ELECTRICITY GENERATED BY WASTE MATERIAL

D Sharanya[1], A Vinay Babu[2], K Sunay[3], B Krishna Chaitanya Charan[4], K Abhilash[5]

[1,2,3,4] Student of ACE Engineering College, Dept of Electrical and Electronics Engineering, Telangana, India
[5]Assistant Professor at ACE Engineering College, Dept of Electrical and Electronics Engineering, Telangana, India

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Abstract - *In the current year, shortages of the energy sources, changing the global climate, and world energy conflicts lead to negative effects on all levels of the society and threatened world stability was increasing These challenges can be decreasing the fossil fuel reserves to the growth of the world population, Global climate change, and increased in wastes levels (solid/liquid) and can be resulted to the electricity crisis. In several developing countries, the electricity crisis obstructs both socio-economic and technological sustainable evolution. Also, it leads to reducing job availability due to shutting down several industries or relocating to neighbouring countries to such an issue. The purpose of making this project is to generate electrical energy from waste materials like plastic, rubber, garbage, waste material, etc. and store that electrical energy in the battery through the circuit and use that electrical energy to operate the whole system. So, in this Project, we show successfully How to generate electricity by Waste Materials and Store electricity in Battery successfully*.

Key Words: Heating panels, Led Bulbs, zaar box, IN4007, Battery 4.5V, Resistors, capacitors.

1. INTRODUCTION

In the present world, electricity is very necessary. So, to generate electricity we use many fuels like coal, gas, diesel, uranium, etc. These all fuels are in limited quantity. Which, we could up to 70 to 80 years. These fuels are used in different power plants to generate electricity. EX. In thermal power plants - coal, nuclear power plants - uranium, gas power plants – gas, and in diesel power plants - diesel is used as fuel to generate electricity. In This Project when burning start then heating generate and heating penal start converting heat to electricity and that electricity, we can see on multi meter display, we can see how much voltage generate by waste materials and we Electricity generating perfectly then automatic heating sensor on the output power supply then Big LED Bub start glowing and our idea everyone can see in live working, Our Idea 100% work for generating electricity by waste materials. So, this is our best live working idea .

2. WORKING

When we start burning the waste material in the burning box the heating panels will start collecting the heat energy generated in the burning box by waste material.

The heat energy collected by heating panel will be converted into the electrical energy.

The generated electrical energy will be seen in circuit box with led glowing. The generated electrical energy will transfer to the batteries through the power boosters. The batteries will not dissipate the energy back because a diode is connected to it.

The batteries relate to the heat sensor and LED bulbs. Whenever the heat sensor will start conducting the batteries allow energy to flow will start conducting and LED bulbs will glow.

3. BLOCK DIAGRAM

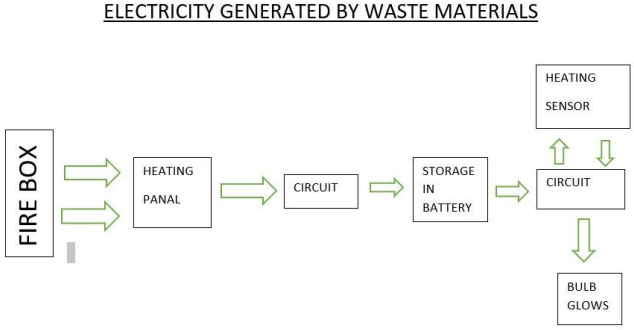


Fig -1: Block Diagram

3.1 Heating panel

A heating panel works by generating electricity when particles of light heat, or photons, knock electrons free from atoms, setting them in motion. This flow of electrons is electricity, and heat panels are designed to capture this flow, turning it into a usable electric current. Simply put, a Heating panel works by allowing photons, or particles of light or heat, to knock electrons free from atoms, generating a flow of electricity. Heating panels comprise many, smaller units called photovoltaic cells. Photovoltaic simply means they convert heating or light into electricity. This heating panels will collect the heat energy and will convert the heat energy into the electrical energy.

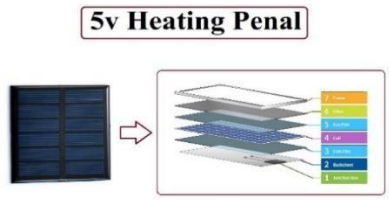


Fig -2: Heating panel

3.2 Heating sensor

The tip of the sensor has a spring that is attached to a rod, leading up to the gauge needle. The spring sits inside the stems sensing end. When heat is applied to the sensing coil, movement in the coil is created which causes the needle in the gauge to move – thus displaying the temperature. This sensor will sense the heat energy generation.

Fig -3: Heating sensor

3.3 Capacitor

The capacitor is a component which has the ability or "capacity" to store energy in the form of an electrical charge producing a potential difference (*Static Voltage*) across its plates, much like a small rechargeable battery. In this process the capacitor work to collect the electrical energy and store and will send the electrical energy to battery by connection of and series and parallel to increase the voltage double.

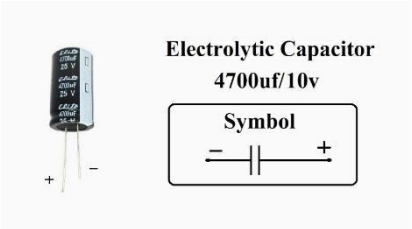


Fig -4: capacitor

3.4 Resistor

A resistor is a passive two-terminal electrical component that implements electrical resistance as a circuit element. In electronic circuits, resistors are used to reduce current flow, adjust signal levels, to divide voltages, bias active elements, and terminate transmission lines, among other uses. Highpower resistors that can dissipate many watts of electrical power as heat.

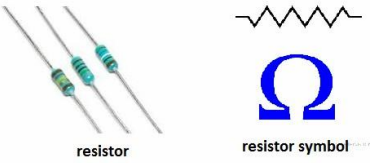


Fig -5: Resistor

3.5 Battery

A battery converts chemical energy into electrical energy by a chemical reaction. The chemicals are kept inside the battery. It is used in a circuit to power other components. A battery produces direct current (DC) electricity. The battery used store the energy generated.

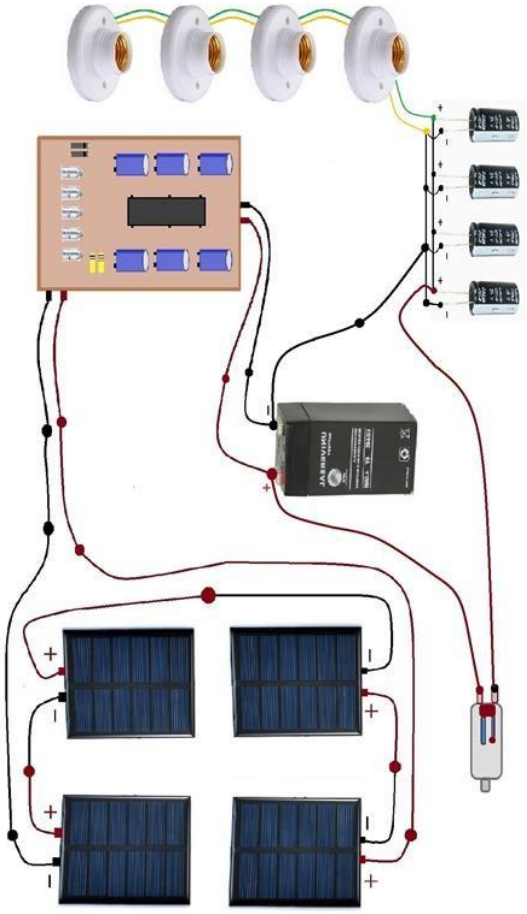
Fig -6: Battery

3.6 LED Bulbs

The LED Stands for Light emitting diode and LED BULBS are used glow the bulbs in the project to see the energy generation. 10 watts bulbs are used see the energy generation

Fig -7: LED LIGHTS

4. Connection Diagram



5. Prototype

6. Result

In this prototype when we are start heating waste material inside zaar box the heat generated will be collected by heating panels. The heating panels will collect the convert the heat energy into the electrical energy and that will be transferred to circuit board. Which is constructed with IN4007 Diode and capacitor connected in series and parallel because in to increase the generated energy and push to store in the battery. Then the heating sensor is will be sensing the heat and connect circuit to output of LED Bulbs and the bulbs will glow until the energy getting stored and until the heating sensor sensing the energy generation. The bulb will glow uninterruptedly while the energy generation and battery storage. This stored energy can be used for anything.

In the present situation waste material at any place, we can see with some procedure collect everything and we can use the prototype to generate the more energy for utilization.

With this we came know that the energy generation by this method is very easy with some precaution. This prototype helps us to know about waste utilization.

With this project we can increase our own energy at industrial purpose and use them for some needs.

CONCLUSION

Incineration technology is complete combustion of waste (Municipal Solid Waste or Refuse derived fuel) with the recovery of heat to produce energy that in turn produces power through heating panels. Now from this we can conclude that electricity plays an important role in our life we are made aware of how the generate electricity waste is done. For technical service provider plant Objectives & Maintenance activities are very important as its service mostly depends on the availability of its equipment. From this we see that how electricity generated successfully. From this we can see how to store the energy in batteries.

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BIOGRAPHIES

Mrs. D. Sharanya, Assistant Professor, EEE department, ACE Engineering College, Hyderabad.
She did her B. Tech from Vardhaman College of Engineering and M. Tech from JNTU Hyderabad

Mr. Ashadapu vinay babu student of EEE department India. He did his Diploma from Singareni collieries polytechnic college. Mancherial, pursuing B.
Tech from ACE engineering college, Hyderabad.

Mr. Kasu Sunay student of EEE department India. He did his Diploma from VMR POLYTECHNIC COLLEGE . pursuing B. Tech from ACE Engineering College,Hyderabad.

Mr. Baswaraju krishna Chaitanya charan student of EEE department India. He did his Diploma from Talla padmavathi college of engineering, warangal, pursuing B. Tech from ACEEngineering college. Hyderabad

Mr. Kambathula Abhilash student of EEE department India. He did his intermediate from Narayana junior college, pursuing B. Tech from ACE Engineering College, Hyderabad.