



Bellary V.V. Sangha's

VIJAYANAGAR COLLEGE

Accredited "B++" Grade by NAAC

(Affiliated to Vijayanagar Sri Krishnadevaraya University, Bellary)

HOSAPETE - 583 201. (Vijayanagara Dist.)

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HOSAPETE

ENERGY AUDIT REPORT

T. Gunderu
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Introduction:

Energy Audit Team of the college has been entrusted with the task of conducting Energy Audit. The field work and data collections were carried out in January, 2021.

The study encompassed the examination of the existing pattern of energy use in the college and identification of areas where energy & monetary savings could be achieved by employing suitable techno-economic measures.

This report gives the details of observations of the team along with appropriate recommendations and supporting calculations. We hope that the findings of the team will supplement the efforts of the management in bringing the energy consumption of the office to the lowest possible level.

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Composition of Energy Audit Team

Sl.No	Name of the Staff	Designation
1.	Dr.Prabhaiah V.S, Principal	Chairman
2.	Sri. K Ajith Narayana Rao, Asst. Prof.	Coordinator
3.	Dr.Premalatha, Asst. Prof.	Member
4.	Sri.Vijay.S Gulalakayi, Asst. Prof.	Member
5.	Sri.Mahantesh Aradyamata. Asst. Prof.	Member
6.	Dr.Pushpa Kavatagi, Asst.Prof.	Member

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Objectives of Energy Audit:

The objective of the audit was to study the energy consumption pattern of the facility, identify the areas where potential for energy/cost saving exists and prepare proposals for energy/cost saving along with investment and payback periods.

The salient observations and recommendations are given below. Our College uses energy in the following forms:

- Electricity from GESCOM
- UPS Backups
- LPG Gas

Electrical energy is used for various applications, like:

- Computers
- Lighting
- Fans
- LPG Gas
- Other Lab equipments

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Methodology:

The purpose of the audit was to ensure that the practices followed in the campus with the criteria, methods and recommendations used in the audit were based on the identified risks. The methodology includes: preparation and filling up of questionnaire, physical inspection of the campus, observation and review of the document, interviewing responsible persons and data analysis, measurements and recommendations. The methodology adopted for this audit was a three step process comprising of:

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1. Data Collection: In preliminary data collection phase, exhaustive data collection was performed using different tools such as observation, survey communicating with responsible persons and measurements. Following steps were taken for data collection:

- The team went to each department, centers, Library, canteen etc.
- Data about the general information was collected by observation and interview.
- The power consumption of appliances was recorded by taking an average value in some cases.

2. Data Analysis: Detailed analysis of data collected include: calculation of energy consumption, analysis of latest electricity bill of the campus, understanding the tariff plan provided by the GESCOM, Hosapete. Data related to water usages were also analyzed using appropriate methodology.

3. Recommendation/Suggestions: On the basis of results of data analysis and observations, some steps for reducing power and water consumption were recommended. Proper treatments for waste were also suggested. Use of fossil fuels has to be reduced for the sake of community health.

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Energy Observations:

1. LED Lights (22 Watt)	-	50
2. Tube Lights (40 Watt)	-	568
3. Fans (75 Watt)	-	285
4. CCTV (2 Watt)	-	45
5. Projector (150 Watt)	-	05
6. Computers (150 Watt)	-	60
7. Lab Equipments	-	1500
8. Borewell Motors (750 Watt)	-	02
9. LPG Cylinder	-	10

Electricity Consumption for the last one year (1000 Watt = 1 Unit)

Sl.No	Month	Electricity Consumption
1	January 2021	4598 Units
2	February 2021	4650 Units
3	March 2021	4580 Units
4	April 2021	4890 Units
5	May 2021	4900 Units
6	June 2021	4955 Units
7	July 2021	4990 Units
8	August 2021	4586 Units
9	September 2021	4590 Units
0	October 2021	4600 Units
11	November 2021	4780 Units
12	December 2021	4675 Units

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Current saving methods adopted in the college

- Turn off electrical equipments when not in use.
- Use energy efficient light-emitting diode (LED) bulbs instead of incandescent and CFL bulbs.
- Maintain appliances and replace old appliances.
- Use computers and electronic equipments in power saving mode.

Recommendation:

- To achieve energy saving gradually change CFL bulbs to LED, fix energy efficient equipments, appliances, increase renewable energy installations like solar PV cells, etc.
- Periodic electrical maintenance is to be done to optimise the power usage.
- Increasing the capacity of the Solar panel in future to utilise the renewable energy to the maximum.
- It is recommended to check the date of filling and date of inspection periodically in the fire extinguisher.
- It is necessary to fix the inspection tag/card in the fire extinguisher.

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Conclusion:

The energy inventory and energy audit found to have energy conservation and determined contribution to the climate change utilizing limited energy usage and lamps. The campus installed necessary Safety and signage board to aware the people to reduce the wastage of electricity. By incorporating solar power plant inside the campus of capacity 30 KW, this helps the reduction of power consumption. Equipments like Computers are used with power saving mode. Also, campus administration runs switch-off drill on regular basis.

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