ENERGY AUDIT REPORT
FOR
IDEAL COLLEGE OF LAW

Elion Technologies & Consulting Private Limited

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Acknowledgement

Elion Technologies and Consulting Pvt Ltd places on record it's thanks to Ideal College of Law 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 College of Law
College Address	Village Posheri Taluka Wada, Dist. Palghar, Maharashtra, 241303
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	20th January 2024
Year of Audit	2023 – 2024
Main Energy Consuming Machines/Equipments considered for Energy Audit	• Lighting & Fans • Air Conditioners • Motors & Pumps • Desktops & Printers

Executive Summary

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 College derives its strength and ethos from the highly qualified and dedicated faculty. The college has the unique and proud privilege of intimate association with prominent legal professionals of distinction as visiting faculty who regularly conduct lectures, workshops and discussions with students despite their hectic schedules and preoccupations.

The mission of Ideal Law College is to create lawyers and legal professionals, who are well versed in national and trans-national legal systems. The emerging technologies have changed the laws governing communication and intellectual property rights. Modern lawyers are expected to remain in the know-how of these changes and acquire proficiency in these practices. It is our commitment to produce legal eagles who would add new dimensions to the legal profession and contribute significantly towards the social equity and make legal practice value based.

List of courses offered by the institute:

Following are the list of courses offered by the institute:

- LLB
- BLS.LLB
- LLM

Electricity is supplied by Maharashtra State Electricity Distribution Company Limited and for backup powers supply DG Set of 25KVA is available.

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

Chapter 01: Introduction

M/S Ideal College of Law 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 Detailed Energy Audit on 20th January 2024.

This report is on the energy audit carried out M/S Ideal College of Law. 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 College of Law 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.

- 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)	15KVA
Year of installation of the Transformer	-
Rating of DG Set (in KVA)	25KVA
Rating of Capacitor Bank (if present)	No
Capacity of Solar Power Plant (if installed)	10KW

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

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

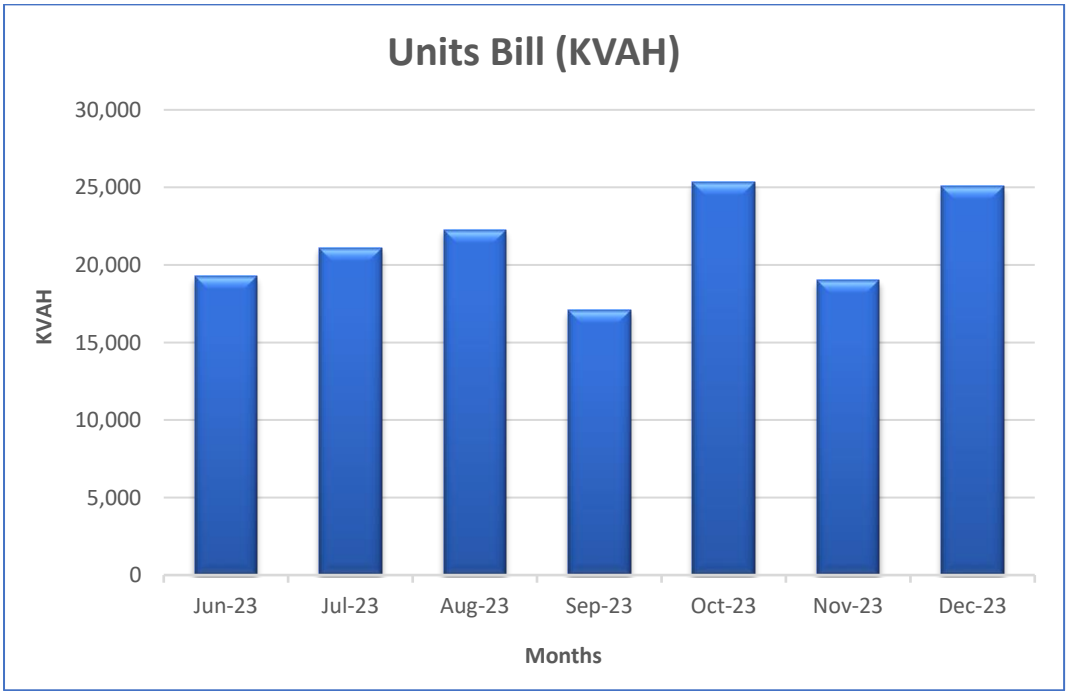
The main sources of energy to meet the required consumptions are as follows:

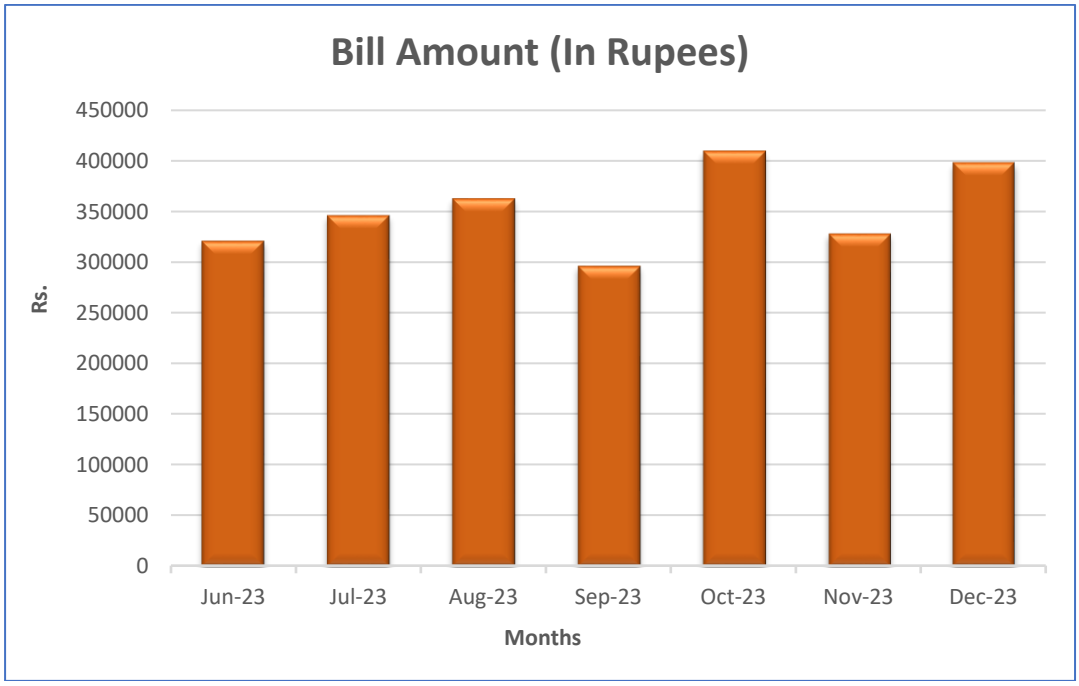
- Electricity supply from Power Distribution Company.
- DG set of rating 25KVA.
- Solar power plant of capacity 10KW.

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




Bill Amount (In Rupees)
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
Rs.
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Months

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 Blubs	Class Room	10 W	124	7 hours
LED Tube Light	Corridor	36 W	245	10 hours
LED Blubs	Labs	20W	567	7 hours
LED Blubs	Office	10 W	48	7 hours
LED Tube Light	Common Area	36 W	189	10 hours
LED Blubs	Playground	10 W	56	10 hours
LED Tube Light	Main Gate	36 W	25	10 hours
LED Tube Light	Lobby	36 W	100	10 hours

Observation:

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

LED Lights

Recommendation:

- Sticker to SWITCH OFF LIGHT and SAVE ENERGY to be displayed.
- Regular cleaning of light fixtures to be done to get maximum lux level.
- Use of occupancy sensors can be considered in the offices and cabins.

Chapter 04: Air Conditioning

Window and Split Air Conditioners are used in facility 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)
10 Window AC	1.5	3	25	9	Yes
27 Split AC	2	5	24	8	Yes

Observation:

- All air conditioners are found to be functioning properly and well maintained.
- Periodic servicing and cleaning of filters of air conditioners are carried out.

Air Conditioners

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.

- Use of AC energy savers can be considered foe the air conditioners operating more than 10 hours.

Chapter 05: 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
Kirloskar	6	5KW
Kirloskar	2	3KW

Name of Motor and make	Running Hours	Ampere
3 HP 5 KW	6	2.5

Observation:

- Condition of the fire pumps found satisfactory and well maintained.

Recommendation:

- Proper maintenance and upkeep of pumps and motors along with panels to be done.
- The management should also consider replacement of the old pumps with energy efficient 5 star rated pumps.

Conclusion

The energy audit performed at Ideal College of Law showcased commendable efforts towards sustainability within the college. The replacement of conventional lights with energy-efficient LED alternatives marks a significant stride in reducing energy consumption. Additionally, the integration of a fully functional solar water heater system underscores the commitment to renewable energy sources.

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 college's energy-saving initiatives, continuing the positive trajectory towards a more environmentally conscious campus.

End of Report

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