



**“ENERGY AUDIT”
CONDUCTED
AT**

**CHARUTAR VIDYAMANDAL'S
S. M. PATEL COLLEGE OF HOME SCIENCE**

NAAC ACCREDITED 'B++' 2.99

9th Rank in Gujarat by KCG(GSIRF) 2021

COLLEGE WITH POTENTIAL FOR EXCELLENCE (CPE-II) - [CONSTITUENT COLLEGE OF CVM UNIVERSITY]

**CONDUCTED
BY**



Charutar Vidyamandal's

**BHAILALBHAI AND BHIKHABHAI
INSTITUTE OF TECHNOLOGY**



FORWARD

It is now a firmly established fact that in today's highly competitive market, the best way to survive for any institute is to sustain the institutional activity in the cost-effective way. The role of Energy Audit in the industries has been firmly identified to greatly supplement the efforts to remain cost effective, especially in the light of every rising cost of energy and its availability criteria. The cost of electrical energy is rising every year. Optimization of use of energy and conservation is necessitated due to appreciable rise in the cost of fuel, the basic energy input. The other alternatives like power trading is being restricted temporarily by Government may be the reason that in the State of Gujarat power generation is more than adequate to cater the needs of public.

M/s S.M. Patel College of home science entrusted the work of Energy Audit to M/S B & B Institute of Technology, Vallbh vidhyanagar with the objective of optimizing their institute in energy consumption by evolving appropriate conservation measures in energy utilization practices.

Scope of the Energy Audit work was as per the following broad framework:

1. Study of Electrical Utility systems
2. Electrical Load Management
3. Electrical Energy Application Areas
4. Energy conservation Opportunities
5. Estimated Costs and Payback for Expenditure

The report, prepared after extensive studies, comprises of Executive Summary, Study of Energy consumption in certain areas of the industry, findings for efficient use of energy, recommendations for implementation, cost benefits, etc. It is felt that with the implementation of the recommendations made in the report, the S. M. Patel College of home science will set an example in this vital area of Energy Conservation.



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TABLE - 1 DETAILS OF CONSUMER

Sr. No	Specifications	Details
1	Name of the customer	M/S S.M. Patel College of home science
2	Name of the customer (as per Electric Bill)	The Principal, B & B Institute of technology
3	Number of LT Meters.	5
4	Name of contact person	Dr. Bhavana Chauhan
5	Address	Vallabh Vidyanagar
6	Phone No.	02692230245
7	Fax No.	
8	Email Address	smpcollege@yahoo.in
9	Contract Demand	105
10	Purpose of Consumer	Educational Institute
11	Name of Supplier	MGVCL
12	Period of Audit	June-July 2021
13	Proposed energy saving in terms of –	
	a) Rupees per annum.	69390.75
	b) Units per annum	9252.10
14	Proposed investment in Rupees	232900.00
15	Payback Period, Year/ Month	3.36



ACKNOWLEDGEMENT

The Energy Audit Team of B & B Institute of Technology, Vallbh Vidyanagar sincerely thanks to Principal, Dr. Bhavana Chauhan of S. M. Patel Home science, Vallabh Vidyanagar for giving us this opportunity to carry out the energy audit in their premises. We are very much thankful to Prof. Shazia Sharma for cooperation and guidance. We also place our thanks to all heads of the department, administrative staff and technical personal for their excellent co-operation extended to the audit team during the period of audit. We also thankful to head of the different departments other technical staff for their kind cooperation during energy audit study.

An Energy Audit has been conducted by the following team members.

1. Dr. K. M. Makwana
(Principal BBIT & Energy Auditor authorized BEE)
2. Prof. S.Y.Prajapati
3. Prof. A. A. Parmar

Principal
B. & B. Institute of Technology
V. V. Nagar

Energy Audit report Prepared By: Prof. S.Y.Prajapati





EXECUTIVE SUMMARY

The following table shows an executive summary for an energy audit of S.M. Patel Home science, Vallabh Vidyanagar for the year of 2021, which gives an idea about opportunities of energy savings in different load.

Executive Summary

Sr.No	Particulars	Saving Points	Savings in Kwh	Savings in Rs	Investment Rs	Payback Period, Months
1	Lightings	40 W FTL can be converted in to 20 W LED	1524.60	11434.5	15400.00	16.16
2	FAN	100 W Fans can be Replace by 40 W Efficient Fans	7727.50	57956.25	217500.00	45.03
3	Total		9252.10	69390.75	232900.00	3.36

General Suggestions:

- The above savings will vary with respect to running time of load.
- In the class room and cabins practice should be followed by students or faculties or peon to switch off the light and fans.
- It is suggested to put sensing device in wash room area and staff room area.
- It has been recommended to paste posters of “**SAVE ENERGY**” or “**ENERGY IS LIFE**” or “**SAVE WATER**” at the switchboards in the class room, faculty’s cabins and respective locations for awareness. So people can remember to switch off lights.
- It is suggested to make single feeder of street light and install 20W LED, which can give good illumination level from 10 to 50 lux.
- For an energy audit following load has been considered which is regularly used on daily basis and there are scopes of energy saving.
- Two meter of 26 & 22 Kw should be removed if it is not in used for saving of fixed bill charges.