



KUMAUN UNIVERSITY

ENERGY AUDIT REPORT

2023-2024



Prepared by
EHS ALLIANCE



TABLE OF CONTENT

TABLE OF CONTENT	1
CERTIFICATE.....	2
ACKNOWLEDGEMENT	3
DISCLAIMER	4
ABBREVIATION.....	5
OVERVIEW OF THE UNIVERSITY	6
AUDIT PARTICIPANTS.....	10
EXECUTIVE SUMMARY	10
ENERGY AUDIT - ANALYSIS	11
1.1 Summary of Monthly Electricity Consumption and Total Bill Amount	12
2. DIESEL CONSUMPTION	13
3. ANALYSIS OF DG SETS	14
4. AC SYSTEM	16
5. FANS ANALYSIS.....	16
6. ANALYSIS OF LIGHTING SYSTEM	18
6.1 Brief description of existing system.....	18
6.2 Inventory of Lighting	18
6.3 Lux Measurement.....	19
7. OTHER POWER CONSUMPTION.....	21
7.1 Inventory of IT Infrastructure.....	21
7.2 Water pump details.....	22
7.3 Other Loads.....	22
8. CAPACITOR BANK.....	23



CERTIFICATE



CERTIFICATE

PRESENTED TO

KUMAUN UNIVERSITY

Sleepy Hollow, Nainital-263001, Uttarakhand, India

Has been assessed by EHS Alliance Services for the comprehensive study of environmental impacts on institutional working framework to fulfill the requirement of

ENVIRONMENT AUDIT

ACADEMIC YEAR 2023-24

The environment legal compliances and initiatives carried out by the institution have been verified on the report submitted and were found to be satisfactory.

The efforts taken by management and faculty towards environment and sustainability are highly appreciated and noteworthy.

SIGNATURE



27.02.2025

DATE OF AUDIT

EHS ALLIANCE SERVICES, PLOT A-72, SURYA VIHAR, GURUGRAM, 122001
WWW.EHSALL.IN | BUSINESS@EHSALL.IN | EHSALLIANCE@GMAIL.COM

ACKNOWLEDGEMENT

EHS Alliance Services would like to thank the management of Kumaun University for assigning this important work of Energy Audit. We appreciate the co-operation to the teams for completion of assessment.

First of all, we would like to thank **Prof. D. S. Rawat Vice Chancellor** and **Prof. Neeta Bora Sharma Director, DSB** for giving us an opportunity to evaluate the environmental performance of the campus.

We would also like to thank **Prof. Seema Pande – Chairman, Energy Audit Committee**, for their continuous support and guidance, without which the completion of the project would not have been possible. We are also thankful to other staff members who were actively involved while collecting the data and conducting field measurements.

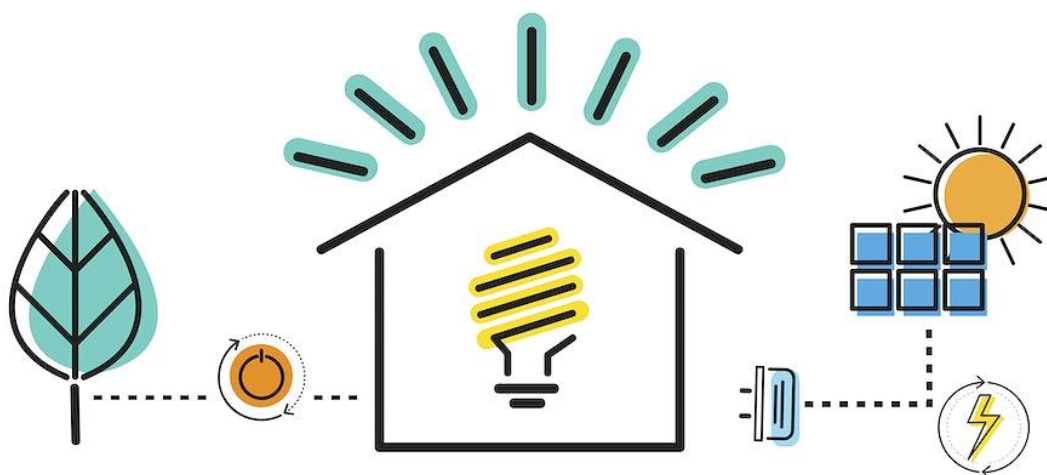
We are also thankful to

Prof. SS Bargali

Chairman, Green Audit Committee

Prof. Anita Pande

Chairman, Environment Audit Committee



energy saving



DISCLAIMER

EHS Alliance Services Energy Audit Team has prepared this Energy Audit Report for Kumaun University based on input data submitted by the representatives of university complemented with the best judgment capacity of the expert team.

While all reasonable care has been taken in its preparation, details contained in this report have been compiled in good faith based on information gathered.

It is further informed that the conclusions are arrived following best estimates and no representation, warranty or undertaking, express or implied is made and no responsibility is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report.

If you wish to distribute copies of this report external to your organization, then all pages must be included.

EHS Alliance, its staff and agents shall keep confidential all information relating to your organization and shall not disclose any such information to any third party, except that in the public domain or required by law or relevant accreditation bodies. EHS Alliance staff, agents and accreditation bodies have signed individual confidentiality undertakings and will only receive confidential information on a 'need to know' basis.

Vijay Singh
Lead Auditor EMS & Energy



Dr. Uday Pratap
Co-Auditor EMS & Energy



ABBREVIATION

A	Amps
AC	Air Conditioner
AC	Alternating Current
AMET	Academy of Maritime Education and Training
CFL	Compact fluorescent lamp
CIP	Comprehensive Inspection Programme
DC	Direct Current
HSD	High Speed Diesel
Hz	Hertz
kg	Kilogram
kVA	kilo-volt-ampere
kW	kilo Watts
kWh	kilowatt hour
kWp	Kilowatt peak
LED	Light Emitting Diode
LPG	Liquefied Petroleum Gas
MMS	Module mounting structure
MPPT	Maximum Power Point Tracker
NAAC	The National Assessment and Accreditation Council
SEC	Specific Energy Consumption
SPV	Solar Photovoltaic
STC	Standard Test Condition
TV	Television
V	Volts
W	Watts
W/m²	watt per square metre



OVERVIEW OF THE UNIVERSITY

Established in 1973, Kumaun University, nestled in Uttarakhand, emerged from the merger of two eminent government colleges, namely, D.S.B. Government P.G. College, Nainital and Almora Government P.G. College. Kumaun University earned its recognition from the University Grants Commission (UGC) in New Delhi under Section 12-B of the UGC Act, 1956. This recognition enabled the University to receive consistent support from the UGC. Over time, the University transformed from a mere institution to a leading academic beacon for thousands in the Kumaun Region of Uttarakhand.

Recognizing the diverse educational needs of Kumaun's remote areas, the State Legislature implemented the SSJ University Act (Act No. 20 of 2019). This decision led to the bifurcation of Kumaun University and the establishment of SSJ University Almora. This pivotal change was officially announced by the Uttarakhand Government on 22nd June 2020 through Order No. 168/XXXVI (3) 2020/ 771/ 2019.



Now, the Kumaun University's sprawling campuses at D.S.B., Nainital and Sir J C Bose at Bhimtal cover an area of approximately 160 acres, featuring state-of-the-art facilities. With affiliations to 20 government colleges, 61 private institutions, and a government-aided college, the university supports around 1,50,000 students, making it Uttarakhand's largest.

A key feature that sets Kumaun University apart is its unwavering commitment to delivering an inclusive educational environment, irrespective of background, race, or faith. The



institution diligently fosters a spirit of innovation, civic responsibility, and personal integrity. Its endeavours to bridge the gap between academia, government, and industry are commendable.

Over the past three years, the university has focused on establishing recognized departments for both scientific and social research. This initiative has garnered attention from faculty members and students countrywide. Pre-Uttarakhand state formation, Kumaun University set benchmarks for state universities in terms of academic rigor, student discipline, resource generation, and maintaining a conducive learning environment. Such standards earned the university an 'A' Grade accreditation from the National Assessment and Accreditation Council (NAAC) in 2015.

The university is imparting quality education and research facilities in all ten faculties:

- Faculty of Arts (Drawing and Painting ,Economics, English ,Geography ,Hindi ,History ,Home science, Music, Political Science,Psychology,Sanskrit, Sociology and Tourism)
- Faculty of Science(Botany,Forestry,Chemistry,Computer Science, Geology, Mathematics, Physics, Statistics, Zoology ,Biotechnology, and Information Technology)
- Faculty of Commerce (B.com,B.com(Hon.),M.Com)
- Faculty of Management(BBA,MBA,P.G. Diploma in Tourism,MBA in Tourism,MBA Executive, MBA Rural Management)
- Faculty of Education(B. Ed and M. Ed)
- Faculty of Law(LL.B and LL.M,)
- Faculty of Technology(B.Pharma, and M.Pharma)
- Faculty of Visuals Arts(B.F.A and M.F.A)
- Faculty of Agriculture (B.Sc. and M.Sc.)
- Faculty of Biomedical Science (M.Sc.)

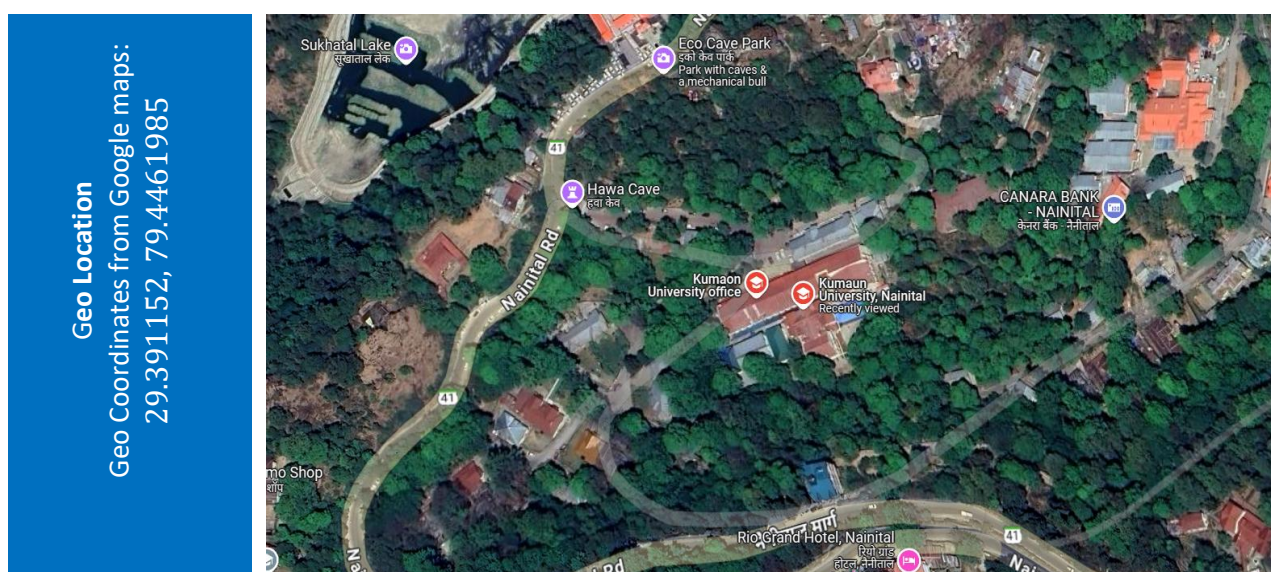
Facilities in the campus

LIBRARY: The Central Library of Kumaun University in Nainital was established in the year 1973 and has since grown to house a very rich collection of books spanning various branches of knowledge. Serving as the nerve centre of the university, this library operates under the supervision of a Deputy Librarian, ensuring its smooth and efficient functioning. To enhance user convenience and streamline processes, an automated circulation counter has been made available for the issue, return, and renewal of books. Additionally, the library has adopted an "Open Access system," allowing users greater freedom in accessing its resources. Overall, a well-stocked library like this is considered a valuable asset to the



university, providing essential support to students, faculty, and researchers in their academic and research endeavors.

MEDICAL FACILITY: The University has teamed up with leading district hospitals to provide swift medical care for students. Operating a dedicated ambulance van, the University ensures prompt transportation of ailing students to these affiliated hospitals. Additionally, on-campus first aid services are available to address immediate medical needs. These facilities offer initial care for minor injuries or health concerns, emphasizing the University's commitment to the well-being of its students by guaranteeing access to essential medical services and support when required.





MISSION, VISION & VALUES

MISSION - The mission encompasses several key objectives: Firstly, we aim to provide transformative education that equips students with the knowledge and skills needed to tackle real-world challenges effectively. Secondly, we strive to push the boundaries of knowledge through influential research that addresses societal issues and contributes to the progress of the country. Thirdly, we are committed to fostering an inclusive and diverse learning environment that promotes cultural understanding, ethical values, and a lifelong passion for learning. Lastly, the goal is to produce graduates who are professionally and personally developed, possessing both theoretical knowledge and practical skills, thereby enabling them to excel in their chosen fields and make positive contributions to society.

VISION - The vision is to become a globally acclaimed institution committed to excellence in education, research, and innovation, while fostering comprehensive growth and cultivating socially conscious global leaders. We aim to equip individuals with the skills and responsibility necessary to thrive as citizens. Transparency and accountability will be fundamental principles in the governance policies, ensuring integrity and trust. Additionally, we will adhere to quality assurance standards aligned with the best practices of higher education, guaranteeing the delivery of excellence in all aspects of the institution.

CORE VALUES - The focus areas encompass various critical aspects: Firstly, we are dedicated to promoting gender equality and empowering women within the institution and broader society. Secondly, we prioritize e-governance and efficient administration to streamline processes and enhance organizational effectiveness. Thirdly, we are committed to implementing green practices to minimize the environmental impact and contribute to sustainability efforts. Lastly, we emphasize cultural and religious tolerance and harmony, fostering an inclusive and respectful community where diversity is celebrated and valued.



AUDIT PARTICIPANTS

On behalf of university

Name	Designation
Prof. D. S. Rawat	<i>Vice - Chancellor</i>
Prof. Neeta Bora Sharma	<i>Director</i>
Prof. Seema Pande	<i>Dept. of Physics & Chairman, Energy Audit Committee</i>
Prof. S. S. Bergali	<i>Chairman, Green Audit Committee</i>
Prof. Anita Pande	<i>Chairman, Environment Audit Committee</i>
Dr. Himanshu Lohani	<i>Dept. of Zoology</i>
Dr. Vinod Kr. Joshi	<i>Dept. of Commerce</i>
Dr. Daleep Kumar	<i>Dept. of Economics</i>
Dr. Hem Bhatt	<i>Dept. of Computer Science</i>
Dr. Deepika Pant	<i>Member, IQAC</i>
Dr. Nandan Singh Bisht	<i>Member, IQAC</i>

On behalf of EHS Alliance Services

Name	Position	Qualifications
Mr. Vijay Singh	Lead Auditor	<i>M.Sc. M. Tech (Environment Science & Engineering), Energy Auditor, Post Diploma in Industrial Safety Management</i>
Dr. Uday Pratap	Co-Auditor	<i>Ph.D., EMS: Lead Auditor ISO14001:2015, QCI-WASH</i>

EXECUTIVE SUMMARY

The purpose of this Energy Audit was to seek opportunities to improve the energy efficiency of the Kumaun University. Reducing the energy consumption despite improving the human comfort, health and safety were of primary concern.

Beyond just identifying the energy consumption pattern, this audit sought to detect and categorize the most energy efficient appliances. Additionally, some daily practices relating common appliances have been shared which may help reducing the energy consumption. Data collection for energy audit of the campus was carried out by the EHS Alliance Team. The Energy Audit Report accounts for the energy consumption patterns of the institution on actual survey and detailed analysis during the audit.



The work comprehends the area wise consumption traced using suitable equipment. The analysis was carried out by our team with the support of the staff members from Kumaun University. The report provides a list of possible actions to preserve and efficiently access the available source, resources and their saving potential was also identified. We look forward towards optimization that the authorities, students and staff members would follow the recommendations in the best possible way. The report is based on certain generalizations including the approximations wherever necessary. The views conveyed may not reveal the general opinion. They merely represent the opinion of the team guided by the interviews of clients. We are happy to submit this Energy audit report to the Kumaun University.

ENERGY AUDIT - ANALYSIS

1. ENERGY CONSUMPTION

To understand the Energy Consumption trends and for analyzing the average monthly consumption we have collected electricity energy bills from July 2023 to June 2024

The details of “**Meter Connection**” at “**Kumaun University**” are as follows-

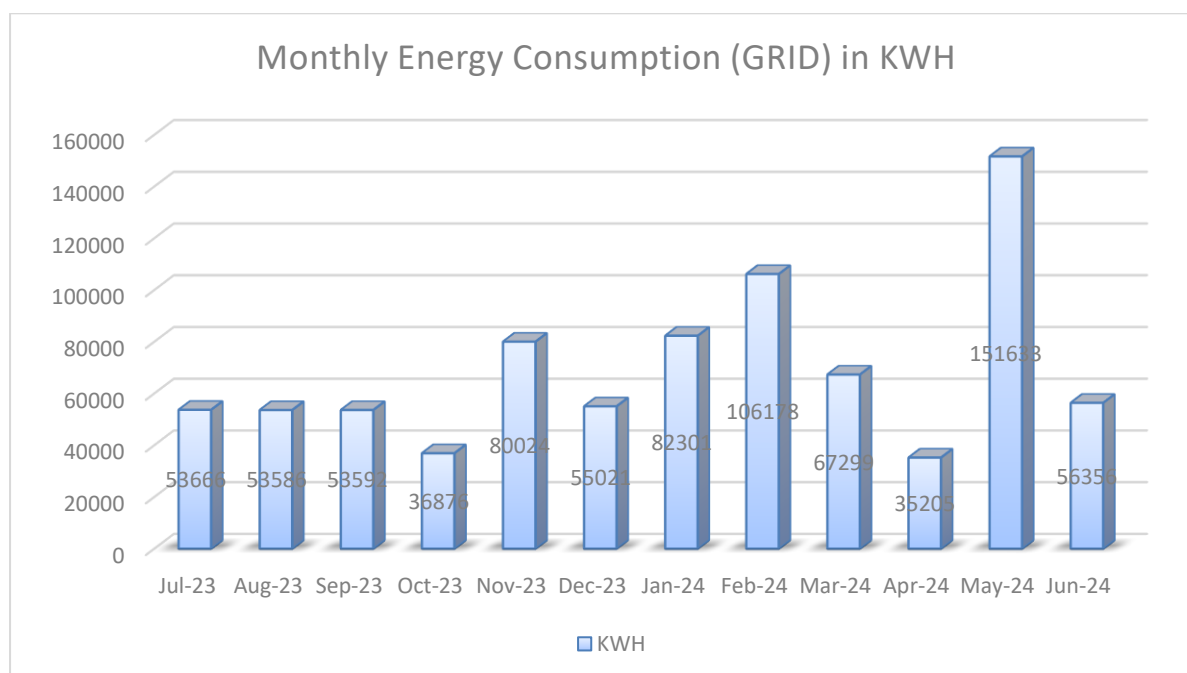
KU Premises	Name	CA No.
Administrative Block, Nainital	Registrar, Kumaun University	40118951532
D.S.B. Campus, Nainital	Director, DBS Campus	40100680124
	Nano Technology & Nano Science	41900856316
	Head, Geology Department	40100279294
	Law Department	596A105901586 8(40100279284)
Community College, Bhimtal	Community College	596B161099054
J.C. Bose Campus, Bhimtal	Department of Pharmaceutical Science	590K000025825
	Department of Biotechnology	590K000007891



1.1 Summary of Monthly Electricity Consumption and Total Bill Amount

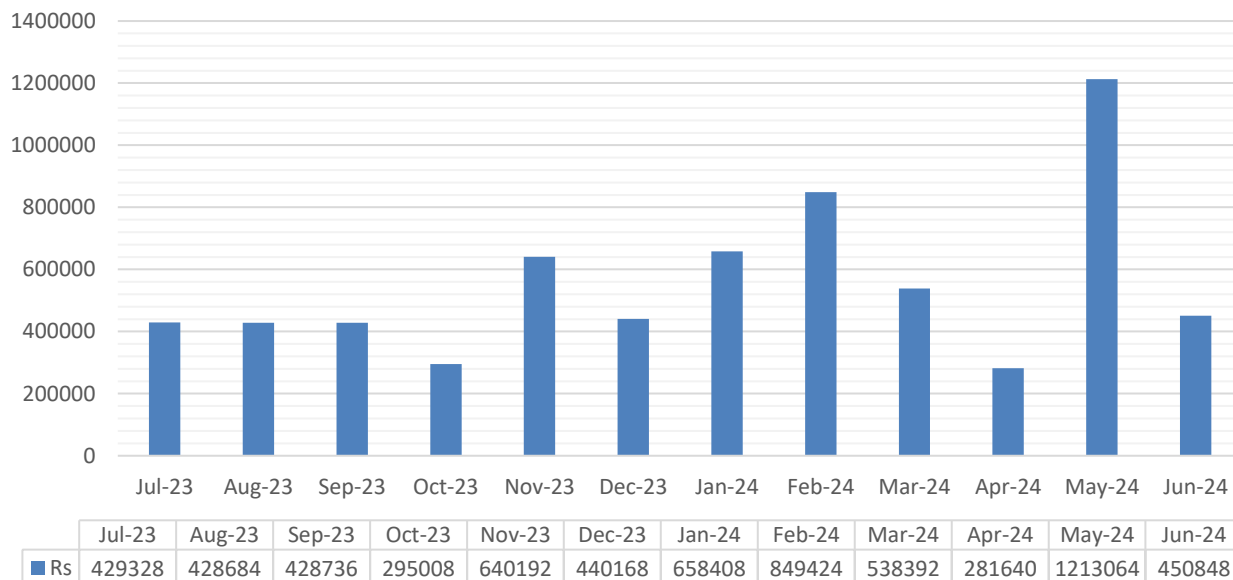
To understand the Energy consumption trend and for developing the baseline parameter we have collected monthly energy bill for the 12 months i.e. from July 2023 to June 2024

Month	Grid Units	Amount	Solar Units	Export kWh	Total	Amount
Jul-23	53666	8.00	0	0	53666	429328
Aug-23	53586	8.00	0	0	53586	428684
Sep-23	53592	8.00	0	0	53592	428736
Oct-23	36876	8.00	0	0	36876	295008
Nov-23	80024	8.00	0	0	80024	640192
Dec-23	55021	8.00	0	0	55021	440168
Jan-24	82301	8.00	0	0	82301	658408
Feb-24	106178	8.00	0	0	106178	849424
Mar-24	67299	8.00	0	0	67299	538392
Apr-24	35205	8.00	0	0	35205	281640
May-24	151633	8.00	0	0	151633	1213064
Jun-24	56356	8.00	0	0	56356	450848
SUM	831737		0	0.00	831737	6653892





Monthly Energy Consumption - from JULY 2023 to JUNE 2024

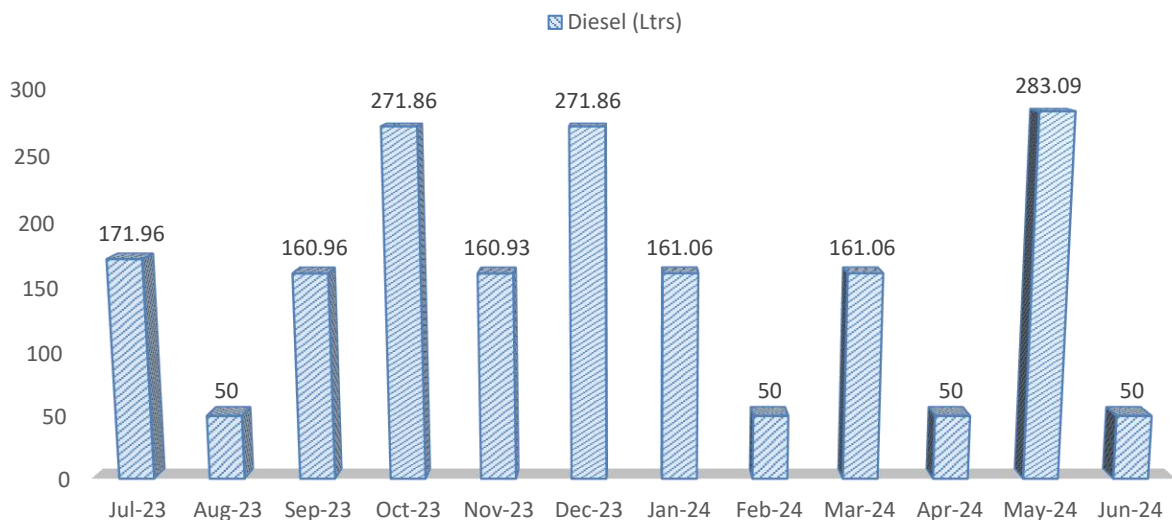


2. DIESEL CONSUMPTION

Below is the diesel consumption details in litres from July 2023 to June 2024.

Month	Diesel (Ltrs)
Jul-23	171.96
Aug-23	50
Sep-23	160.96
Oct-23	271.86
Nov-23	160.93
Dec-23	271.86
Jan-24	161.06
Feb-24	50
Mar-24	161.06
Apr-24	50
May-24	283.09
Jun-24	50
Total	1842.78

DIESEL CONSUMPTION (LITRES) JULY 2023 TO JUNE 2024



3. ANALYSIS OF DG SETS

In the campus, there is only one Diesel Generator (DG) set for its electrical power needs in case of Grid power failure. DG sets capacity is 250 kVA.

Description	Rated capacity	Hz	Sl No.	Make	Volts	PF	Phase	RPM	Amps	Mfg.
DG Station -1	100	50	CJ01031255	Cummins	415	0.8	3 Phase	1500	139	19.01.2001
DG Station -2	62.5	50	10365620	Cummins	415	0.8	3 Phase	1500	87	28.03.2001
DG Station -3	50	50	1031333	Cummins	415	0.8	3 Phase	1500	41	14.12.2000
DG Station -4	40	50	4h8m1046	Mahendra & Mahendra	440	0.8	3	1500	10	Jun-08
DG Station -5	30	50	--	Mahendra	415	0.8	3	1500	80 amps	2011
DG Station -6	20	50	QMC12000-68	Krriloskar	415	0.8	3	1500	27.8	2005

DG Set Operation details		
Operating hours during testing	Hours	0.50
% Loading	%	60.71
Energy Generation	kWh	32.64
Load	kVA	89.23
Fuel consumption during testing	Litre	7.5
Specific energy generation	kWh/litre	3.09

Observation and Suggestions: -

Soundproof silent generators are an efficient tool to keep both noise and vibration at low levels. For the power backup of the institution, the soundproof model is installed in the institution.

As per the trial taken during the energy audit the percentage loading of DG set is 60.71% which is ok and specific energy consumption of DG Sets 3.09 kWh/Litre which is satisfactory because as per manufacturer recommendation, best practices for SEC in DG sets range from 3.0 to 3.5 kWh/Litre and above.

We recommend university to initiate stack monitoring of DG set through authorized lab.





4. AC SYSTEM

Energy Efficiency Ratio (EER): Performance of smaller chillers and rooftop units is frequently measured in EER rather than kW/ton. EER is calculated by dividing a chiller's cooling

Capacity (in Btu/h) by its power input (in watts) at full-load conditions. The higher the EER, the More efficient the unit. The cooling effect produced is quantified as tons of refrigeration (TR). The above TR is also called as air-conditioning tonnage.

There are 43 ACs installed in Kumaun University in various areas of various capacity which detail is given below: -

Campus/Location/ Identification	Name of the Department	Type(Window/Split)	1.5 TR(Qty.)
Sir J.C. Bose Technical Campus	Pharmaceutical Sciences	Split	1
SirJ. C. Bose Technical Campus, Bhimtal	Biotechnology	Split	16
SirJ. C. Bose Technical Campus, Bhimtal	Management	Split/ Window	10
D.S.B. Campus, Nainital	Department of Hime Science		4
D.S.B. Campus, Nainital	Agriculture & Agroforestry		4
Kumaun University, Nainital	Administrative Block	Window	8

Remarks: - We have checked Energy Efficiency Ratio of AC's and EER of AC's is fairly OK. But in future you should purchase 5-Star rated inverter based split AC's because power consumption of Inverter based BEE 5-Star rated AC's is less than non-star rated AC's.

Also, we recommend Kumaun University to organize periodic maintenance schedule and take corrective actions for insulating of AC's refrigerant lines in order to protect energy losses.

5. FANS ANALYSIS

In the Kumaun University, there are 352 fans installed, out of which 226 are ceiling fans of 60W, 115 are of 70 W, 3 are pedestal fans and 8 are bracket fans 45W.

S. No.	Campus/Location/ Identification	Name of the Department	Ceiling Fan- 60W	Ceiling Fan- 70W	Pedestal Fan 60W	Bracket Fan 45W
1	DSB Campus, Nainital	PRS-NSNT Centre, Chemistry				
2	DSB Campus, Nainital	Economics				
3	DSB Campus, Nainital	Hindi & Other Indian Language				
4	DSB Campus, Nainital	Sanskrit				



5	DSB Campus, Nainital	Sociology				
6	DSB Campus, Nainital	G B Pant Library				
7	DSB Campus, Nainital	Geology				
8	DSB Campus, Nainital	Drawing & Painting				
9	DSB Campus, Nainital	Commerce				
10	DSB Campus, Nainital	Computer Science				
11	DSB Campus, Nainital	Geography				
12	DSB Campus, Nainital	Tourism & Hospitality Management				
13	DSB Campus, Nainital	History				
14	DSB Campus, Nainital	Journalism and Mass Communication				
15	Sir J.C. Bose Technical Campus, Bhimtal	Pharmaceutical Sciences	109			5
16	DSB Campus, Nainital	Zoology				
17	DSB Campus, Nainital	English				
18	DSB Campus, Nainital	Mathematics				
19	Sir J.C. Bose Technical Campus, Bhimtal	Biotechnology	93			
20	D. S. B. Campus, Nainital	Forestry			2	
21	Sir J.C. Bose Technical Campus, Bhimtal	Management		115	1	3
22	D. S. B. Campus, Nainital	Information Technology				
23	D. S. B. Campus, Nainital	Statistics				
24	D. S. B. Campus, Nainital	Dr. Rajendra Prasad Law Institute Nainital				
25	D. S. B. Campus, Nainital	Department of Home Science				
26	D. S. B. Campus, Nainital	Agriculture & Agroforestry				
27	D. S. B. Campus, Nainital	Institute of Professional Studies & Development Research (IPSDR)				
28	D. S. B. Campus, Nainital	Physics				
29	D. S. B. Campus, Nainital	Community College Bhimtal	24			
30	Kumaun University Nainital	Administrative Block				
		Grand Total	226	115	3	8



Total no of Ceiling Fans (60W)	=	1018	Nos.
Total wattage of 60W Ceiling Fans	=	61080	Watt
Total wattage of BEE 5 Star rated Fans (30W)	=	30540	Watt
Total saving in Wattage after replacement	=	30540	Watt
Operating hours per day	=	8	Hours
Operating days per annum	=	283	Days
Energy charges per unit in Rs.	=	8.0	INR
Saving in Rs./annum	=	551510.4	INR
Investment INR	=	2443200	INR
Payback period	=	4.43	Years

Observation and Suggestions: -

In the university, the ceiling fans are of 60 W and 70W but BEE 5 Star Rated of 30W Ceiling Fans are present in the market. We recommend to replace existing fans to BEE 5 Star rated 30W fans, and consider purchasing BEE 5 star fans for all future purchases.

Note:- Energy saving will increase or decrease if operating hours of machine /equipment will be increased or decreased and payback period will also increase or decrease if cost of investment (Cost of machine/equipment/accessories of machine) will increase or decrease because cost of investment is taken on tentative basis.

6. ANALYSIS OF LIGHTING SYSTEM

6.1 Brief description of existing system

For assessing energy efficiency of lighting system, Inventory of the Lighting System has been noted / collected, with the aid of a lux meter, measurement and documentation of the lux levels at various locations at working level has been done.

6.2 Inventory of Lighting

Light Type	Count
200W-LED High Mast	6
10W LED	453
18W LED Light	202
12 W LED Round	72
30W LED	52
36W LED	41
15W Tube light	123
18 W Tube light	606



36W Tube light	60
40W Tube light	173
18 W LED Flood	35
30 W LED Flood	2
20W LED	189
LED Bulb	464
Total	2478

6.3 Lux Measurement

Description	Lux	Remark
<i>Class Rooms</i>	120 to 235	Acceptable
<i>Offices</i>	130 to 240	Acceptable
<i>Corridors</i>	35 to 90	Acceptable
<i>Washrooms</i>	45 to 76	Acceptable
<i>Outdoor</i>	36 to 95	Acceptable
<i>Computer Lab</i>	150 to 289	Acceptable
<i>Parking area</i>	45 to 94	Acceptable
<i>Canteen</i>	69 to 185	Acceptable

Observation

University has initiated LED based lighting solution, but still there are 289 (36W) tube lights and 55 tube lights (40W).

Total no of Tube Light (36W)	Nos.	289
Total no of Tube Light (40W)	Nos.	55
Total wattage of 36W Tube Light	Watt	10,404
Total wattage of 40W Tube Light	Watt	5540
Total wattage of 18W LED Tube Light	Watt	6,192
Total saving in Wattage after replacement	Watt	9,752
Operating hours per day	Hours	8
Operating days per annum	Days	180
Energy charges per unit in Rs.	INR	8
Saving in Rs./annum	INR	1,12,343
Investment INR	INR	68,800
Payback period: -	YEARS	0.61



We strongly recommend to replace the existing 40W and 36EW conventional tube lights with new 20W LED Tube lights immediately to save energy because the payback period is less than 1 year. Additionally, we recommend to install motion sensor-based lights in common areas such as library, washrooms, corridors, etc.

We also recommend to use solar lights for open areas like parking, ground, street lights, etc. and motion sensor lights for common areas such as library, corridors, washrooms, etc. Table below shows the performance characteristics comparison of all luminaries.

Table - Luminous Performance Characteristics of Commonly Used Luminaries					
Type of Lamp	Lumens/Watt		Colour Render Index	Typical Application	Typical Life
	Range	Avg.			
Incandescent	8-18	14	Excellent (100)	Homes, restaurants, general lighting emergency lighting	1000
Fluorescent lamps	46-60	50	Good w.r.t coating (67-77)	Offices, shops, hospitals, homes	5000
Compact fluorescent Lamps (CFL)	40-70	60	Very Good (85)	Hotels, shops, homes, offices	8000-10000
High pressure mercury (HPMV)	44-57	50	Fair (45)	General lighting in factories, garages, car parking, flood lighting	5000
Halogen lamps	18-24	22	Excellent (100)	Display, flood lightening, stadium exhibition grounds, construction areas	2000 - 4000
High pressure sodium (HPSV) SON	67-121	90	Fair (22)	General lighting in ware houses, factories, street lighting	6000 - 12000
Low pressure sodium (LPSV) SOX	101-175	150	Poor (10)	Roadways, tunnels, canals, street lighting	6000 - 12000
Metal halide lamps	75-125	100	Good (70)	Industrial bays, spot lighting, flood lighting, retail stores	8000
LED Lamps	30-50	40	Good (70)	Reading lights, desk lamps, night lights, spotlights, security lights, signage lights, etc.	40000 - 100000



7. OTHER POWER CONSUMPTION

7.1 Inventory of IT Infrastructure

Name of the Department	Desktop	Laptop	Printers	Scanners	Servers	Projector	Photo Copier	Lamination Machine	Inverter
PRS-NSNT Centre, Department of Chemistry	21	9	3	1	2				
Department of Economics	6		4			1			
Hindi & Other Indian Language	6	2	3				1		
Sanskrit	3	4	3				1		
Sociology	1		1						
G B Pant Library	13	1	1	1		1	1	1	
Department of Geology	35	10	14				2		
Drawing & Painting	2	2	2	1					
Commerce	7	3	6	6		1	1		1
Computer Science	46	2	3		3	4			
Geography	30		3	3	1				
Tourism & Hospitality management	8		1	1	1				
History	5		4	4	0				
Journalism and Mass Communication	6		1	1					
Pharmaceutical Sciences	67	1	14	2	1		2		
Zoology	25	5	33	33					
English	3		2	1	1				
Mathematics	30		2	1	1				
Biotechnology	48		2	1	2				
Forestry	6		4						
Management	40	1	6						
Information Technology	12		2						
Statistics									
Dr. Rajendra Prasad Law Institute Nainital	2		2						
Home Science	3	1	3	1			1		
Agriculture & Agroforestry	1		1	1					
IPSDR	8		2				1		
Physics	13	2	9	1	1				
Community College Bhimtal	8		3		1				
Administrative Block	125	4	108	24	2				
Total	580	47	242	83	16	7	10	1	1



7.2 Water pump details

Sr · N o.	Description	Unit	Pump No.-1	Pump No.-2	Pump No.-3	Pump No.-4	Pump No.-5
1	Rated Power of Motor	KW	1.5 HP	1.0 HP	1.0 HP	1.5 HP	1.5 HP
2	Motor Eff.	%	1118.55 watt	0.746 watt	0.746 watt	1118.55 watt	1118.55 watt
3	Discharge Head	m	7500 LPM	500 LPM	500 LPM	7500 LPM	7500 LPM
4	Suction Head	m	29 meters	30 fit	30 fit	29 meters	29 meters
5	Pump Type	Submersible/ Monoblock/Centrifugal Etc.	1 PH	1 PH	1 PH	1 PH	1 PH

7.3 Other Loads

Name of the Department	60W Exhaust Fan	160W Exhaust Fan	Water Cooler- 200W	Heater	Light	Oven	Refrigerator	SWAYMBHU WRM 2021	Dehumidifier	Street Light	Boundary Light	CCTV. Camera	Instrument
PRS-NSNT Centre, Chemistry	13			20	114	7	4	1	1	9	8	9	55
Economics													
Hindi & other Indian Language													
Sanskrit	4												
Sociology													
G B Pant Library													
Geology													
Drawing & painting	3												
Commerce	4			18	1		1						
Computer Science													
Geography													
Tourism & Hospitality Management													
History													
Journalism and Mass Communication													
Pharmaceutical Sciences	15	9	1										
Zoology	5	1											
English													



Mathematics	1												
Biotechnology													
Forestry	3	1											
Management	10	5											
Information Technology													
Statistics													
Dr. Rajendra Prasad Law Institute													
Home Science													
Agriculture & Agroforestry													
IPSDR	1			4									
Physics	2			31	3		1						
Community College Bhimtal													
Administrative Block	8	2											
Grand Total	69	18	1	73	118	7	6	1	1	9	8	9	55

ANALYSIS

There should be regular maintenance schedule of equipment like pumps, exhaust fans and IT equipment. Electronics such as computers, printers, scanners, etc. more than 3 year or 5 years (as per their life) should be replaced with new computers/laptops. Ideal Temperature should be maintained for all electronic appliances.

8. CAPACITOR BANK

S. No.	Campus/ Location/ Identification	Name of the Department	Capacity in KVAR
1	Kumaun University Nainital	Administrative Block	152KW/179 KVA
2	Hermitage Building K U Nainital	Hermitage Building	150 KW/177 KVA

***** **END OF THE REPORT** *****