Community Service Project on energy conservation in rural villages.

A case study from RENTAPALLI.

COMMUNITY SERVICE PROJECT REPORT SUBMITTED TO

SGK GOVERNMENT DEGREE COLLEGE, VINUKONDA

By

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(REG: Y203099062)

Under the supervision of

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Lecturer in Physics

DEPARTMENT OF PHYSICS

SGK GOVERNMENT DEGREE COLLEGE,VINUKONDA

VINUKONDA -522647

ANDHRA PRADESH,

INDIA

JUNE – 2022

Community Service Project Report

Submitted in accordance with the requirement for the degree of II B.Sc (M.P.Cs)

Name of the College: SGK GOVERNMENT DEGREE COLLEGE

Department: PHYSICS

Name of the Faculty Guide: B.NAGESWARARAO

Duration of the CSP: From 31.05.2022 to 30.06.2022

Name of the Student: B.EDUKONDALU NAIK

Programme of Study: II BSC (M.P.Cs)

Year of Study: 2022

Register Number: Y203099062

Date of Submission:

Student's Declaration

I, B.EDUKONDALU NAIK, a student of II B.Sc (M.P.Cs) Program, Reg. No. Y203099062 of the Department of PHYSICS, SGK GOVERNMENT DEGREE College do hereby declare that I have completed the mandatory community service from 31.05.2022 to 30.06.2022 in RENTAPALLI Village under the Faculty Guide ship of Sri B.NageswaraRao, *Department* of PHYSICS in College

B Edukondalu naik

(Signature and Date)

Endorsements

Faculty Guide

Head of the Department

Principal

Mr. B. NageswaraRao
Lecturer in Physics
Department of Physics
SGK GDC, Vinukonda
Palnadu – 522 647

Mobile : +91 9494662510
Email:bandlanageswararao78@gmail.com

CERTIFICATE

This is to certify that the project entitled "Sustainable approach to energy conservation in rural villages. A case study from RENTAPALLI." *has successfully completed and submitted by* ***B.EDUKONDALU NAIK*** *in partial fulfillment of requirement for the completion of B.Sc. course during the course of community service project under my guidance.*

(B.Nageswararao)

B. NAGESWARARAO, M.Sc.,
Lecturer in Physics
S.G.K. Govt. Degree College
VINUKONDA - 522 647, Guntur dist., A.P.

Acknowledgements

It gives me an immense pleasure and pride to express my gratitude and respect for my teacher and guide **Mr. Bandla Nageswararao Sir**, SGK Government Degree College, Vinukonda, Palnadu District, for his expert and inspiring guidance throughout the period of my work. I am indebted to him for enlightening me on the finer skills of dealing with social awareness problems. It would have been impossible to achieve this goal without his constant support and encouragement.

It is pleasant duty to express my sincere thanks to **Dr. K. Srinivasa Rao, Principal,** SGK Government Degree College, Vinukonda, Palnadu District who supported me for getting the survey details.

I am also expressing my sincere thanks to **V. Bala Yesu, Lecturer in Chemistry** for their valuable encouragement in this work.

I take this opportunity to thank all of my faculty members of SGK Government Degree College for their valuable suggestions, encouragement and help during my project work.

(B.EDUKONDALU NAIK)

B Edukondalu naik

CONTENTS

ABSTRACT

Energy conservation is **the effort made to reduce the consumption of energy by using less of an energy service**. This can be achieved either by using energy more efficiently (using less energy for a constant service) or by reducing the amount of service used (for example, by driving less).Even though energy conservation reduce energy services, it can result in increased environmental quality, national financial security and higher savings. On a large scale, energy conservation is an important element of energy policy. Energy conservation is often the most economical solution of energy shortages.

Energy conservation refers to the methods of reduction in energy consumption by way of elimination of wastage and promotion of efficiency. We know that due to vast gap between demand and supply, lot of efforts being done to bridge the gap in terms of generation of more electricity, which requires a lot of investment and create lots of environmental issues.

Energy conservation is the key element of energy management. We can reduce the energy consumption by adopting various ways of energy conservation which includes efficient use of technologies and avoiding energy wastages.

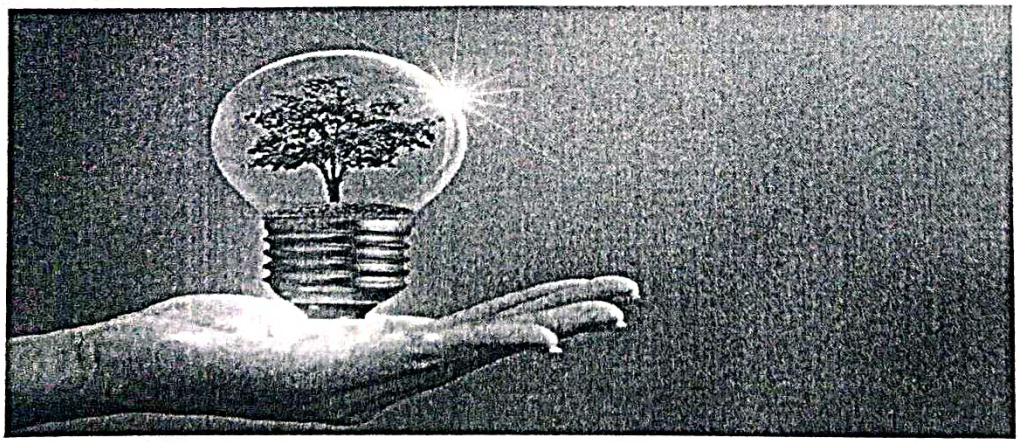
ENERGY CONSERVATION

INTRODUCTION:

Before learning about natural sources of energy, let's understand what energy is. The classical description of energy is the ability of a system to perform work, but as energy exists in so many forms, it is hard to find one comprehensive definition. In short, energy is the ability of a system to make things happen. It is a property of an object which can be transferred from an object to another object or converted to different forms but cannot be created or destroyed. There are numerous sources of energy. It can be chemical energy, electrical energy, heat/ thermal energy, mechanical energy, nuclear energy, and energy in the form of electromagnetic radiation i.e. light.

Sources of energy contain energy in them in forms that cannot be used directly but living organisms require energy to stay alive. Therefore, you must unlock this energy to get work done. Humans get energy from food which has this energy stored in the form of chemical energy. Your body absorbs this energy from food and burns it to fuel your body so that you can run around and have fun. A candle has chemical energy stored in it, but it has to be burnt to be useful. This conversion of chemical energy to yield heat and light energy happens through burning. Burning is a process of converting chemical energy to heat energy and sometimes light too.

We must make one observation, though energy seems to have a shelf life. If you keep a hot object out in the open, it will cool after a while. Can you collect this energy back from the atmosphere? You will learn more about the flow of energy when you discuss the Laws of Thermodynamics. We have discussed a few sources now let's discuss them in detail.



Types of energies

Energy exists in many forms and they can be converted from one form to another. Although there are many types of energy such as gravitational energy, atomic energy and so on, there are only two major forms of energy known as potential energy and kinetic energy.

Kinetic energy is the energy in moving objects. Examples of kinetic energy include mechanical energy and electrical energy.

Potential energy is the energy stored in objects that can be used for future use. Examples of potential energy include chemical energy and nuclear energy.

Below we have discussed the five major types of energy:

- **Electrical Energy**

  The energy carried by moving electrons in a conductor is known as an electrical energy. The natural source of electrical energy is the lightning.

- **Chemical Energy**

  Chemical energy is the energy stored in the bonds of chemical compounds.

- **Mechanical Energy**

  Mechanical energy is the energy in an object due to its motion.

- **Thermal Energy**

  Thermal energy is the energy a substance or system has related to its temperature.

- **Nuclear Energy**

  The energy trapped inside each atom is known as a nuclear energy

Types of energy sources

Sources of energy can be classified into:

- Renewable Sources
- Non-renewable Sources

A renewable source is the natural resource that causes no impact on nature. Renewable sources of energy are available plentiful in nature and are sustainable. These resources of energy can be naturally replenished and are safe for the environment.

Examples of renewable sources of energy are: Solar energy, geothermal energy, wind energy, biomass, hydropower and tidal energy.

Non-renewable sources of energy cause an impact on the nature and are a limited supply source. Non-renewable sources can be extracted from the earth and will run out as time passes.

Examples of non-renewable sources of energy are: Natural gas, coal, petroleum, and nuclear energy and hydrocarbon gas liquids.

Renewable	Non-renewable
The resources that can be renewed or replaced are called renewable sources of energy.	The resources that cannot be renewed once they are consumed are called non-renewable sources of energy.
These resources do not cause any pollution to the environment.	These resources cause pollution to the environment.
Renewable resources are inexhaustible.	Non- Renewable resources are exhaustible.
Renewable resources are not affected by human activities.	Non- Renewable resources are affected by human activities.
Examples of Renewable resources- Air, water and solar energy.	Examples of Renewable resources- Mineral, oil, and Coal.

Natural Sources of Energy

The natural resources around us provide a variety of sources of energy around us. During the Stone Age, it was wood. During the Iron Age, we had coal. In the modern age, we have fossil fuels like petroleum and natural gas. So how do we choose sources of energy?

Good sources of energy should have the following qualities:

- Optimum heat production per unit of volume/mass used
- Easy to transport
- Least Polluting
- Economical

Earlier coal was used pretty much everywhere, from domestic use to steam engines all the way to the Titanic. One problem that coal faced was transporting large amounts of coal needed all around the world. Hence, now the world over energy use is shifting towards either diesel or electricity. This example shows how petroleum is better than coal on all the above parameters.

Types of Natural Sources of Energy

There are two types of natural sources of energy classified by their popularity and use,

- Conventional Sources of Energy
- Non-Conventional Sources of Energy

Difference between Conventional and Non-Conventional Sources of Energy

Conventional	Non-conventional
The resources which have been in the use for a long time.	**The resources which are yet in the process of development over the past few years.**
These resources are exhaustible.	**These resources are inexhaustible.**
These resources cause pollution as they emit smoke and ash.	**These resources are usually pollution-free.**
These resources are very expensive to be maintained, stored and transmitted.	**These resources are less expensive due to local use and can easily be maintained.**
Examples- coal, natural gas, petroleum, and water power.	**Examples- solar, biomass, wind, biogas, and tidal, geothermal.**

Importance of conservation of energy

Energy conservation plays a significant role of lessening climate change. It helps the replacement of non-renewable resources with renewable energy. Energy conservation is often the most inexpensive solution to energy shortages, and it is more environmentally kind alternative to increased energy production.

Since, we have limited quantity of non-renewable energy resources available on earth, it is very important to preserve energy from our current supply or to utilize renewable resources so that it is also available to our future generations.

Energy conservation plays a very important role because utilization of non-renewable resources also impacts our environment. Specially, usage of fossil fuels supplies to air and water pollution such as carbon dioxide is produced when oil, coal and gas combust in power stations, heating systems, and engines of car.

As we all aware of that carbon dioxide works as a transparent layer in the atmosphere that is part of the cause to the global warming of the earth, or we can also name it as greenhouse effect. Global warming has its own consequences in our atmosphere. It has its deadly effects like spreading of different diseases, warmer waters and more chances of hurricanes, financial costs, polar ice melting, increased chances and intensity of heat waves. Ozone depletion is the reduction of the protection layer of ozone in the uppermost atmosphere by chemical pollution. Ozone layer is the protection line between earth and the ultraviolet rays emitted by the sun. People who have more exposure to UV radiation can have some health problems like DNA damage, skin cancer, aging and other problems related to skin.

There could be some possible issues that include a danger to human body health, impact on environment like rising sea levels, and major changes in vegetation growth methods. When coal is burned, it releases sulphur dioxide into the air and therefore, it reacts with water and oxygen in the clouds and forms acid rain. Acid rain kills fish and trees and also damage limestone buildings and statutes. These types of global problems can be resolved. As per the data of United States calculated per year, we found that the average family's energy uses produces over 11,200 pounds of air pollutants. Therefore, every unit of kilowatt of electricity preserved diminishes the natural environment impact of energy use.

ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	our section took them to a room and told about CSP	I learn about CSP and Introduction CSP	
Day - 2	Every one was divided them group. one sir nee was to	student are dived and gave	
Day - 3	our Group told how to do it by our C.S.P Explain	student dived into group and gave meaning	
Day - 4	our sir told about how to Chang Chose area	I learn how to chose area	
Day - 5	who Chose area's that in our's near	I learn near area benefit	
Day - 6	sir told us how to go that area	I learn to speak the Peoples	

WEEKLY REPORT

WEEK - 1 (From Dt................ to Dt................)

Objective of the Activity Done:

Detailed Report:

All of our section at a room wee want to that room we dont wet for. after joing to the room, we asked the C.S.P. C.S.P tell from told us do to A Project C.S.P then we where dived to in group group was Given our Grop Given to so I seleted and from the sirve in the area and Conducted needs we want roses in theri area)

ACTIVITY LOG FOR THE SECOND WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	We want to selct the area	I found out much areas	K.A
Day - 2	I selcted 50 house	I learn how to Chose the volunteer	K.A
Day - 3	I meet the volunteer and found	I learned problem with volunteer	K.A
Day - 4	I meet the and learned some learned mistakes	I prat from myself I took how to Chose	K.A
Day - 5	I Chose topic deping on the site visions	I learned which topic to Probleng	K.A
Day - 6	the topic Chang Correction 25 about it	I learned how prepers on the Chosen	K.A

WEEKLY REPORT

WEEK - 2 (From Dt.............. to Dt..............)

Objective of the Activity Done:

Detailed Report:

we want to the selected. are Piking the area. avelbale to be I want Then I got then ne clends No Neer Natural Power. Then is Government volunteer let's know Problam then I acked Then I meet the voltmeter of that place let's know problam topic is Enargy Convention I have Under stand Number of Problams write 25 spelling then I Also show my After Concting

ACTIVITY LOG FOR THE THIRD WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	I have done your survey worked for 2 hours morning	I learned to do survey how to behave wide	K A
Day - 2	I sirved 2 hours i did 1:30 work afternoon	I learned to do survey how to take sirvy	K A
Day - 3	I sirved 9 hours I did 2 hours in the working	I learnd to do a wild bihave take Photos	K A
Day - 4	I sirvey 8 hours 1:30 hours working	I learned do a sirvy wild doing	K A
Day - 5	I sirved hours to day i did Morning	I learned to bea sirvy behave	K.A
Day - 6	I sirved today I did 1:00 work	I learned to do a sirvy	K.A

WEEKLY REPORT

WEEK - 3 (From Dt................ to Dt................)

Objective of the Activity Done:

Detailed Report:

in this week survy with activity Prepred by the I sirved 8 Hourse on the firs day. I sirvday I took Phots 1:30 Hourse. took picture while the sirvay. On the day while doing on the day Penell did surved 2:30 I also on the sixth day I sirvedy Make them Answer my sirved I Understand with or with Covoding their I Under all the Good Enperece in my Habit

ACTIVITY LOG FOR THE FORTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	I have the taken side to Me I took often served	I lerned what would serving	K.A
Day - 2	Acroding to what seid to me ines	I have lerned How to find deping onthe	K.A
Day - 3	Delping onthe problem I drew them in Charts	Based on these probling How diagrams	K.A
Day - 4	I found out what them and gave Answer to them	I lerned to sofe theseoe problms	K.A
Day - 5	I done the took Intervel the gopal	I lened How to take videos	K.A
Day -6	I submit to the sir.	I lerned to arrange of the project	K.A

WEEKLY REPORT

WEEK - 4 (From Dt................ to Dt................)

Objective of the Activity Done:

Detailed Report:

I asked you Prepra based on

detils that I am Prepring

I took the detils my 50 Hours

wons down the Answers to spech

fowelld I wrot the me sperltly

mention by uplod the pics If

thin mistke like a book front Page

I made so that Group the Preapr

we made the Dary day with our

day report is Ready to sumit the

sir

S.G.K. GOVERNMENT DEGREE COLLEGE, VINUKONDA, PALANADU DISTRICT
COMMUNITY SERVICE PROJECT

NAME OF THE MENTOR: B.NAGESWARA RAO, LECTURER IN PHYSICS

NAME OF THE CSP : AWARENESS ON ENERGY CONSERVATION

Primary Information

- **Student Details:** Name: B. Edukondalu Naik Group: B.Sc(MPC's)
  Hall Ticket No: 4203099062 Phone No: 8309787804
- **Surveying Area Details:** Village/Ward Name: Rentapalli
  Date: 31/05/22 Time: 11:00 AM
- **Person Contacted for Survey:** Name: M. Chittibabu Naik House No: 1-62
  Caste: Gen ☐ BC ☐ SC ☑ ST ☐
  Income: <1 lakh ☐ 2-4 lakhs ☑ 4-8 lakhs ☐ >8 lakhs ☐
  Type of House Building: Hut / Semi Pucca/ Pucca/ Apartment/ Bungalow
  Nature of House building: Own/ Rented

Family Details:

S.No	Name of the Family member	Gender	Age	Education	Profession
1.	M. Govindamma Bai	F	33	4th	Daily Labour
2.	M. Rahul Naik	M	16	diploma (Agriculture)	Student
3.	M. Ramana Naik	M	19	Degree	Student

Health Details:

(i) Diseases in family:

(ii) Source of treatment: Govt. Hospital/ Private Hospital/Traditional Medicine

(iii) Any PH Persons in family: Yes/ No

S.no.	Name of the person	Gender	Age	Nature of Disability

COMMUNITY SERVICE PROJECT

Survey Questionnaire:

1. Do you live in own house or Rented house ?

a) Own b) Rented c)Govt. Quarters d) Others

2. How many rooms are available in your home?

a)Two b) Three c) Four d)Five or more

3. Which type of Energy forms do you use in your house ?

a)Electrical b)L.P.G or Natural gas c)Solar d)Petroleum e) All

4.Which type of Electrical appliances do you have in your home ?

a) TV b) Washing machine c) Refrigerator d) A.C

5. Whether the Electrical appliances in your home are Rated electrical appliances or Not ?

a) Yes b) No

6. Do you have any of these Energy efficiency measures installed in your home ?

a) Insulation – Cavity walls, Floors, etc… b)Draught proofing of the windows and doors

c)Use Of low voltage lamps d) Insulation of the hot water cylinder

7. How much electricity consumption do you get per month?

a) <100 units b)100-150 Units c) 150-200 Units d)>200 Units

8. What Kind of Light bulbs do you have in your house ?

a) L.E.D b) C.F.L c) Incandescent d) Halogen

9. What are the average usage hours of Electrical bulbs per day in your house ----------?

10. Do you turn off the lights when they are not in use ----------?

11. Did you observe any change in the electrical consumption with normal lights / Electrical appliances to L.E.D / rated appliances?

a) Yes b) No

12. Which type of Energy mainly used for cooking purpose?

a) Electrical b) L.P.G c) wood fuel d) Others

13. Do you have Gas connection or Not for your house?

a) Yes b) No c) Yes but not in use

14. How many Gas cylinders were used throughout the year? 4

15. Do you have microwave oven No

a) Yes b) No c)No idea regarding this

16. How many Vehicles do you have in your house ?

a) One b) Two c) Three d) More than 3

17. How much money did you spent on Petroleum / Diesel in the last 10 months _____

18. Do you feel whether Energy should be saved for Future Generations?

a) Yes b) No

19. If Conventional energy resources are exploited what will you do

a) Alternate energy source b) Will not be exploited c)Not known

20. Do you feel better if you have alternate energy resources?

a) Yes b) No

21. If alternate energy resources are available do you like to use them?

a) Yes b) No

22. Do you know the difference between Renewable and Non renewable resources?

a) Yes b) No

23. Do you know any Renewable energy resources mentioned below:

a) Solar energy b) Wind power c)Tidal energy d)Bio Energy

24. Do you know about the Solar energy?

a) Yes b) No

25. Have you heard about Electrical vehicles?

a) Yes b) No

26. Do you feel your area is suitable for Wind power generation?

a) Yes b) No

27. Do you know how to produce Bio fuel?

a) Yes b) No

28. Do you know about Tidal energy?

a) Yes b) No

29. Do you think the energy production from Non conventional energy resources will be available at Normal cost or Not?

a) Yes b) No

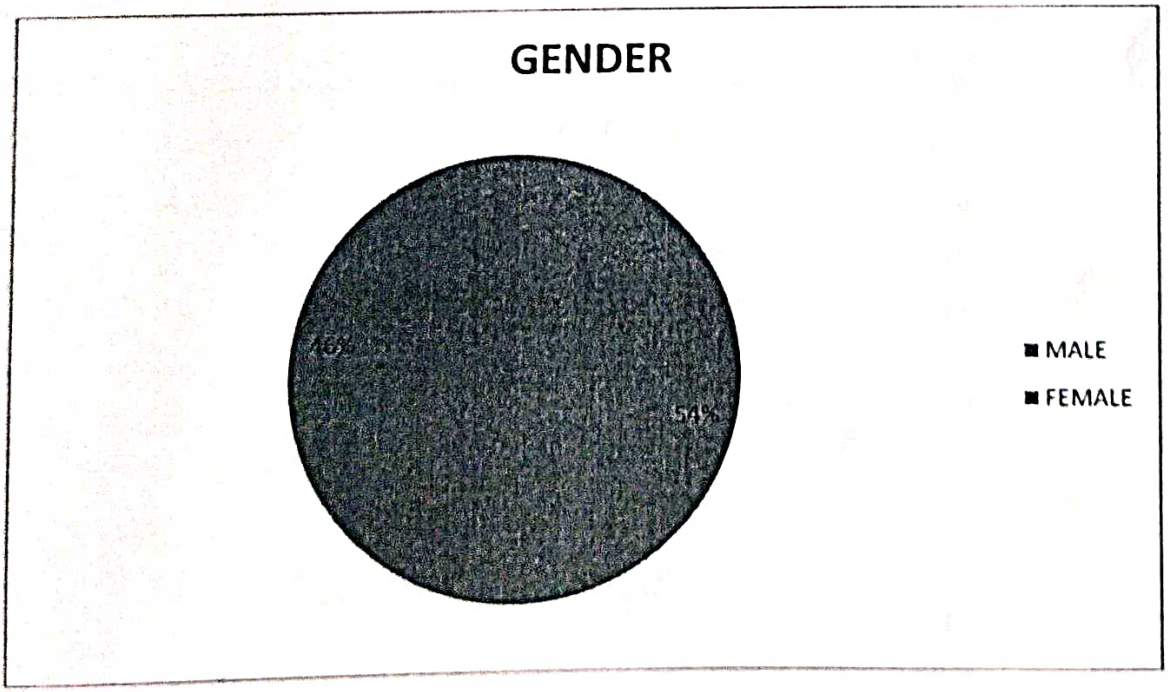
30. Do you believe that Govt. will support in using these type of energy resources? yes or no

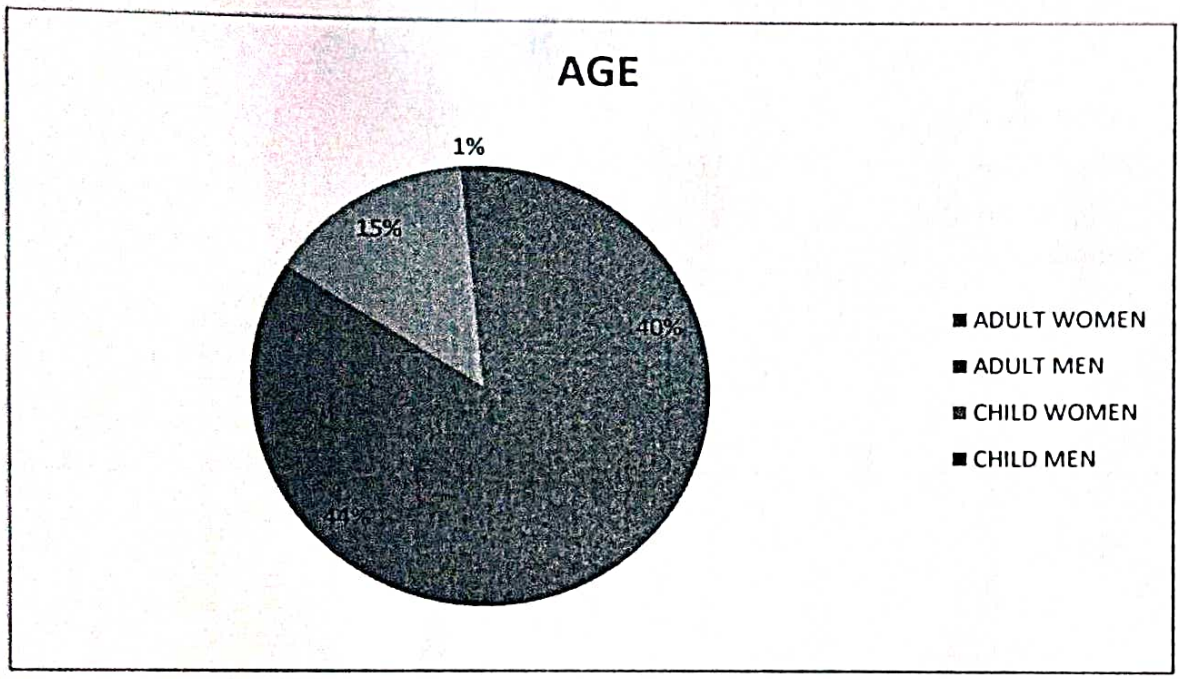
Socio-Economic Survey of the Village/Habitation.

In this Community Service Project, presently this report aiming to analyses the combined list of educated and uneducated households living in rural areas. We first tried to know the basic data of households. In this connection, approximately 50 good samples are collected from the village of RENTAPALLI and used to further analysis studies. This survey is mainly divided into two parts as Primary data and Project Data. In the primary data, we started surveying mainly about four aspects. They are Gender, Age group, Educational Qualification and Occupation of the Households. We continued the survey through some options in each aspect. Approximately 45.71 percent females and remaining percent males participated in this project. Among the 45 percent of females, approximately 32.93% were adult women and 11.97% were child women. In the case of 54.28 percent of men, it means 35.92 percent of all adult men and 11.97 percent of children less than 15 years of age participated. We collected 19.35 percent of those with less than a SSC, 32.25 percent of those with an intermediate or higher education, and 3 percent of those with a PG or Ph.D. The remaining percent were uneducated. At the end, the final aspect of occupation included 43.90 percent of daily wage labor, 48.78 percent of agriculture, and the rest were doing some business. All the above mentioned data points were shown in both tabular and pie chart models for better understanding.

Table 1: Socio-Economic Survey of the RENTAPALLI village

S.No	Name of the Characterstics	Nature	No. of Households	Percentage
1	Gender	Male	95	54.28
		Female	80	45.71
2	Age	Adult Women	55	32.93
		Adult Men	60	35.92
		Child Women (Under 15 Y)	20	11.97
		Child Men (Under 15 Y)	32	19.17
3	Literacy	Below SSC	30	19.35
		Intermediate and above	50	32.25
		PG & Ph.D.	5	3.2
		Uneducated	70	45.16
4	Occupation	Labour	90	43.90
		Agriculture	100	48.78
		Businessman	15	7.31

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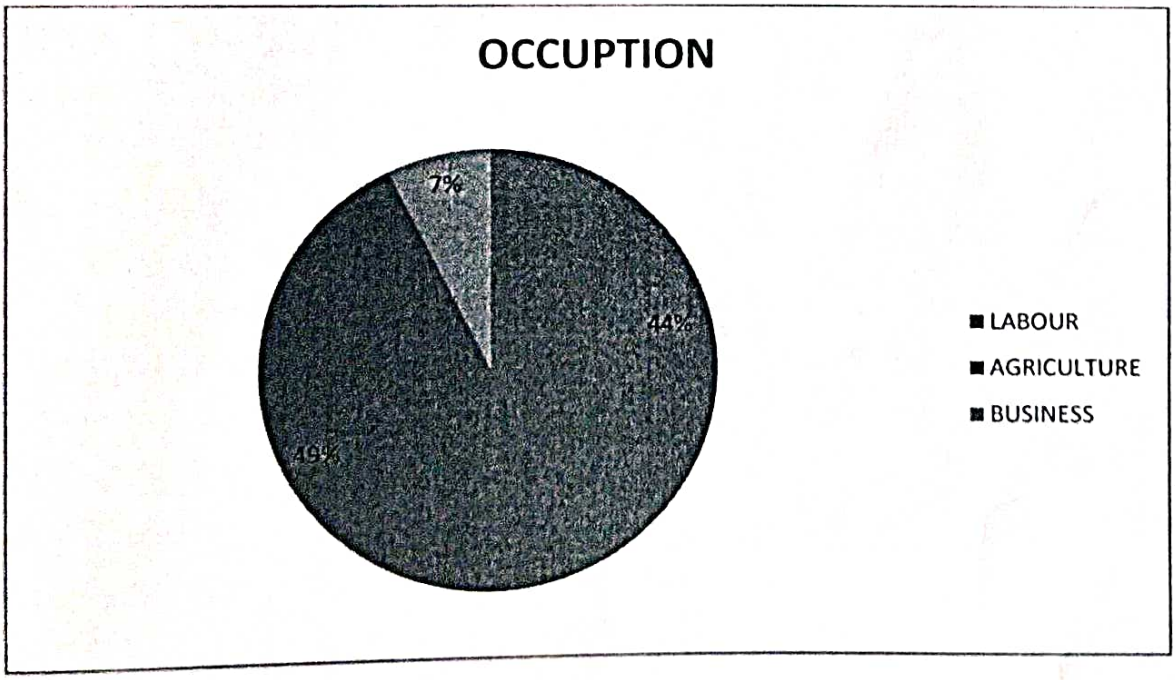
CHILD MEN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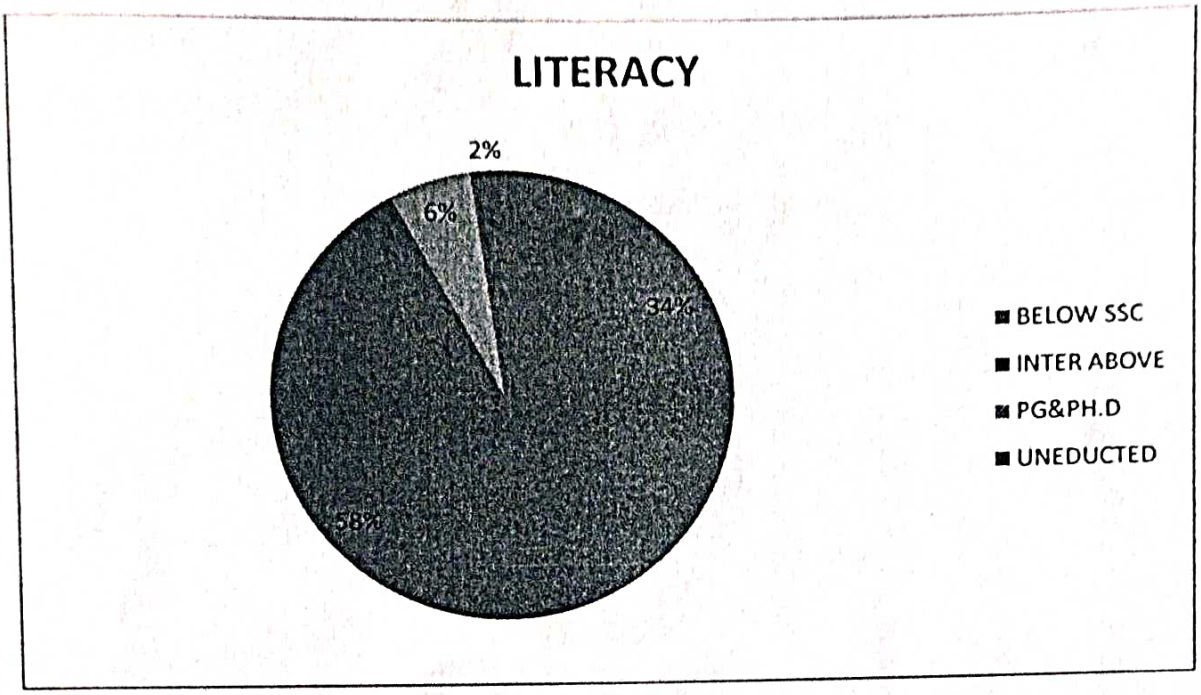
LITERACY
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6%
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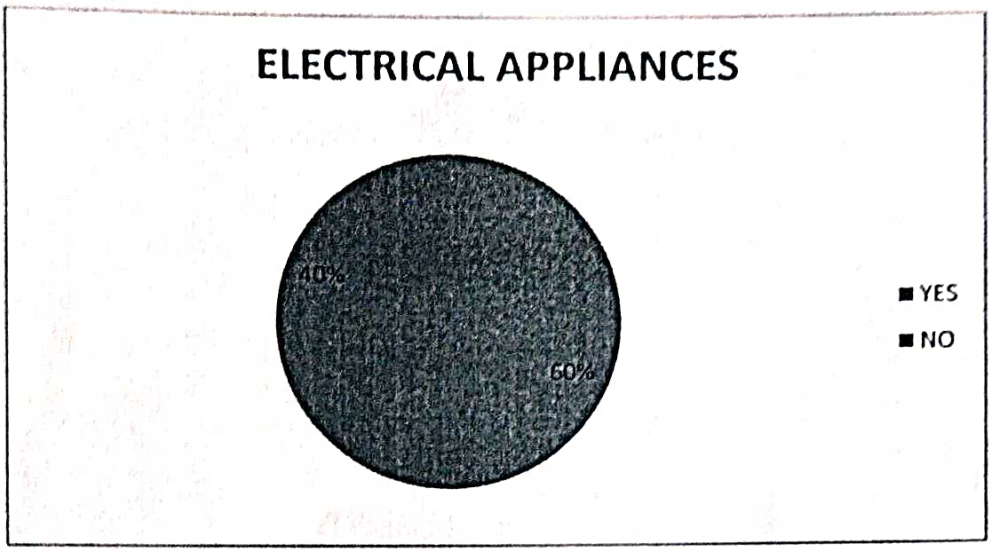
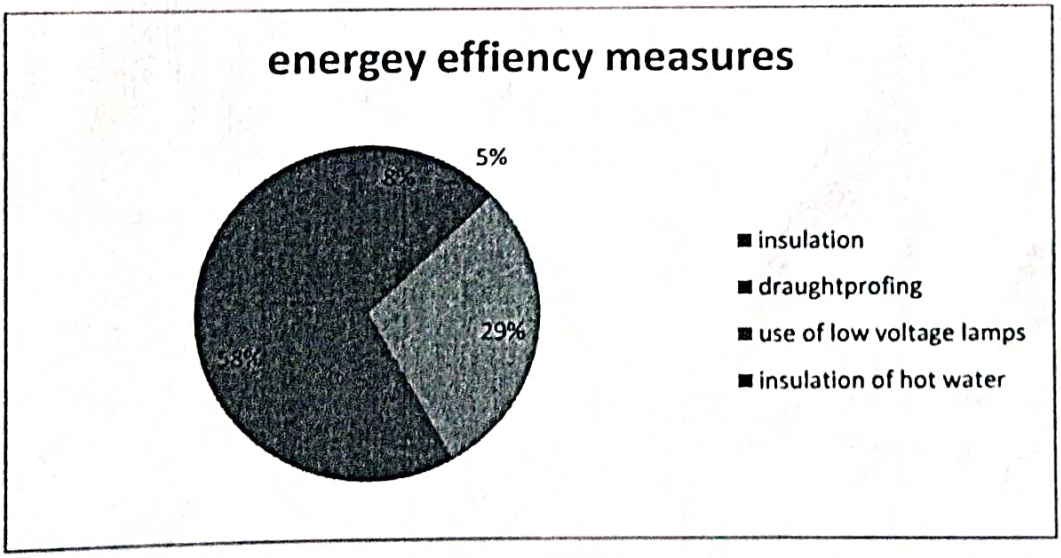
58%
BELOW SSC
INTER ABOVE
PG&PH.D
UNEDUCTED

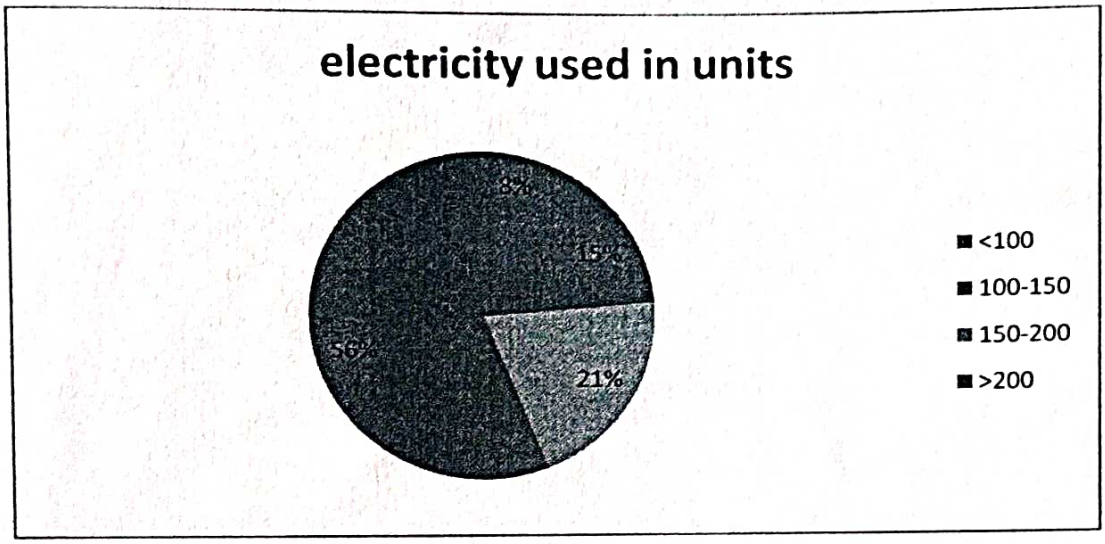
Whether the electrical appliances in your home are rated electrical appliances or not?



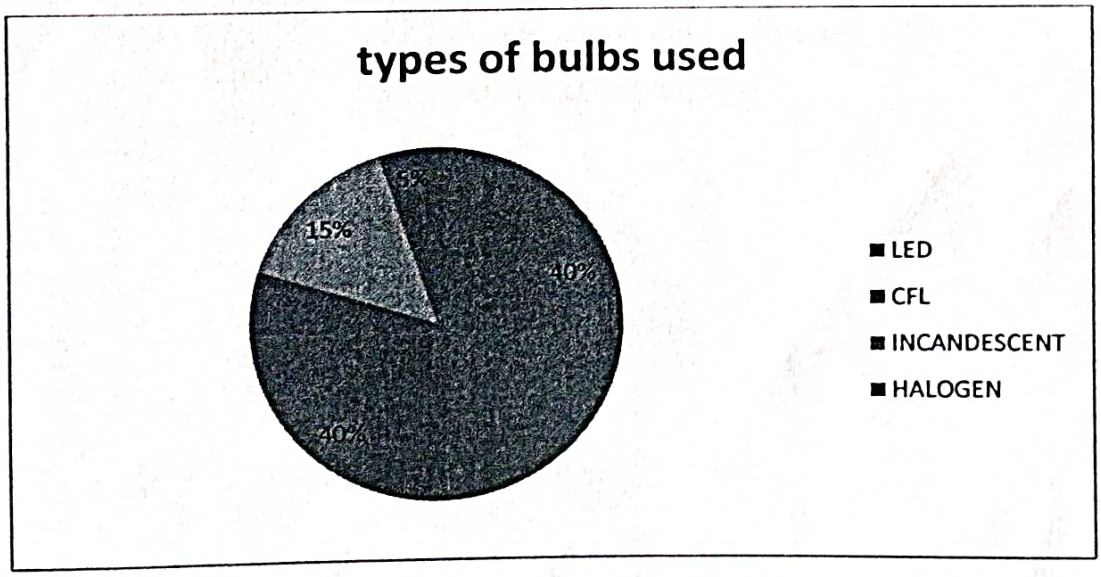
Do you have any of these energy efficiency measures installed in your home?



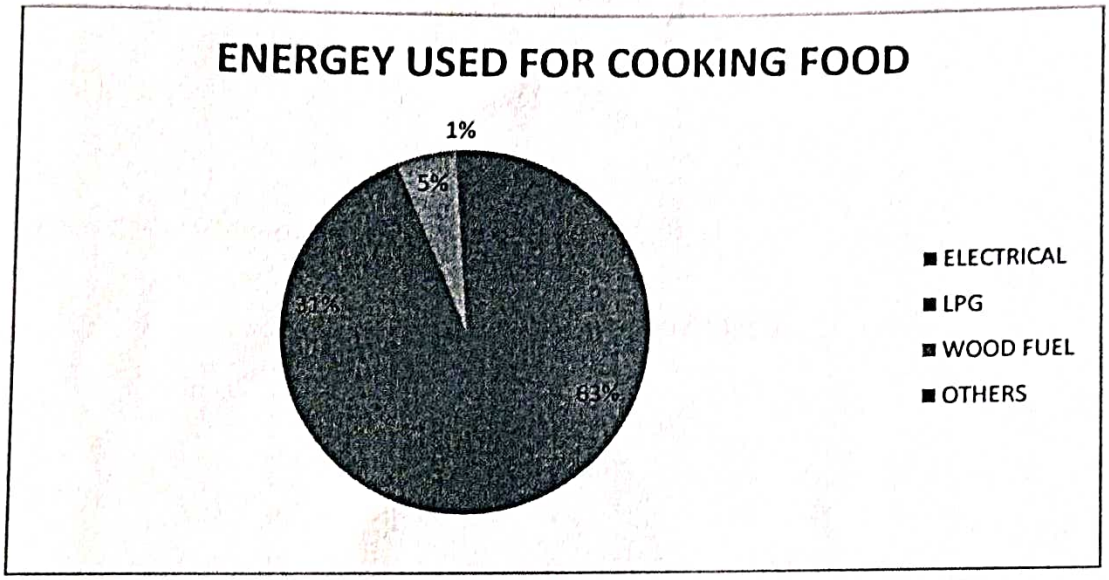
How much electricity consumption do you get per month?



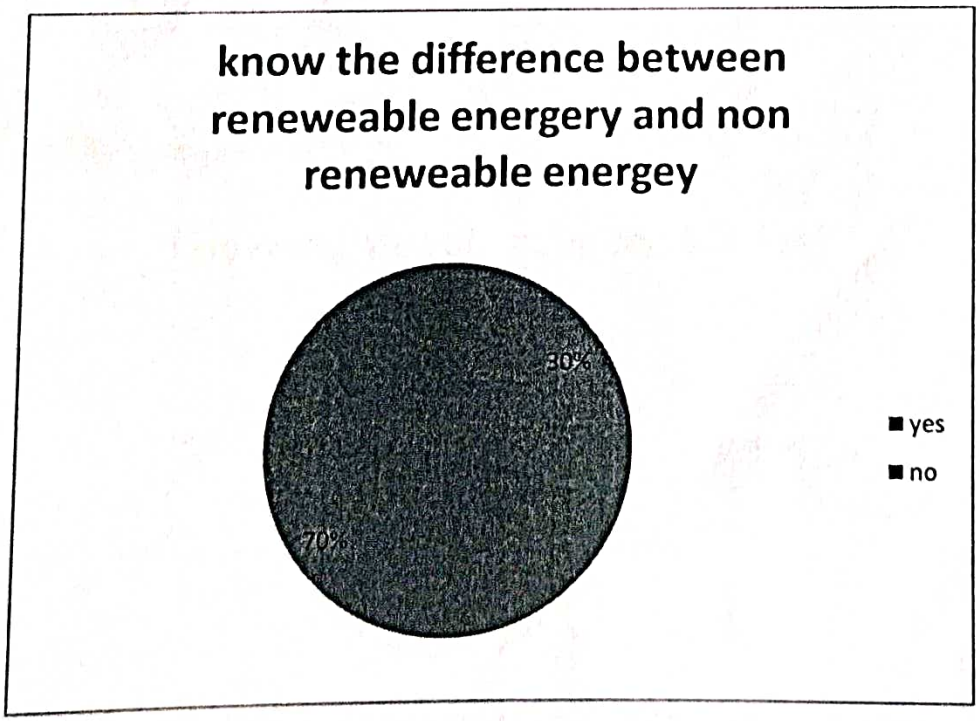
What kind of light bulbs do you have in your house?



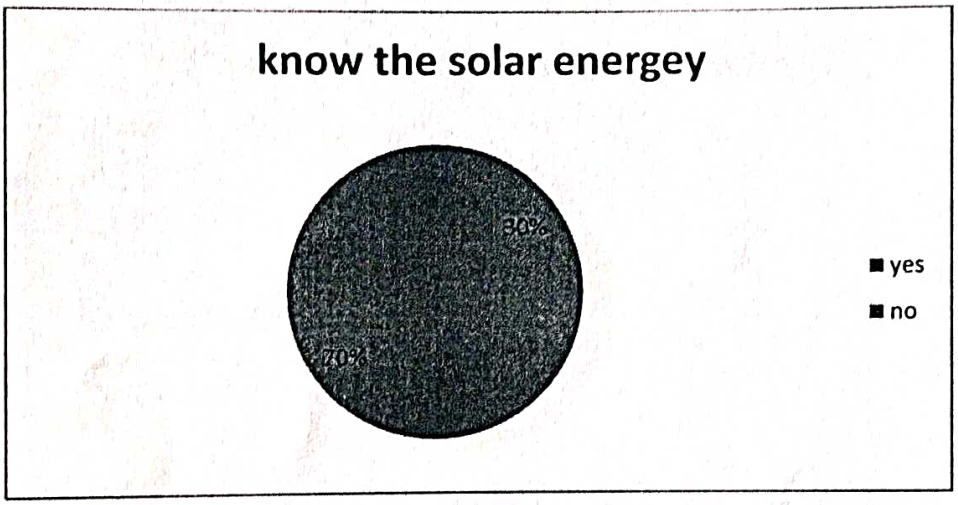
Which type of energy used mainly for cooking food?



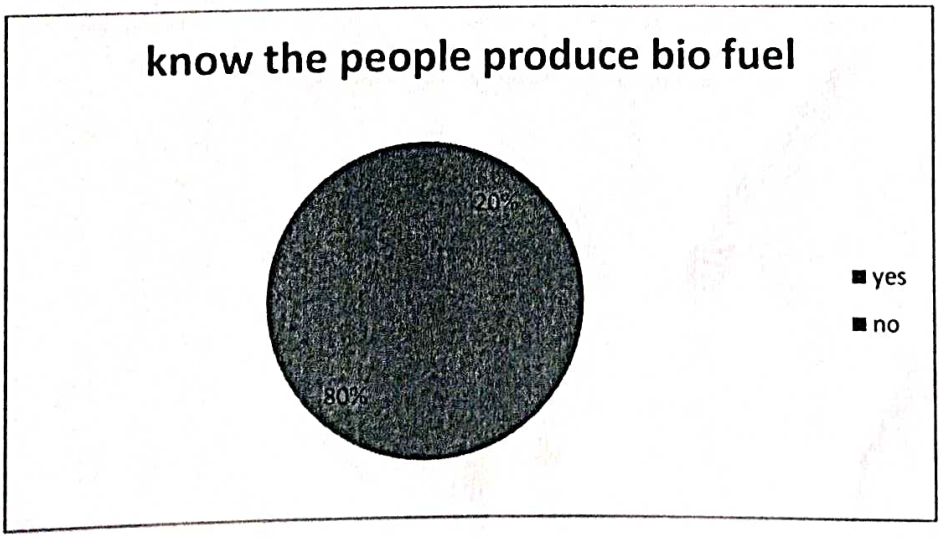
Do you know the difference between renewable energy and nonrenewable energy?



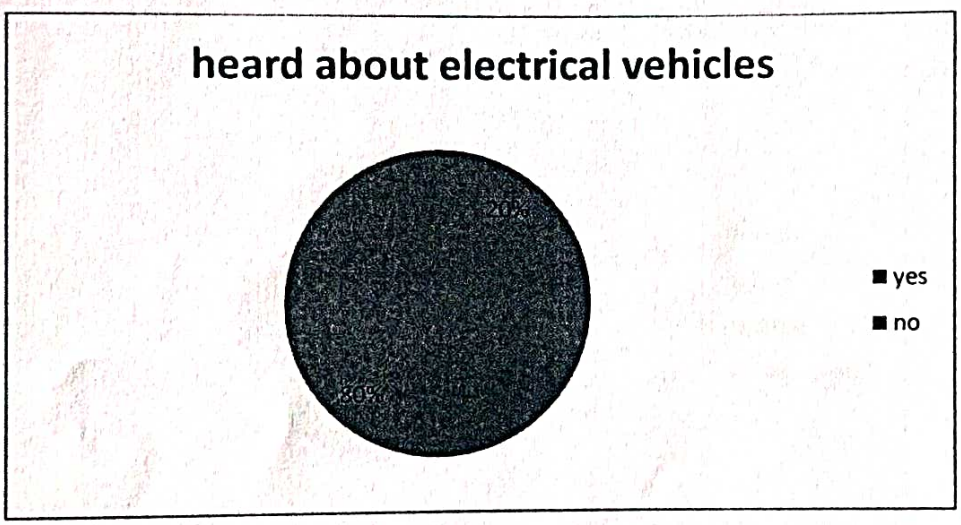
Do you know the solar energy?



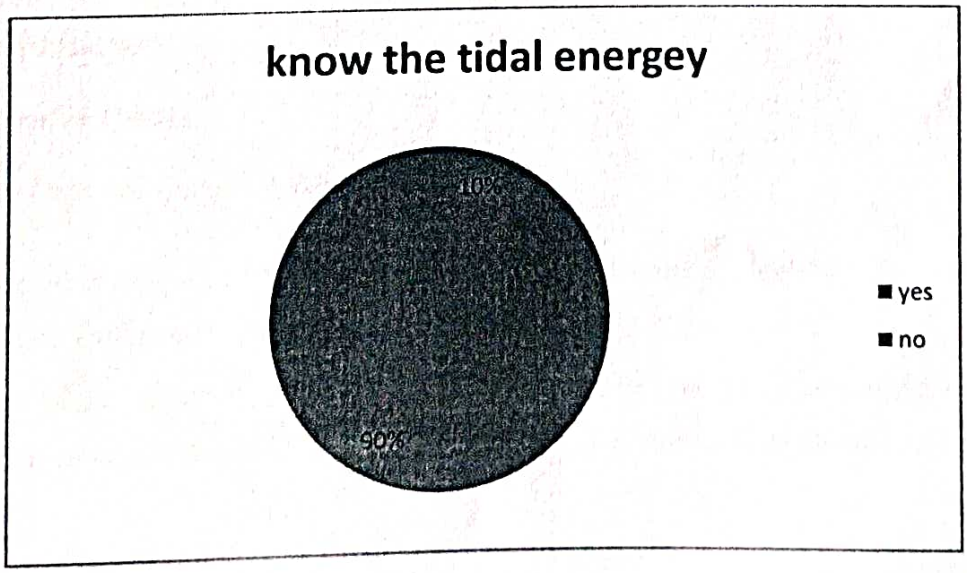
Do you know how to produce bio fuel?



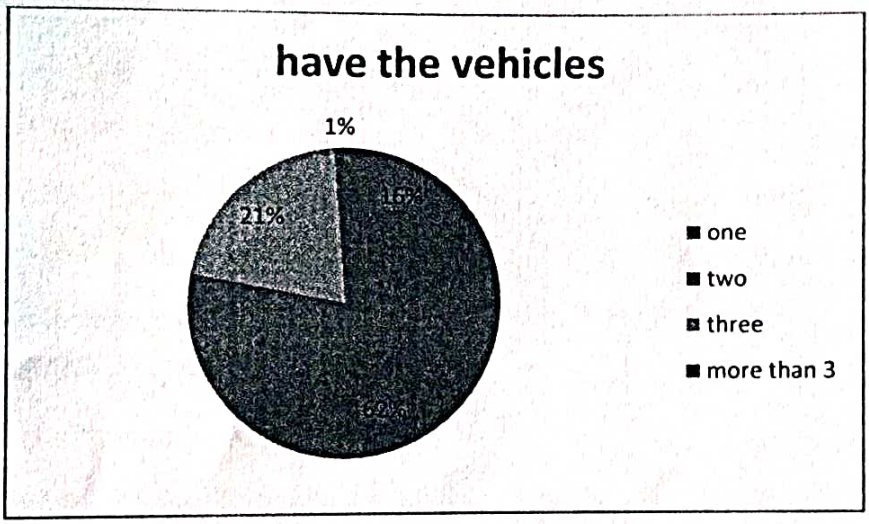
Do you heard about electrical vehicles?



Do you know tidal energy?



How many vehicles you have in your house?



Recommendations

How we conserve energy

Best Ways to Conserve Energy in Daily Life

- Adjust your day-to-day behaviors to turn off devices and appliances when not in use. Purchase devices and appliances which consume less energy.
- Adapt smart power strips: Do you know power or energy is consumed when the appliances are not in use. Yes, appliances draw power from outlets and are referred to as

phantom loads. These smart power strips will help to cut down on phantom-load costs and save energy.

- Refrigerators are one of the main appliances that consume power. Keep the setting of the refrigerator low to save energy.
- Using CFL and LED bulbs to save energy. Regular incandescent bulbs consume more energy than CFL and LED.
- Clean or replace air filters as recommended. Air conditioners (AC) and heaters consume more energy than other appliances. Cleaning or replacing air filters improves efficiency and consumes less energy.
- Operate dishwasher and washing machines in a full load. To get the most energy-saving use from each run cycle.
- Using a laptop instead of desktop computers can save considerable energy.
- Install water-saver showerheads to help with conserving hot water and save power.
- Use a slow cooker, toaster oven, or microwave oven over a conventional oven. Also, use utensils made of ceramic and glass.
- Cycling is the best way to save fuel.
- Walking instead of driving also saves energy.
- Skip the dryer on a breezy day and dry clothes on the clothesline.

Benefits of Conservation of Energy

Energy conservation helps in:

- Saves the cost and lowers your utility bills.
- Prolongs the existence of fossil fuels.
- Protects the environment.
- Reduces pollution.

Energy conservation in the kitchen

1. Turn off the heat a few minutes early

Turn the oven off a few minutes early, and the heat will continue to cook the food as you plate up. This also applies to the stove when boiling food (just don't make the mistake of leaving poached eggs in hot water – they will quickly become hard-boiled!).

2. Dishwasher Tetris

Who likes playing Tetris with plates and bowls in the dishwasher? No one. It's important to only run the dishwasher when full to reduce usage, but not to the point where you can't get the door shut! Over stacking can prevent dishes getting clean and results in you having to wash them again, therefore using more energy and water.

3. Energy conscious globes

When it comes to changing light bulbs, why go old-school? Use energy-efficient globes, it's the way of the future!

4. Seal the doors

Doors are used to trap the heat in an oven and the cold in a fridge or freezer. Yet many people neglect the seals, creating a sneaky escape route. But how do you know if your seals are effective? Simply place a piece of paper between the door seals and the door. If the paper moves in and out easily then the seal isn't doing its job. Try adjusting the door first, otherwise you'll need to replace the seals.

5. Love your appliances

Appliances tend to use less energy than the stove, so put the kettle on and let's have a cup of tea.

6. Defrost before cooking

Plan ahead and put your frozen food in the fridge to defrost, reducing the energy used by your microwave or oven.

7. Dry your dishes the old-fashioned way

Forget about using the dry cycle, just open the dishwasher door and let your plates air-dry (just don't let the dog lick them, they may burn their tongue).

8. Choose your burner

It may seem insignificant, but using a burner that is too large for your pan can waste a lot of energy. If you are restricted by the number of burners (maybe your household likes to cook separately), turn down the flame so that it does not escape around the edges.

9. Water waste

Do you really need to fill your saucepan or kettle to the top? Use the minimum amount of water when boiling food or preparing that cup of tea. The more water you use, the more energy is required to bring water to the boil. If you only need one cup of water, measure it out using a cup and add just a little extra due to evaporation or spillage.

10. Portion control

No, we're not saying you should go on a diet…Chop your vegetables into smaller pieces when boiling to reduce cooking time. Simple but effective, especially when you have a hungry family waiting.

Energy conservation in the house

Turn off appliances

When an appliance is on standby, it still consumes power. This is why you should turn off the switch of your TV, desktop, phone charger, and even your microwave when it isn't being used. This will help you save energy at home. If a room has many appliances that are often used all at once, you may forget to turn off each switch. In this case, it may be more convenient to plug them all into a power strip. For example, you can plug in an electric fan, desktop computer, printer, and charger, and turn a single switch off when you're leaving the room.

Use cold water

A lot of electricity goes into heating up water. That's why using cold water for your showers and in your washing machines is a great way to save electricity. Most clothes are designed to withstand cold washes, and detergents nowadays work just the same in cold water as they do in warm water.

Insulate your home properly

On the other hand, hot showers in the winter are unavoidable. However, a lot of heat is lost from pipes and heaters, no matter how long you leave the geyser on. Reduce standby heat loss significantly by adding insulating blankets to your bathroom's water heaters. This will help keep the water hot for longer, helping you saves energy at home as you won't have to keep it turned on for very long. If you experience winter where you live, you should also consider upgrading the insulation on your windows and sealing cracks through which air circulates. Doing so will help trap heat in the house, reducing the amount you use your heater. The same goes for summers – you'll find you use your air conditioner less once the cool air stops escaping through the cracks and gaps.

Run full loads

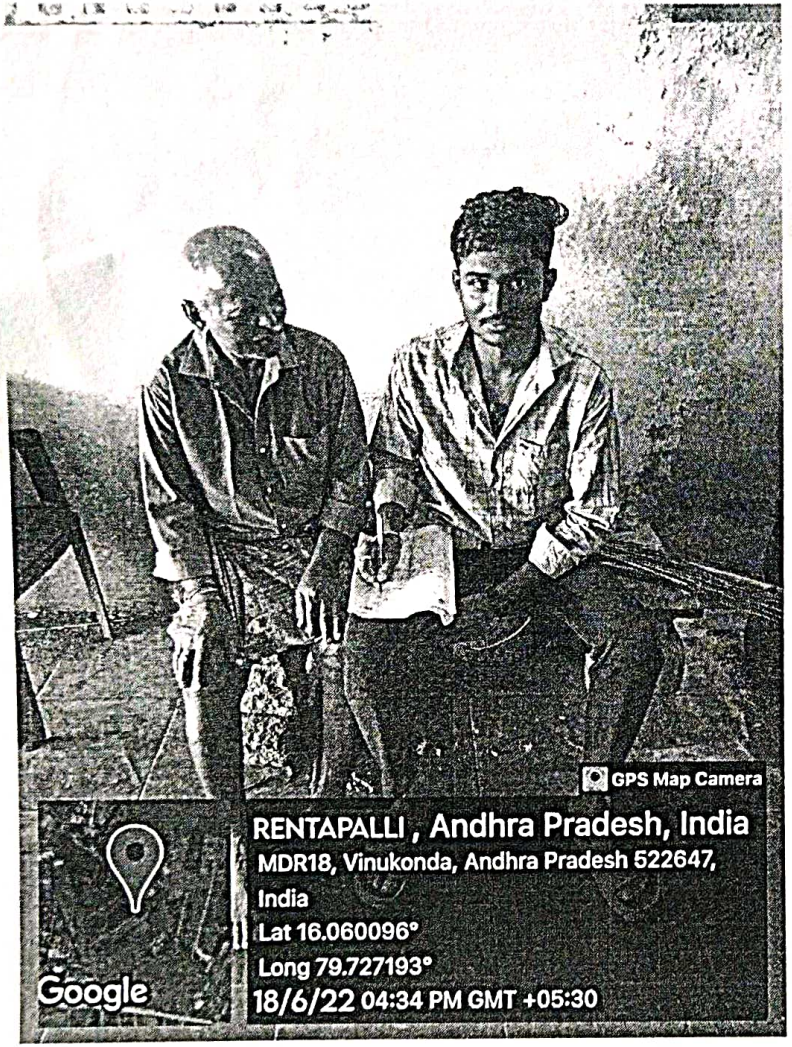
Another significant way to conserve energy is to run the dishwasher and washing machine with full loads. Running them half-full is both a waste of water and electricity. In case you find this cannot be helped, consider investing in a smarter appliance, which can estimate how much water to use for a shorter cycle based on how many clothes or dishes you put inside. You can also add aerators to faucets around the house to save water.

Upgrade and maintain utilities

It's also important to properly maintain major appliances around the house which consume a lot of electricity. Cleaning or changing your air conditioners filters every few months will go a long way in saving energy around the house. This is because dirt will slow down airflow, which causes the unit to work harder and use more energy. The same goes for cleaning out the lint trap of your washing machine in between cycles. If your appliance is extremely old, it would be best to swap it out for a new appliance since older ones consume more energy as they work a lot harder to function, no matter how much you maintain them.

Opt to air-dry

There are many ways we use dryers around the house. We use dryers for our clothes, dishes, and even our hair. But the eco-friendly alternative would be to air-dry all of them. Towel dries your hair after washing it, or simply sits under a fan for a while. This is a very simple way to save electricity. For your dishes and clothes, buy drying racks and put up clotheslines or drying stands out on a terrace or in a balcony. Many clotheslines are available as attachments that you can place overhead in a balcony, allowing you to lower them with a drawstring to fan out clothes, and then pull back up to keep clothes out of the sun to prevent fading. Stands are also most often foldable to help you save space. These energy-saving tips will help you cut costs drastically at an economical charge, and will also help you incorporate sustainable living in your life with ease.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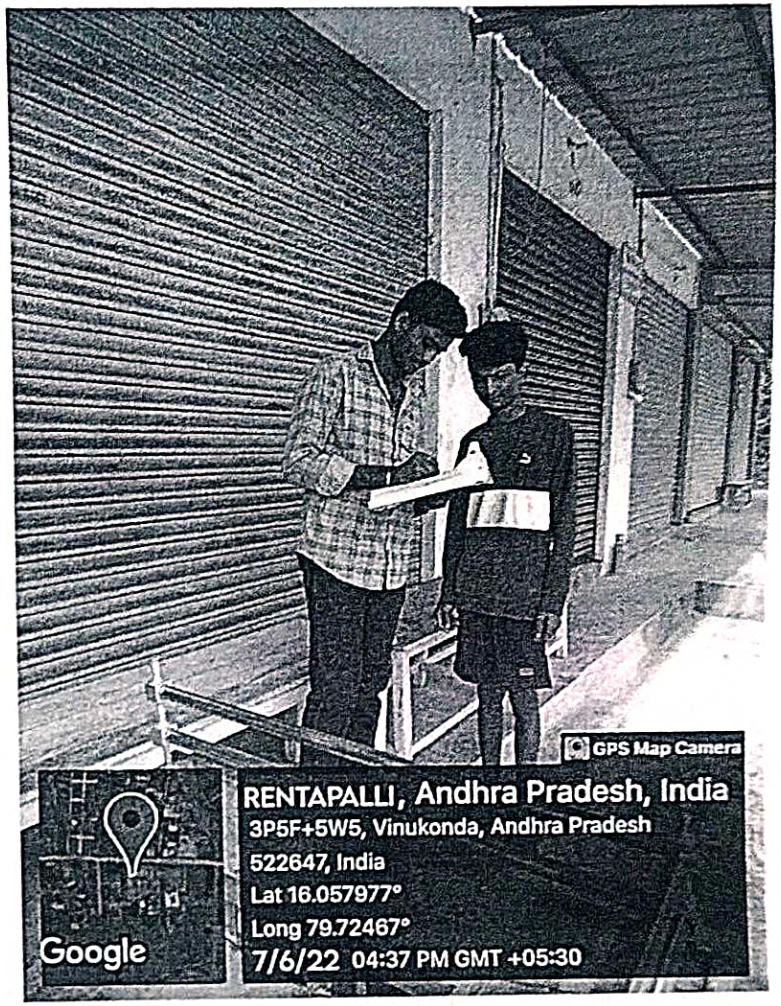
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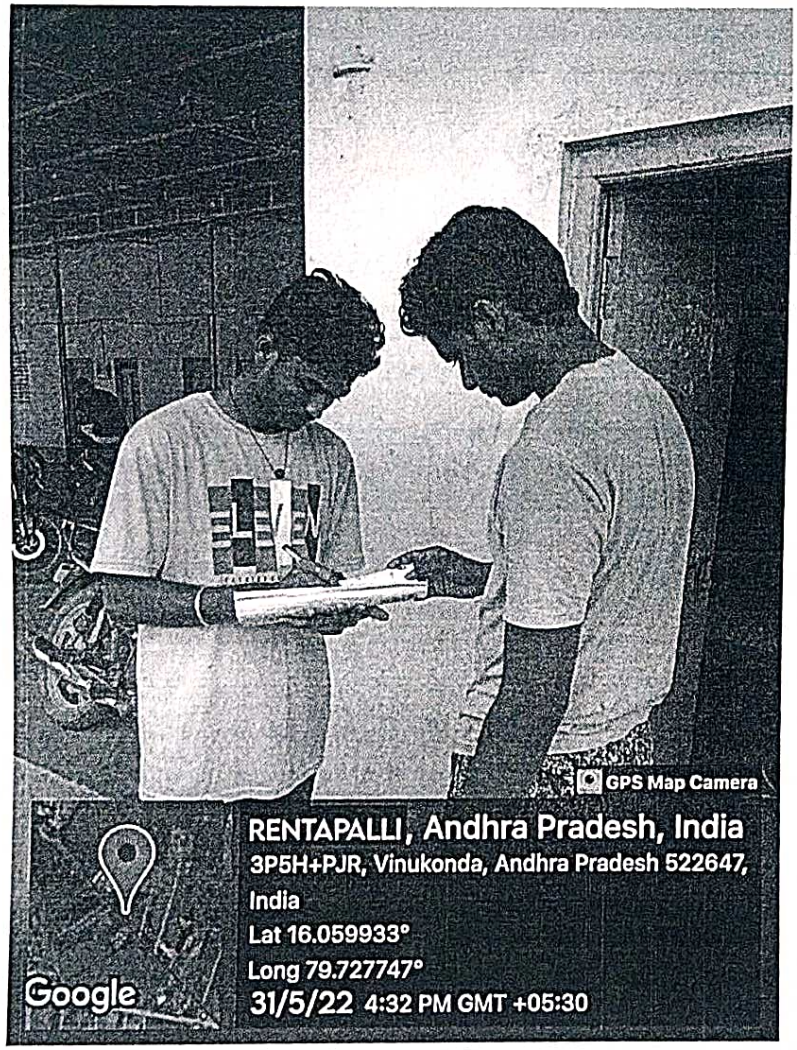

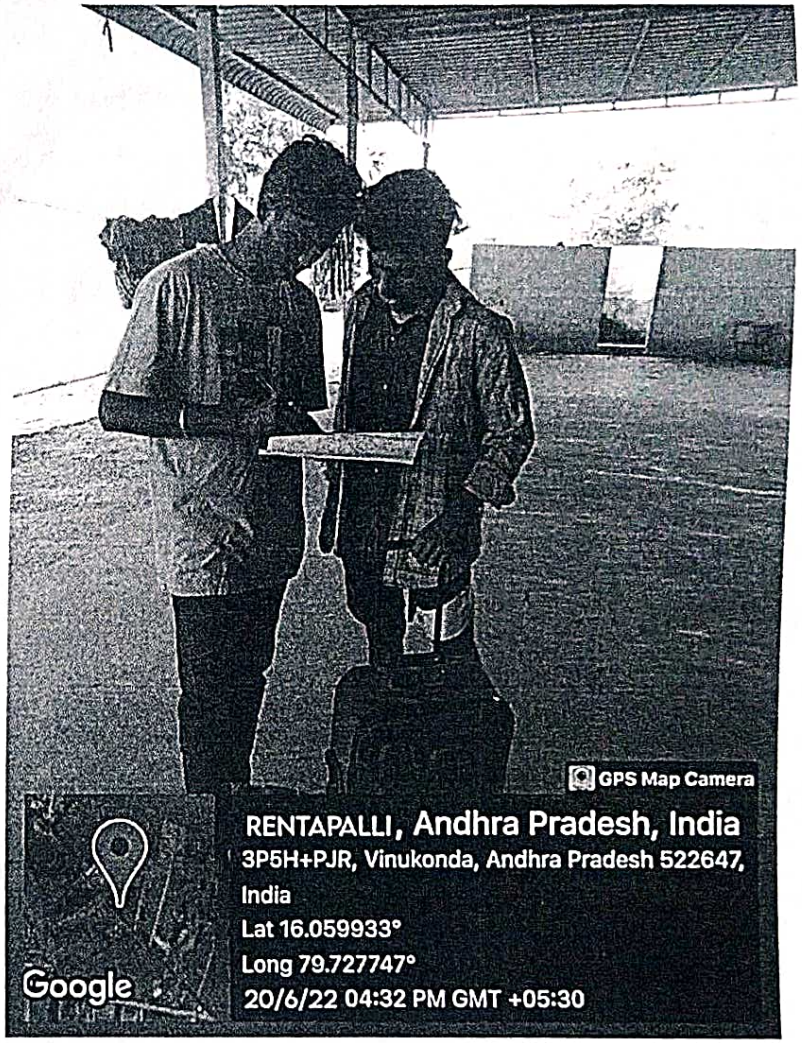

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