

# SELF PROCLAIMING GENERATOR FOR ELECTRIC VEHICLES

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**Abstract-** The world is currently on the verge of an energy disaster. Therefore, it is imperative that you conserve as much energy as you can. Due to friction between the brake pad and the disc, braking in cars results in significant energy loss in the form of heat. This paper describes a regenerative circuit that slows the vehicle during braking without wasting energy as heat between the disc and the pads, as well as between the road and the tyres. Additionally, this energy is recycled later to power the vehicle either mechanically or electrically.

**Keywords-** Conventional Braking System, Regenerative Braking System, Flywheel, Generator, Self-proclaiming.

## I. INTRODUCTION

India suffers from a severe lack of fuel and electricity, particularly in the modern world. As you are all aware, the core of any industry is power and fuel. The entire human community is upset if the price of fuel and electricity changes. The system as a whole is muddled. [1].

An apparatus that converts one form of energy into electricity is called a generator. Although it is impossible to "create" or generate energy, it can be changed. A generator can change a variety of energies, including thermal, kinetic (mechanical), chemical, and potential energy. The mechanical one is the most prevalent. A generator is also referred to as a dynamo when it transforms mechanical energy into electrical energy. Generators are practical and well-known appliances in today's industry.

Self-proclaiming generators are among those that recover energy utilised during an action and use it to power the equipment for an extended period of time. The generator comprises of a light shaft that is protected by a powerful magnet that can generate enough magnetic flux. without causing the torque to change. It is passed via an appropriately sized coil of windings. Solar energy is utilised in the system as a backup energy source. Maximum efficiency producing cars can be manufactured with the help of innovative ideas like self-proclaiming generators, which results in larger energy savings. The amount of pollution from cars can be greatly decreased because this approach does not need any fuel.

a. The cost of electricity determines the price of the products that a company creates, the cost of distribution, the cost of the commodity, and ultimately the suffering lies on the customer. The entire production sector of any product in this country is dependent on power.

b. From April to March in 2011–12, Indian automakers manufactured a record 20.4 million automobiles. In 2011–12, 3.124 million passenger cars left Indian auto factories. While two-wheeler manufacturing hit 15.45 million units, India is the world's top producer of three-wheelers (878 000 in 2011–12) and the eighth-largest producer of commercial vehicles (912 000 in 2011–12). With a total estimated production of 605,000 units in 2011–12, India is the world's largest producer of tractors (almost 1/3 of the overall output). manufacturing of construction vehicles 48 000 in 2010-11.

## II. PROPOSED SYSTEM

The car consumes extremely little external gasoline during the initial stages of ignition. A cooling fan is always attached to the engine. Here, the engine's fan is expanded with a light shaft that is protected by a magnet that can provide enough magnetic flux. without causing the torque to change. It is passed via an appropriately sized coil of windings.

Depending on the horsepower of the engine, the fan in a vehicle rotates at a speed between 7500 and 12000 rpm. It also turns the magnetic shaft that generates the flux, which is then cut by a copper coil. This causes an epsilon power output when the flux cuts the coil. This process is carried out repeatedly until the self-proclaimed generator's power output exceeds that of the external fuel. It takes about 5 minutes to get to this state. When this happens, switch the power source from fuel to the generator. This loop continues, hear.

## Applications

In today's industry, generators are crucial. They enable the conversion of a certain kind of energy into electricity. This has many benefits, including the potential to use renewable energy sources, operate them, and help the environment. Today's industry uses induction generators frequently for the following things:

1. "A Water Company discovers that it can sell power at high prices during the peak load hours of the day and buy power at low prices at night. It erects multiple pumps along with low and high storage basins.
2. It purchases electricity from the utility at night to pump water from the low basin to the high basin. The water rushes back down via the pumps during peak times, powering the motors as generators. The utilities purchase the power.
3. The setup is so straightforward that it can be controlled from a distance.
4. Between California's desert and mountains, the wind continually blows. A resourceful person installed some towers with windmills that power induction generators through gearboxes. According to the wind speed, power is generated and sold to the neighborhood utility. With the right tools, the "Wind Farm" can operate almost automatically.

### III.OBJECTIVE OF THE PROJECT

- For maximum voltage, this project operates a solar panel such that it faces the sun at an angle of 90 degrees all the time. To account for the Sun's angular movement over time, the solar panel can be moved from east to west as well as from south to north.
- The input from the set of light sensors drives the stepper motors through a gear system.
- This project is built around the most in-demand natural resources, where the cost of energy is completely free.
- This is the perfect answer for urban agriculture areas without electricity or those that may be far from a suitable location.
- The system has an inbuilt RF protocol remote transmitter and receiver. The motor is situated distant from the home, and the hand set is used to turn it on and off.
- Because of its distinctive ID, the transmitter can identify the command hand set and process. An acknowledgement signal transmitter is also present on the receiver. Solar cells provide the energy, which is then stored in batteries.

### IV.ADVANTAGE OF IMPLEMENTING THE SYSTEM

- The aforementioned system will generate at least 300% more energy than the one currently in place.
- When compared to the current system, this technology produces energy that is more economically viable.
- This is a trouble-free, environmentally friendly method.

### V.MEHODOLOGY

The battery powers the electric car. When the car is switched on, the motor draws current from the battery, which was charged by solar energy and kept in a battery. The motor pushes the car forward by converting the electrical energy in the battery to mechanical energy. When the car is turned on, the motor begins to turn as well. This is connected to the generator, which then begins to produce power. As soon as the electric car starts moving, the synchronous generating will begin. Because it can function at low power, synchronous generators have been used in this instance. The generator produces alternating current, which is also stored in the battery. In order to convert it to DC, a rectifier circuit is used. This AC turns into pulsing DC by the rectifier circuit. The filter circuit reduces harmonics as it passes through the pulsing DC component. The ultra-capacitor is then used to store the DC. As a result, electricity can be produced independently of outside influences, a process known as self-generation.

### VI.BLOCK DIAGRAM

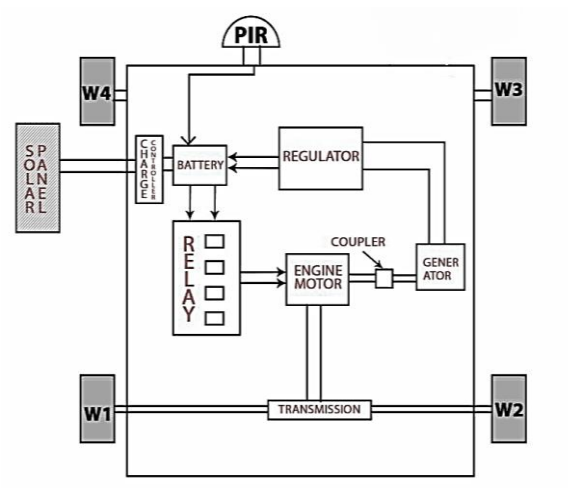


Figure 1. Block diagram

### Working principle.

The car consumes extremely little external gasoline during the initial stages of ignition. A cooling fan is always attached to the engine. Here, the engine's fan is expanded with a light shaft that is protected by a magnet that can provide enough magnetic flux. without causing the torque to change. It is passed via an appropriately sized coil of windings.

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## VII.COMPONENTS



figure 1. DC Motor

A sort of electric machine that transforms electrical energy into mechanical energy is a direct current (DC) motor. We offer RPM ratings of 50, No-Load Current ratings of 60 mA or 300 mA, and 12 V DC operating voltage ratings.



Figure 2. BLDC Generator

A synchronous motor employing a direct current (DC) electric power source is a brushless DC electric motor (BLDC), also referred to as an electronically commutated motor. Brushless DC generator with 1mm air gap is what we are using. 500–1500 RPM, 12VDC–48VDC, and 20w.



Figure 3. Solar Panel

It uses a solar panel. Solar panels are those tools that take the sun's rays and turn them into heat or power. We are utilizing a 10W, 12V, 2.3A device.



Figure 4. LM7805

A voltage regulator with an output of +5 volts is the LM7805. It is a three-pin IC, like the majority of other regulators on the market.



Figure 5. Relay Module

Relay is an electronic switch that may be operated remotely and is typically managed by another switch, computer, or control module. These relays are an excellent solution for equipment already found in vehicles because they operate as a regular 12-volt replacement or addition for full voltage.

### VIII.CONCLUSION

This approach and the system are known as the "SELF PROCLIME POWER GENERATION SYSTEM." The energy can be produced utilizing the self-generation and regeneration principles, and neither way pollutes the system. The driving range of an electric car can be increased with the use of this technology. With the use of a hybrid energy storage system, energy can also be stored. The system's battery life may be extended using this technique. Additionally, if the system is appropriately controlled and sized, the overall efficiency may be increased.

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