



ENERGY AUDIT REPORT FOR IDEAL INSTITUTE OF TECHNOLOGY



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Acknowledgement

Elion Technologies and Consulting Pvt Ltd places on record it's thanks to Ideal Institute of Technology, Maharashtra 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	IDEAL INSTITUTE OF TECHNOLOGY
College Address	At Village - Posheri, Taluka, Wada, Maharashtra - 421303
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 rd April 2024
Year of Audit	2024 – 2025
Site Team who participated in the Study	Ideal Institute of Technology
Main Energy Consuming Machines/Equipment's considered for Energy Audit	<ul style="list-style-type: none">• Lighting & Fans• Air Conditioners• Motors & Pumps• Desktops & Printers



Executive Summary

One of the best Engineering College in Maharashtra, college is located in Wada dist.: - Palghar, Campus occupying an area 30 Acres. The College has more than 95 faculty members, 50 support staff & over 1000 students. Our infrastructure is supported by many fully equipped laboratories.

IDEAL INSTITUTE OF TECHNOLOGY is committed to grooming leaders who are not only thorough professionals but also good human beings. Our faculty and senior team travel all over the globe to learn and imbibe the best practices so as to enable us to provide solid foundation for learning. As part of this endeavour, we have provided well equipped library with books from diversified areas, periodicals and National & International Journals.

At IDEAL INSTITUTE OF TECHNOLOGY there is a strong relation between the academic represented by students and faculty, and the corporate world. The purpose is to initiate continuous interaction with the industry, sharing the industry experiences, understanding industry needs and providing the required support to the corporate world, as well as opportunities to students to work in alliance with Industry.

Academic programs at Ideal institute of technology are designed to enable growth and learning in a highly focused and application-based environment. This is achieved through a combination of formal lectures and hands-on experience in well-equipped laboratories and through learning-based projects.

Activities of the Promoting Body since inception: (On Academic, Social & Industrial Activities and details on other institutions run by the Promoting Body) Members are involved in academic, social and industrial activities. The President of the society is engaged in the social activities, which include academically and financially helping the poor and / or meritorious students. Some members of the promoting body are involved in academic field and managing educational institutions. The Society members decided to continue their service in the field of education with redoubled vigor and dedication to meet the changing challenges in their fields. The society is financially sound and will be able to construct buildings and purchase of Equipment required for the Ideal institute of technology. Ideal Foundation is a charitable trust backed by the ideal Group and we, the promoters of the trust consist of professional educationalists. We have organized various cultural competitions in Maharashtra and guided students regularly at school level, which boosted many youngsters to achieve excellence in their respective career. Inter school & college competitions in singing, Elocution, acting etc. are held annually, thereby excelling the students for co-curricular activities. These competitions are getting encouraging response from the student's year after year.

About Ideal Education

In Academic, Social & Industrial Activities and details on other institutions run by the Promoting Body Members are involved in academic, social and industrial activities. The Chairman of the society is engaged in the social activities, which include academically and financially helping the poor and /



or meritorious students. Some members of the promoting body are involved in academic field and managing educational institutions. The Society members decided to continue their service in the field of education with redoubled Vigor and dedication to meet the changing challenges in their fields. The society is financially sound and will be able to construct buildings and purchase of equipment's required for the Ideal institute of technology.

List of courses offered by the institute:

- Computer Engineering
- Civil Engineering
- Mechanical Engineering
- Electrical Engineering
- Electronics & Telecommunication Engineering

Electricity is supplied by Maharashtra State Electricity Distribution Company Ltd and for backup powers supply – two 30KVA DG sets are available.

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



Chapter 01: Introduction

Ideal Institute of Technology 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 03rd April 2024.

This report is on the energy audit carried out in Ideal Institute of Technology. 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 Ideal Institute of Technology 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 include 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 Plant 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:

Rating of Transformer (in KVA)	200KVA
Year of installation of the Transformer	2013
Rating of DG Set (in KVA)	30KVA
Rating of Capacitor Bank (if present)	NA
Capacity of Solar Power Plant (if installed)	NA

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:

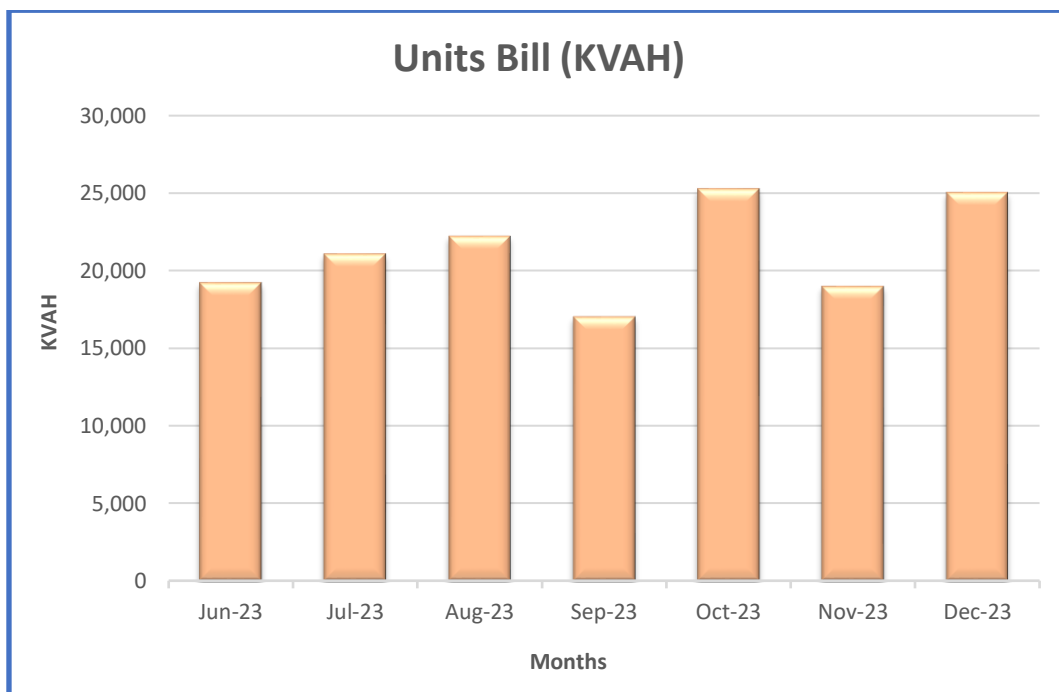
- Electricity supply from Maharashtra State Electricity Distribution Company Ltd.
- Two 30KVA DG sets are available.

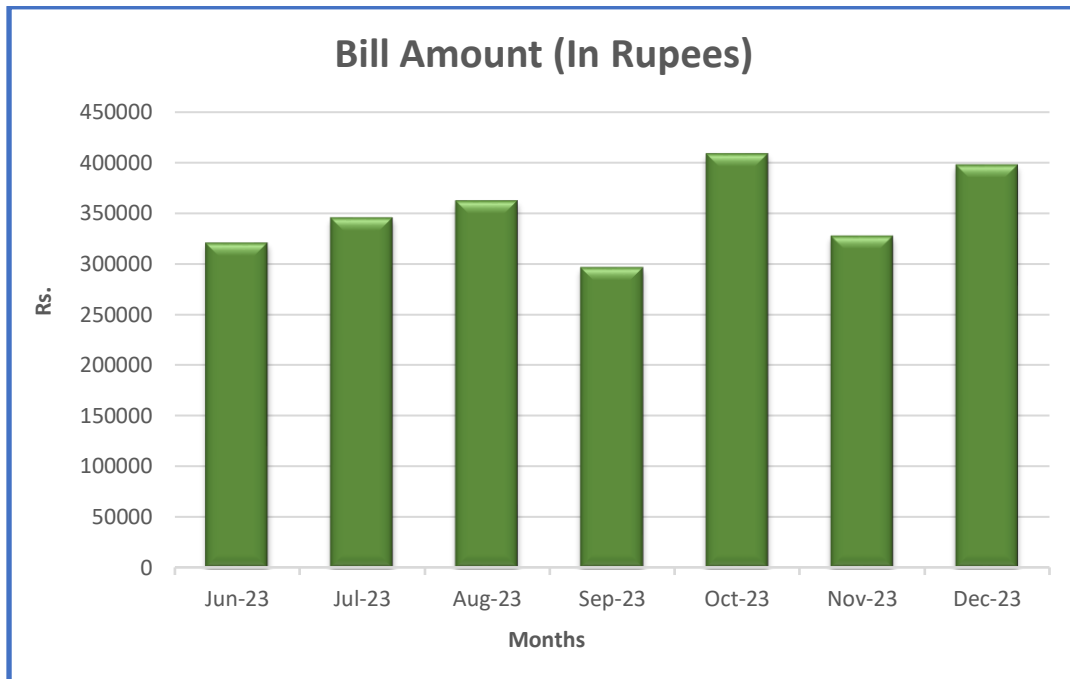


Consumption pattern for energy is given below:

Available electricity bills for the year were collected and following is the summary for energy meter.

Bill Month	Units Bill (KVAH)	Demand (KVA)	Bill Amount (In Rupees)
Jun-23	19,258	105	321025.00
Jul-23	21,098	105	345988.00
Aug-23	22,261	105	362554.00
Sep-23	17,063	105	296501.00
Oct-23	25,306	105	409265.00
Nov-23	19,027	105	328045.00
Dec-23	25,063	105	397900.00







Chapter 03: Lighting System

The lighting inventory of the colleges present in the university were collected and following is the summary:

Type of lights (LED/CFL/Conventional Bulb/Tube Light)	Location	Rating	Quantity	Number of Hours being turned on
LED Tube light	Class Room	20W	64	3
LED Tube light	Lab	20W	120	1
LED Tube light	Corridor	20W	50	4
LED Tube light	Office	20W	6	4
LED Tube light	Common area	20W	40	4
LED Tube light	Playground	20W	20	8
LED Blubs	Main Gate	40W	2	8
LED Tube light	Lobby	20W	10	4
LED Tube light	Reception	20W	2	4
LED Blubs	Street lights	40W	100	8

Observation:

It was observed that energy efficient LED lights are installed in the campus. College management has replaced all the conventional lights with LED lights.

Recommendation:

- Occupancy sensors can be installed in cabins and spaces where continuous lighting is not required.
- Sticker to SWITCH OFF LIGHT and SAVE ENERGY to be displayed.
- Regular cleaning of light fixtures to be done to get maximum lux level.





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:

Name of Pump and make	Running Hours	Rated Capacity in KW	Flow Rate	Head	RPM
Kirloskar Submersible	5	5	100	1	4000
Kirloskar Submersible	5	5	100	1	4000

Observation:

All pumps and motors are functioning properly and well maintained.

Recommendation:

Proper maintenance and upkeep of pump and motor to be done.



Chapter 05: Photographic Evidence

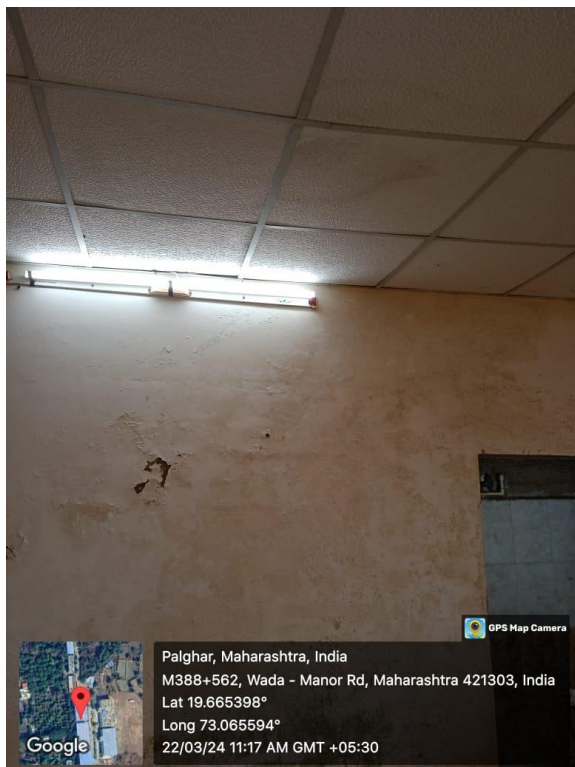


DG SET

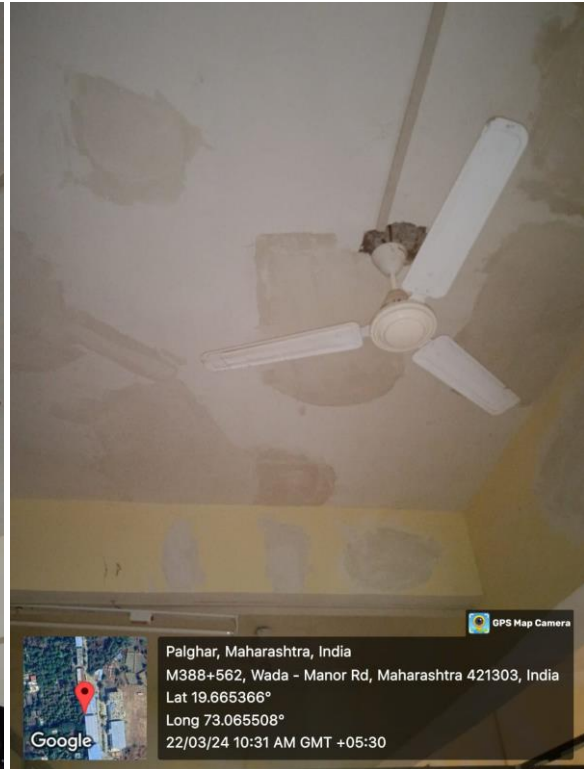
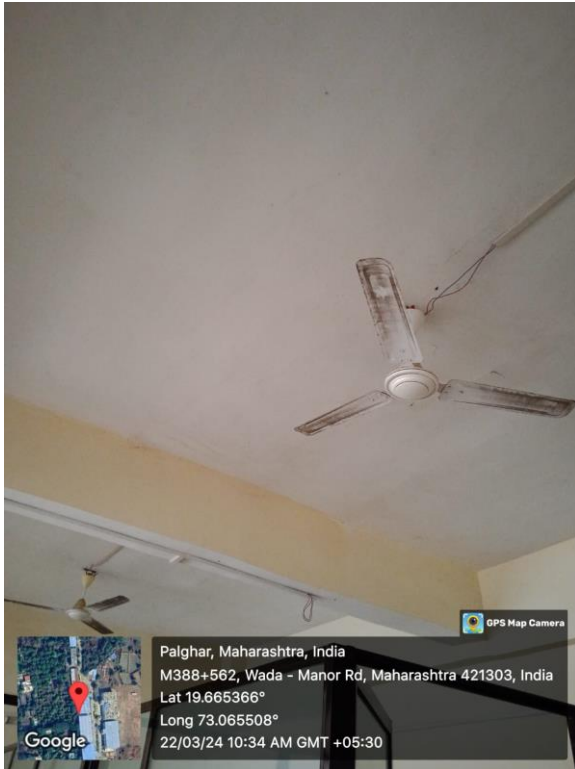




DG SET



LED LIGHTS



CEILING FANS



EXHAUST FANS



Conclusion

The energy audit conducted at Ideal Institute of Technology has revealed that college is doing good work in having sustainable college. Energy efficient LED lights are installed in the entire campus. To further reduce energy consumption, college should implement the recommendation made in report.

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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