of lights (LED/CFL/Conventional Bulb/Tube Light)	Location	Rating	Quantity	Number of Hours being turned on
LED bulb	Washrooms	10W	242	1.5
Tube Light	Hostel Rooms, Offices, Classrooms, Staff quarters, Laboratories, Library	20W	447	9.0

Observation:

- All lights used in the campus are LEDs. Campus has replaced all the conventional lights with energy efficient LED lights which is a good practice.

Recommendation:

- Regular cleaning of light fixtures to be done to get maximum lux level.
- Stickers emphasizing "Save Electricity" or "Switch Off" shall be displayed near sockets or switches.





LED Lights



Chapter 04: Air Conditioning

Split, and Windows Air Conditioners are used in university for air conditioning. Following is the list of ACs present in the campus:

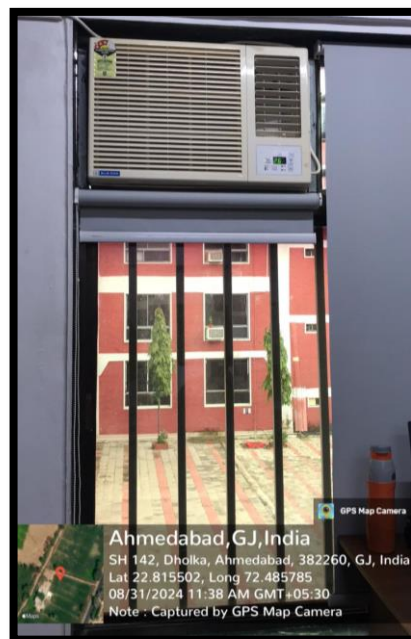
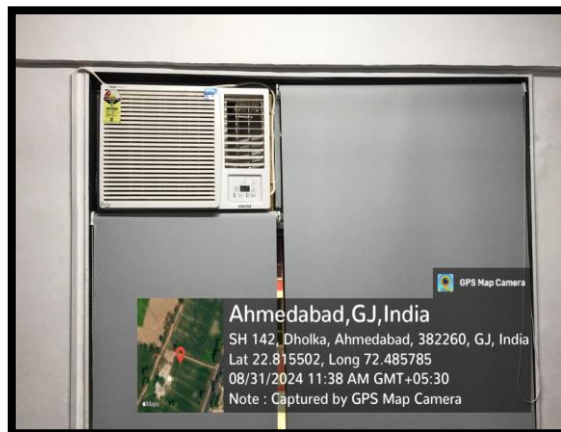
Type of AC (Windows/Split/Package and Location)	Capacity in Ton	Whether any star rating available	Set Temperature	Running Hours	Whether AC performance is satisfactory (Yes/No)
Window AC	1.5	3.0	24.0	7.0	Yes
Split AC	2.0	3.0	24.0	7.0	Yes

Observation:

- All air conditioners are found to be functioning properly and well maintained.
- Regular servicing and maintenance of air conditioners are done with proper cleaning.

Recommendation:

- All doors to be kept closed while using the air conditioners and regular annual service of AC's should be carried out.
- Set Temperature of Air Conditioner shall be maintained at 26°C.
- A reduction in 1°C set point temperature, the energy cost comes down by 5%. By carefully selecting the seasonal temperature in different areas as per requirement considerable saving on account of power consumption can be achieved.
- Whenever Air Conditioners are replaced in future, BEE 5 star rated air conditioners shall be considered which are energy efficient.
- Installation of AC energy savers can be considered for air conditioners having longer running hours.





Chapter 05: Pumps and Motors

The university has installed a total of three water pumps to ensure a reliable and consistent water supply. These pumps are strategically placed to manage the distribution of water throughout the campus, supporting both daily operations and maintenance needs.

Observation:

- These pumps are strategically placed to ensure efficient water distribution and management throughout the Campus. All pumps and motors are functioning properly and well maintained.

Recommendation:

- Proper maintenance and upkeep of pumps and motors to be done.



Photographic Evidence





Conclusion

The energy audit performed at Rai University showcased commendable efforts towards sustainability within the university. The replacement of conventional lights with energy-efficient LED alternatives marks a significant stride in reducing energy consumption.

Despite these advancements, there remains untapped potential for further enhancing energy efficiency. The audit report likely contains specific recommendations aimed at maximizing sustainability efforts. Implementing these suggestions could significantly bolster the university's energy-saving initiatives, continuing the positive trajectory towards a more environmentally conscious 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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