

- Grant Code No. : 125
- College Code No. 30 (D.P.)
- Zone Code No. : 93



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શ્રી મ.લા.ગાંધી ઉચ્ચતર કેળવણી મંડળ, મોડાસા સંચાલિત

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This is Certified to that Energy Audit Carried out by  
Students of the Institute Which is Certified by University  
External Examiner.

Date :24-07-2024



  
Principal

Shri S.K. Shah & Shrikrishna  
O.M. Arts College, Modasa (Aravalli)



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**CERTIFICATE**

*This is to certify that the project work entitled ENERGY AUDIT is carried out by students mentioned below, in partial fulfillment for the award of degree of Bachelor of Arts in Home Science during the academic year APRIL 2022. The project has been approved as it satisfies the academic requirements in respect of project work prescribed for the Bachelor of Arts.*

Roll No.	M/F	Student Name	SUBJECT	Enrollment No.
4845	F	ABAD UJMABANU MOSIDDIQ	HOME SCI	BA0051821123
4846	F	BARODIYA TEHRIN ISMAIL	HOME SCI	BA0051821124
4847	F	DAMOR ARATIKUVARBA KALUBHAI	HOME SCI	BA0051821126
4848	F	DAMOR PINALBEN DAHYABHAI	HOME SCI	BA0051821127
4849	F	DAMOR SHAKUNTALABEN RAMABHAI	HOME SCI	BA0051821128
4850	F	DAMOR TALLIKABEN SHANABHAI	HOME SCI	BA0051821129
4851	F	KHANT KINJALBEN BABUBHAI	HOME SCI	BA0051821131
4852	F	KOTWAL MAHENOOR MASALIM	HOME SCI	BA0051821132
4853	F	MAKAWANA KOMALBEN BHIKHUSINH	HOME SCI	BA0051821133
4854	F	MAKWANA ANKITABAHEN DHULSINH	HOME SCI	BA0051821134
4855	F	MAKWANA MITTALBEN DILIPSINH	HOME SCI	BA0051821135

PLACE: MODASA

DATE: 07-08-2018

  
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PROF. DR. DIVYESH SINH

  
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ARTS COLLEGE, MODASA  
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**PROJECT REPORT**

**Energy Audit**

**A Report Submitted To**


**GENERAL SCIENCE DEPARTMENT OF  
SHRI S.K.SHAH AND SHRIKRISHNA O.M ARTS COLLEGE MODASA**

Affiliated To

Hemchandracharya North Gujarat University, Patan Accredited By –

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**Submitted By :**

**Project Guide :**

ABAD UJMABANU MOSIDDIQ	<b>Pro. Dr. Piyush Sinh</b>
BARODIYA TEHRIN ISMAIL	
DAMOR ARATIKUVARBA KALUBHAI	
DAMOR PINALBEN DAHYABHAI	
DAMOR SHAKUNTALABEN RAMABHAI	
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## Preface

Data collection for energy audit of the Shri S.K. Shah and Shrikrishna O.M. Arts College, Modasa Campus was conceded by team for the period of 15th June 2018 to 07 Aug 2018. This audit was over sighted to inquire about convenience to progress the energy competence of the campus. To drop of energy utilization whilst cultivate or humanizing comfort, health and safety were of prime anxiety. This audit required to recognize the mainly energy proficient appliances. Besides, several each day processes concerning common appliances have been provided which facilitate sinking the energy expenditure. The energy audit survey was completed by Dept. Of General Science. All data collected from each classroom, laboratory, every room. The work is completed by considering, how much tubes, fan, A.Cs, electronic instruments, etc in each room. How much was participation of each component in total electricity consumption.



  
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## Acknowledgement

Head Department of General Science (Home Science) Shri S.K. Shah and Shrikrishna O.M. Arts College, Modasa is very much thankful to Principal D.H. Joshi, IQAC coordinator NAAC for motivating us for energy audit..



  
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## Introduction:

A nation is trying to advance in quantity and quality to the spread of education among the common India and development of their intelligence. In India the entire field of education and other fields of intelligent activities had been monopolized by a handful of men before independence but today we are marching towards the desirable status of a developed nation with fast strides. But the development should be a sustained one. For achieving such an interminable development energy management is essential. As far as concerning electricity crisis, we are facing lack of electricity during office work. So, institutional management is taking design regarding production of electricity and saving electricity for eco- social aspect.

Energy requirement of India is growing and incomplete domestic fossil fuel treasury. The country has motivated strategy to enlarge its renewable energy resources and policy to establish the nuclear power plants. India increases the involvement of nuclear power to largely electrical energy development facility from 4.2% to 9%. India's industrial demand accounted for 35% of electrical power requirement, domestic household use accounted for 28%, agriculture 21%, commercial 9%, and public lighting and other miscellaneous applications accounted for the rest. Energy conservation means reduction in energy consumption without making any sacrifice of



  
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quantity or quality. A successful energy management program begins with energy conservation; it will lead to adequate rating of equipment's, using high efficiency equipment and change of habits which causes enormous wastages of energy. By observing all these study lack of electricity and huge electricity demands. It is necessary to plan to being self-sufficient in electricity requirement.

In the present study, college electricity audit has been done. In this study considered practical laboratory, instrument, Fans, air conditioners, Computers etc are considered in this study. We have studied total budget of the college, total economic investment of college on the electricity and total generation electricity from the solar wind hybrid electricity generation unit. Also, we have studied total saving of electricity and money from solar wind generation and requirement of solar energy. Also, it is studied that exact contribution of bulb, fans, computer, instruments etc. in the total requirement of electricity. We studied all these mentioned thinks by collecting exactly data form survey.



  
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## Experimental and data collection:

All required data is collected by Department of Home Science. In building, in every room, how much fans, tubes, fans, computer, instrument AC, etc. will these is measured. According to survey following data is collected.



  
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### Power Consumption of Electricity Board

Serial no	Month	Consumption Unit(KW)
1	Jan-18	980
2	Feb-18	1320
3	Mar-18	1120
4	Apri-18	1130
5	May-18	1427
6	June-18	1527
7	July-18	804
8	Aug-18	904
9	Spt-18	950
10	Oct-18	1200
11	Nov-17	721
12	Dec-17	1195
Total Power Consumption in yearly		13478KW
Average Power Consumption in Monthly		1123.17KW



  
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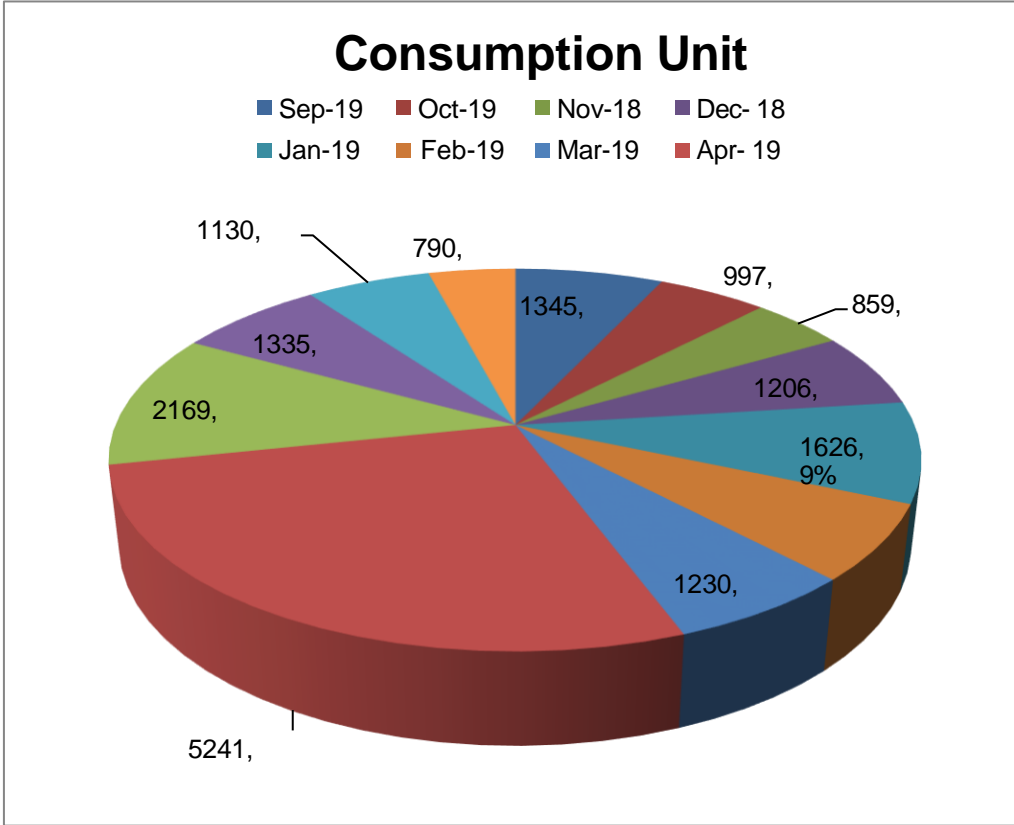
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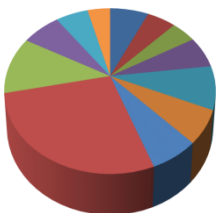
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**Graphically Representation of Electricity Distribution:-**

**Fig. Contribution of tube light, fan, computer, printer, AC and instrument in total use of energy by Graphical Representation**

Power requirement met by renewable energy sources	Total power requirement	Renewable energy source	Renewable energy generated and used
15507.564 kW /Month ( 5 hrs/day)	480 units/Month	Hybrid Solar and Wind	480 units /Month



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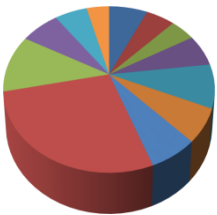
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**Total requirement of electricity, generation of Electricity using renewable energy sources.-**



**Photograph of Renewable Energy Sources-**



  
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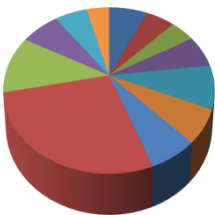
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**Fig- Solar Energy Generation system**



**Fig. Photograph of wind miles energy generation device**

The hybrid energy generation devices contain a solar panel. The hybrid energy generation device generates 15 units per day. The college is now using 15 kW UPS and batteries for energy storage. Save Energy ( Dr, Anil Patel sir ) : He gave information about solar energy and its importance for future generation, as well as he informed us about government scheme like solar rooftop scheme, energy light bill prepaid smart meter project.



  
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### Conclusion:

In conclusion, data generated in energy audit are useful for to understand the energy distribution and utilization of college. The college needs maximum 1123.17 KW/Month of electricity. In other words college needs 13478 kW/Year and hybrid energy generation device generate the only 480 units/moths.

### Recommendation:


- 1) Replace all CFL Tube light using LED Bulb, to save more power.
- 2) Replace CRT monitor using LED or LCD monitor.
- 3) Separate connection of office, Computer Lab. and classroom.

### Results and discussion( Expected ) :

As far concerning the energy audit, electricity audit is main concern regarding educational institution. We have collected data by considering the tube light, fan, computer, printer, A.C and instruments. The total required energy is : **15507.564**.Energy Consumption through all device is **1123.17 kw /Month** and Hybrid Renewable source Generate **480 Unit/Month**.

  
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PROF. DR. PIYUSH SINH

  
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