



MANAGEMENT SYSTEM CONSULTANCY

Service Provided: Legal, Safety, Fire, Environment, Energy Audit and ISO, Information Security, Automotive, NABL, NABH, CSR, Food, Medical Certification and Training services

Govt.Reg.No.200252020048281, MSME Reg.No.UDYAM-WB-14-0014572, GST No. 19FIIPM3803A1ZH

Energy Audit Report

Introduction for Energy Audit:

In an organization Energy Audit is very much required for the systematic study of the energy consumption and its diurnal and seasonal variation. Also, the energy consumption of different devices/ equipment and components are made thoroughly and it is compared with the total energy consumption of the college. It is necessary to identify the faulty or higher energy consuming devices. If there is any leakage of energy in the old wiring, it is to be assessed and replacement is suggested. Another thing is the misuse or improper use of energy and the awareness of the stake holders, i.e., staff and students of the college is of utmost important. It is very much needed to reduce energy consumption through healthy practices, sustainable improvement and green energy generation. As per the suggestions of the audit the college authority considers the implementation of energy efficient devices and improved energy distribution policy. All the staff and students are encouraged to actively participate in the initiative.



BABA BANDA SINGH BAHADUR ENGINEERING COLLEGE has the practices for regular energy audit in the campus with an efficient internal audit team comprised of teachers and staff of the college, who are committed to audit the electrical installations, and the practices in the college with a sustainable goal. To evaluate the overall energy consumption, sustainability practices, and areas of improvement, the energy audit is conducted on a regular basis every year. Based on the findings and suggestions of the internal audit and on-site verification this report is prepared and necessary recommendations are made.



Executive Summary:



In accordance with the Format of Energy Audit and Evaluation Plan of BABA BANDA SINGH BAHADUR ENGINEERING COLLEGE, Chandigarh Road, Fatehgarh Sahib, Punjab-140407 for the year 2023-'24 this audit was conducted in the month of March 2024.

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Significant observation:

- College has prepared energy usage policy and the utilities. They have taken efforts for sustainable development strategy.
- College has formed an efficient audit team comprising of the teachers and staff of the college who conducts the study thoroughly and regularly and prepares a detailed report with specific suggestions.
- Installations of energy efficient star rated devices, LED lighting system is underway and they are in course of replacing all the old devices with the newer efficient devices.

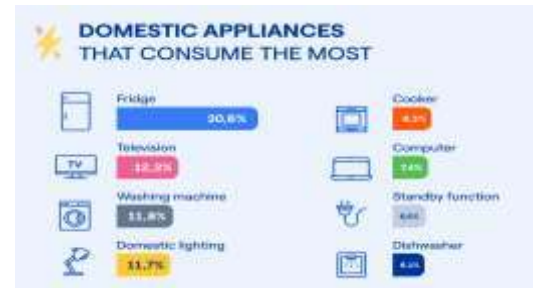


- Some of the good practices of switching off the light and fans when not in use and installations of automatic switching system are suggested.



- College has installed the grid connected roof top Solar PV System in collaboration with WBREDA and with major financial assistance under UGC, CPE Phase II, and getting 6% of total power requirement of the College from this renewable source of energy.

However, after detailed examinations of the report and physical verification it is noted that, some of the practices are required to be followed or added by the College in implementing the energy Policy of the institution and the applicable standards. In addition, certain processes could benefit from further review in order to improve their efficiency, fairness and consistency.



- Permissible Load
- Load distribution
- Energy consumption by the electrical appliances

| Electrical device/items | Number | Power (watt) | Usage time (hr/day) |
|-------------------------|----------|--------------|---------------------|
| Normal Tubelight | 341@40w | 13640 | 10 hours/Day |
| LED Tubelight | 610@20w | 12200 | 10 hours/Day |
| Normal Bulb | 10@100w | 1000 | 10 hours/Day |
| LED Bulb | 157@9w | 1413 | 10 hours/Day |
| Ceiling Fan | 2620@80w | 209600 | 10 hours/Day |
| Wall fan | 121@80w | 9680 | 10 hours/Day |

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Statement of Assurance:

In our professional judgment, as far as possible and appropriate audit procedures were completed and evidence gathered to support the accuracy of the conclusions reached and contained in this report. We hope that the time to time Energy Audit will provide an accurate snapshot of the college's betterment at this point in time, and that it will aid the campus in prioritizing positive steps it can take to improve overall sustainability. We intend this document to be revisited annually and updated by the college.

Recommendations:

College has established proper energy consumption strategy, but in view of modernisation of laboratory and increase of infrastructure facility energy consumption is increasing. It is recommended to increase the facility of Solar PV system.



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Authorization:

- National Safety Council Certified (EMS: Registered ID No. 20210701001, OH&S Auditor: Merit Certificate No. 20211013005)
- National Productivity Council Certified (Energy Management Auditor: Certificate No. N95P15C244453/EL/50)
- ISO 14001:2015 (Environment) (CQI-IRCA Delegate ID: 173839, Certificate No. 46957) Lead Auditor Certificate
- ISO 9001:2015 (Quality) (NABET Accredited, Certificate No. IRCLASS/QMS/2016/02/03/01 of 07) Lead Auditor Certificate
- ISO 45001:2018 (OHSAS) (CQI-IRCA Delegate ID: 111285, Certificate No. 44532) Lead Auditor Certificate.
- ISO 50001:2018 (Energy) (CQI-IRCA Delegate ID: 218048, Certificate No. ENR-00728617) Lead Auditor Certificate
- Certified PG Diploma in Environment and Sustainable Development (En Roll No-BU/13/706432) from Bundelkhand University.
- Certified PG Diploma in Fire and Safety Management from Jawaharlal Nehru Technological University Hyderabad (Cert. No. 15359120506)

Declaration

I agree with the all observations and recommendations mentioned in the report.


Principal
B.B.S.B. Engg. College
Fatehgarh Sahib (Pb)
(NAAC Audit)

Principal

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Internal Audit Team Members Present during the Audit Session:

| NAME OF PERSON | SIGNATURE | DESIGNATION |
|--------------------|-----------|--------------|
| AMALESH KR. MANDAL | | Lead Auditor |
| AMARJEET KAUR | | AP |
| MANPREET SINGH | | AP |
| DHARMINDER KUMAR | | AP |
| KULJEET SINGH | | LT |

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