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GENERATION OF ELECTRICITY BY USING EXHAUST FAN

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ABSTRACT

There are many new ways to generate electricity. This project explains how we can make electricity using outgoing gas. A turbine and a dynamometer are used in this project. Dynamo is connected to a turbine used to produce power. The turbine is mounted on an air-tight duct. The energy produced varies, depending on the flow of air through the exhaust system. The dynamo starts circling using a turbine and converts kinetic energy into electrical energy. The battery saves energy. The voltage must be adjusted, in order to be applied to the equipment. We can use the energy that is stored up to our advantage.

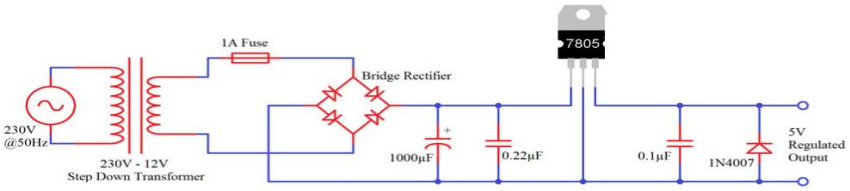
Keywords: Turbine, Dynamo Generator, Exhaust Fan, Microcontroller.

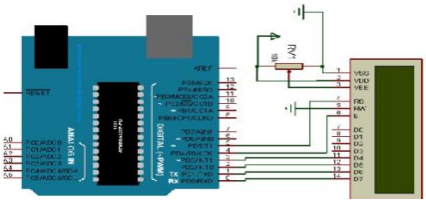
I. INTRODUCTION

The aim is to build a system that uses Exhaust Fan to generate electricity in rural areas. The system controls all settings. Air blowers usually use medium power to move air forward. Inside the centrifugal fan there is a wheel with small blades in the circle and a case that directs the air flow in the center of the wheel and exits the edge. The design of the blade will affect the way the wind blows and the efficiency of the wind turbine. This project uses Exhaust Fan set, turbine and DC Generator. It is a renewable energy program that can reduce energy demand by creating waste energy. This system allows countries with low wind speeds, especially in urban areas, to use wind energy from fixed and predictable wind sources.

II. METHODOLOGY

Block Diagram:-





Working:-

- Wind from a fan can drive a wind turbine and these wind turbines produce electricity that can be stored in storage.
- The final unit may vary depending on the electricity output from the wind turbines..

Procedure for generating Electricity from Exhaust air:-

- When opening the first item check that the inverter is off.
- Then Turn on the exhaust fan supply.
- The exhaust fan will work and the dynamo will start working and the electricity generated will be connected to the charging converter and connected to the battery.
- The battery will save electricity.
- Then turn off the exhaust fan supply.

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• Now turn on the inverter switch.

• AC load provided.

Components:-

- **Exhaust Fan:**

• Exhaust Fan heaters used to transfer heat to waste; The main office, buildings and buildings of Industries usually install one or more ventilation fans to construct an air intake system. This type of Exhaust fans rely on power-driven fans to draw or force air with blades.

• Many air-conditioning systems and industrial processes produce heat that must be removed and dispersed. Water is often used as a heat transfer device to remove heat from refrigerator condensers or industrial process heat exchangers.

- **Dynamo generator :** 12V, DC , 0.9Amper

• A generator is a machine that converts mechanical energy into electrical energy. It operates on the basis of faraday law of electromagnetic induction.

• The law of faradays states that whenever a conductor is placed in a variety of magnetic fields, the EMF is attractive and the EMF generated is commensurate with the degree of flexibility of the flexible connection. This EMF can be produced if there is a related space or time difference between the conductor and the magnetic field.

III. MODELING AND ANALYSIS

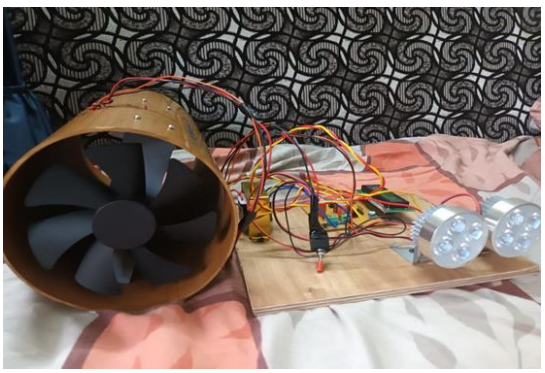

Figure 1: Project Model

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IV. RESULTS AND DISCUSSION

- The voltage will be generated on load is up to 12 volt.
- The voltage will be generated no load up to 17 volts.

V. CONCLUSION

- It is recognized that greenhouse gases can serve as an excellent source of electricity.
- The wind speed is sometimes higher than the natural wind speed and can generate more electricity than is produced in natural air.
- Contaminated air from an exhaust fan can be used effectively to generate energy when proper use is made.

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