



GOVERNMENT DEGREE & P.G COLLEGE (AUTONOMOUS) – SIDDIPET



DEPARTMENT OF PHYSICS

ENERGY AUDIT

1. Name of the Department : **PHYSICS**
2. Title of the Activity : **ENERGY AUDIT**
3. Dates or Duration : 02/02/2021 to 15/03/2021
4. Venue of the Event : **College Premises & TSREDCO-Siddipet**
5. Collaborations (if any) : **TSREDCO- Siddipet**
6. Event : **Department level**

7. Outcome of the event:

The department of physics has planned to conduct the “**Energy audit**” as a part of “**Green audit**” regarding energy consumption in the college premises in collaboration with TSREDCO-Siddipet on Survey based method and the task is allotted to the students of MPC & MPCs.

As a part of this energy audit, students have visited various departments of the college as well as TSREDCO-Siddipet office, collected the data and concluded that the “**saving of electrical energy is nothing but production of electrical energy**”.

Being physics students they gain knowledge about the role of Resistors, Batteries, Transformers, Electric conducting wires and other relevant electrical appliances.

The students realized and feel the social responsibility to **turn-off** electrical switches when no need.

8. Beneficiaries / participants (Type/number, etc.):

30

Students, Faculty, Family members of students and faculty, etc.,

9. Other major staff / student / Institution involved in the organization of the activity:

The following personalities are involved in the project

Dr. Ch. Prasad sir, Principal ,
Sri Rameswar Rao garu, MD, TSREDCO- SIDDIPET
Dr.Gopala Sudarshanam sir, HOD, Dept. of Commerce,
Dr.P.Ayodhyareddy sir, HOD, Zoology Dept,
Dr. Ch. Madhusudan sir, HOD-Dept.of physics,
Sri P.S.Srinivas sir, AO and
Faculty of all the departments.

10. Questionnaire and related information :

ENERGY MANAGEMENT AUDIT

An energy audit is an inspection, survey and analysis of energy flows for energy conservation in a building, institution, process or system to reduce the amount of energy input into the system without negatively affecting the output.

ENERGY MANAGEMENT AUDIT - QUESTIONNAIRE

1. List ways that you use energy in your college.
List enclosed
2. Electricity bill amount for the last year.
Rs.318138/-
3. Amount paid for LPG cylinders for last one year.
Rs. 5000/-
4. Weight of firewood used per month and amount of money spent?
Not applicable
5. Are there any energy saving methods employed in your college?
Used energy efficient LED bulbs, computers in power saving mode and Maintain appliances and replace old appliances
6. How much money does your college spend on energy such electricity, gas, firewood etc.?
Rs. 323138/- per year
7. How many CFL bulbs has your college installed? Mention use.
Installed 14 bulbs. But used only in departments.
8. Energy used by each bulb per month?

3.96 W

9. How many LED bulbs used in your college?

77

10. How many incandescent bulbs have your college installed?

Nil

11. Energy used by each bulb per month?

Nil

12. How many fans are installed in your college?

Mention use. 1507 27

13. Energy used by each fan per month.

3.3 kWh

14. How many air conditioners are installed in your college?

Mention use. 5 in use

15. Energy used by each air conditioner per month.

100kWh

16. Energy used by each electrical equipment per month.

$5172/1521 = 3.4$ kWh

17. How many computers are there in your college?

171

18. Energy used by each computer per month.

$1433/171 = 8.38$ kWh

19. How many photocopiers are installed by your college?

6

20. How many cooling apparatuses are in installed in your college?

5

21. Energy used by each cooling apparatus per month.

100 kWh

22. Energy used by each photocopier per month? Mention use. And how many inverters are installed in your college? Mention use.

$172/6 = 28.6$ kWh per each photocopier. Totally 4 inverters are installed and mainly used in computer labs, office and principal chamber.

23. Energy used by each inverter per month.

$47.2/14 = 12$ kWh

24. How many electrical equipment are used in different labs of your college? Mention use.

175

25. No of TV in your college and hostels

2

26. Energy used by each TV per month.

4.8 kWh on average

27. Any other item that uses energy.

Nil

28. Are any alternative energy sources installed in your college.

No.

29. Do you run "switch off" drills at college.

Yes.

30. What are the energy conservation methods adapted by your college?

Used energy efficient LED bulbs, computers in power saving mode and Maintain appliances and replace old appliances

31. How many boards displayed for saving energy awareness?

12

32. Write a note on the methods by which you can reduce the energy use in your college campus in future.

Since all the classrooms and office rooms are well-ventilated, the use of energy is minimum. However, in order to reduce its use further, energy conservation days are observed, awareness posters are displayed at the prominent gathering places and environmental, green campus related awareness programs are organized.

TSREDCO [Telangana State Renewable Energy Development Corporation Ltd], SIDDIPET

- We are visited TSREDCO in Siddipet and learnt about the energy consumption from renewable resources.
- Highlighting wastage's in major areas.
- By using LED Bulbs and fans with energy auditing one can easily reduce energy bill between 5% to 25%.
- Identifying the quality cost of various energy inputs.
- Assessing present pattern of energy consumption in different cost centers of operations.
- Relating energy inputs and production output.
- Identifying potential areas of thermal electrical energy economy.
- To improve the functionality of the power sector in the state of Telangana to make it viable and with prime focus of protecting the interest of the consumers.
- To promote competition, efficiency and economy in the power sector.
- To regulate tariffs of power generation, transmissions and distribution in Telangana.
- To facilitate intra-state transmissions and wheeling of electricity.
- To ensure transparency while exercising its power and discharging its functions.

11. Photographs :



Students visited TSREDCO-Siddipet and have gathered some important information about saving of electricity, LED bulbs, Smart fans, other effective electrical appliances



Interaction with Rameswar Rao garu
M.D, TSREDCO, SIIDIPET



Students with HoD, Dept. of Physics



At office of our College

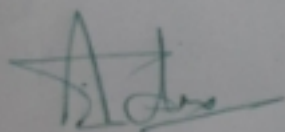


At Computer science department

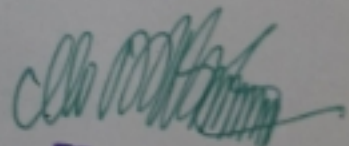
Brief description of the program

The department of physics has guided the students to do the Energy audit in the college premises and the students visited all the departments, Principal chamber, Administrative office, Classrooms, Laboratories, Computer science department, Library, etc., and also visited TSREDCO-Siddipet and gathered very useful information regarding energy saving in a great extent.

Through this energy audit, it is concluded that saving of energy is very important and also students observed their social responsibility to turn-off electrical switches while in not using mode. And the students succeeded in creating awareness among the other people.



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