SELF POWER GENERATION SYSTEM FOR AUTOMOBILES

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ABTSRACT: *In recent years developing countries are trying to reduce the consumption of non renewable fossil fuel as a source of energy. Hence a renewable fuel with green energy concept is under more attentions. The new invention of Electric automobiles is a miracle as it releases zero emission to the air. Hence the toxic gases release to the atmosphere reduces from the automobiles. Due this reason the Electric vehicle is also known as green vehicle. Electric vehicles if it is attached with solar panels are drawing more attention due its fuel economy, cost effective, low maintenance,. etc. As the main drawbacks of these vehicles are the power production and also the darkness of the sun throughout the day the electric power generation decreases the driving range. The driving distance can be enhanced by introducing the self-generation and regeneration principles.*

Key Words*:* **Self Proclaiming, Generator, Batteries, IR sensors, Control rellay**

INTRODUCTION

With the expansion in advances technological Electric vehicles and hybrid electric vehicles are more concerned nowadays due to its proficient operation. In this extend the power can be generated by the Solar and stored in batteries When the car is under running condition the power is exchanged on the engine and draws the current from the battery.

Although they are only at a relatively embryonic stage in terms of market penetration, electric cars represent the most environmentally friendly vehicle fuel, as they have absolutely no emissions The energy generated to power the Electric vehicles and the energy to move the vehicle is 97 percent cleaner in terms of noxious pollutants.

The advantage of electric motors is their ability to provide power at almost any engine speed. One of the big arguments made by car companies against electric cars is that Electric vehicles are powered by power plants, which are powered primarily by coal or Hydral and so on. Even assuming that the electricity to power the Electric vehicles is not produced from rooftop solar or natural gas, it is *still* much cleaner than gasoline produced from petroleum.

The major concerns facing the electric vehicle industry are range, top speed, and cost. Ultimately, it's the batteries that will determine the cost and performance of Electric vehicles as shown in Fig-1. The only way electric vehicles are going to make a big difference in people's lives is if they can do everything a fuel car can do and more. They have to look great, and they have to be safe.

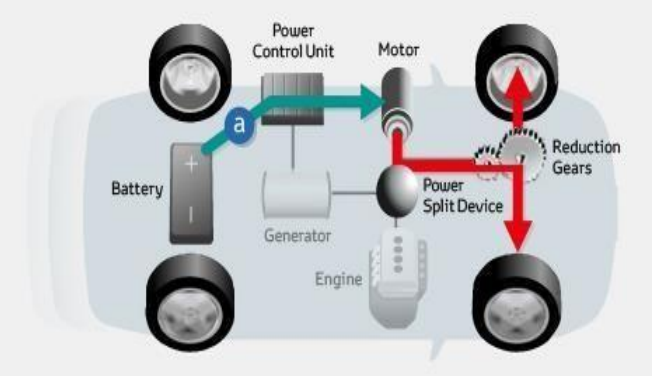

Fig-1: Electric vehicles Normal working principles

SELF PROCLAIMING VEHICLE

The electric vehicle is driven by the battery. On switching the car the motor takes current from the battery which is collected from the solar and stored in a battery. The motor converts the electrical energy stored in battery into mechanical energy and hence the vehicle moves forward. When the car switched on the motor also starts rotating which in turn connected to the generator which starts generating the power.

The synchronous generation will starts as the electric vehicle starts driving. Here synchronous generator has been used because it can operate at low power. The output of the generator is Alternating type the same is stored in battery. Hence it can be converted into DC with the help of rectifier circuit.

The rectifier circuit converts this AC into pulsating DC .The pulsating DC component is passed through the filter circuit which removes harmonics .Then the DC is stored in the ultra capacitor. Hence the power can be generated without any external forces and this process is called self generation.

REGENERATION

The regeneration of the power can be generated by the generator, the energy generated by providing a generator at the back and the same is process back into the system in the form of charging the battery for further use.

The energy stored in the battery is the power generated by the Solar panels. The generated power depends on the intensity of the sun shine during the

running condition. The same power is utilized for running the Electrical Vehicle also and the motor intern connected to the generator. The power generated is depends on the speed of the motor. The motor acts as an electric generator, producing electricity which is then stored back into the vehicle's batteries. Many modern hybrid and electric vehicles applies this technique to extend the range of the battery.

IMPLEMENTATION OF RENEWABLE TO NON RENEWABLE

The Vehicle can also be operated just replacing the entire system of Fuelling to a Non renewable fuel which is operated by a solar panel to constantly face sun at 90 degrees to produce maximum voltage. The power generated can be stored in battery, this power can be used as an initial starting power for the vehicle.

Once the vehicle is started it reaches the maximum speed, shift the power from source to the generator. Hear the cycle continues. The Engine Rotation is by means of solar supply, the Fan Rotates which is mounted on the Shaft also rotates. Due to the rotation of the shaft the rotor rotates, the coil cuts the flux which generates electricity. The energy generated is stored in battery intern the battery runs the Engine Cycle Repeats.

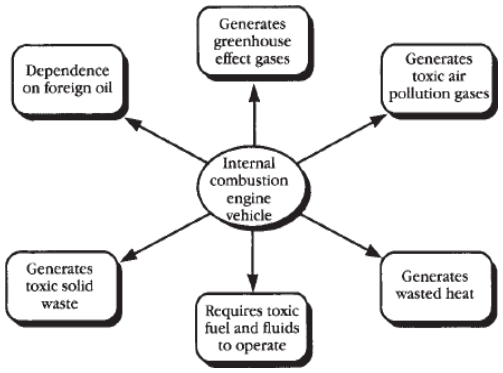

Fig-2 Internal combustion engine vehicles create many problems.

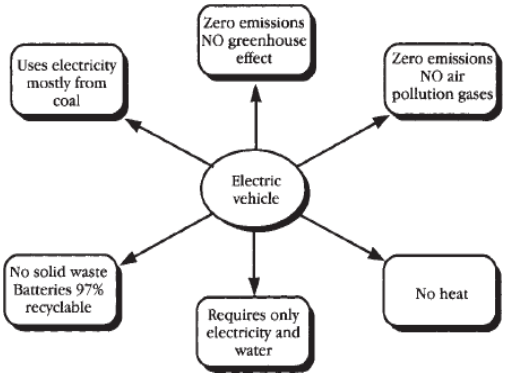

Fig-3 Electric vehicles create no environmental problems.

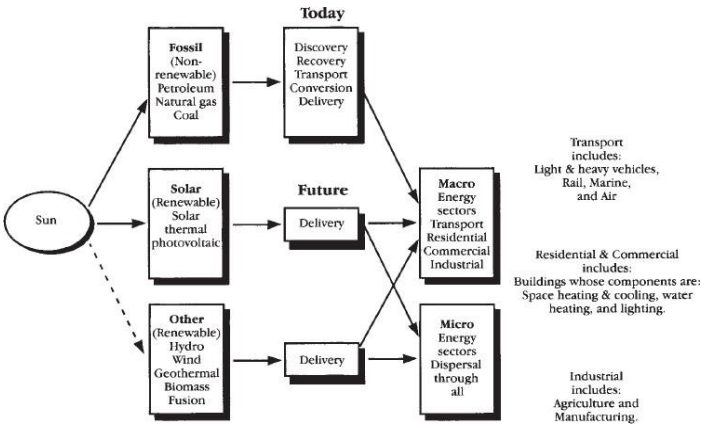

Fig-4 Model of balanced future energy demand made possible by working from future desired goal.

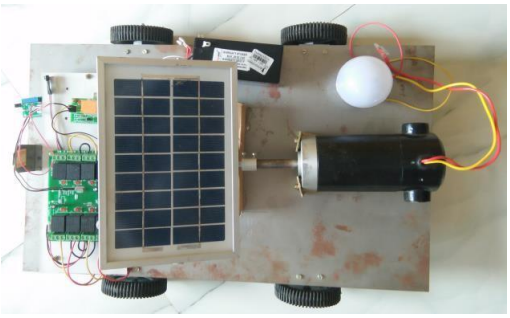

Fig-2 illustrates the problems from Internal combustion engine vehicles Fig-3 illustrates the advantages of using Electric vehicles which environmental friendly. Fig-4 Shows the Model of balanced future energy demand made possible by working for future desired goal.

ABOUT SOLAR ENERGY AND ITS NEED

Solar technologies use the sun's energy and light to provide heat, light, hot water, electricity, and even cooling, for homes, businesses, and industry. In today's climate of growing energy needs and increasing environmental concern, alternatives to the use of non-renewable and polluting fossil fuels is solar energy

Solar energy is quite simply the energy produced directly by the sun and collected elsewhere, normally the Earth. The sun creates its energy through a thermonuclear process that converts about 650,000,000 tons of hydrogen to helium every second

The process creates heat and electro- magnetic radiation. The heat remains in the sun and is instrumental in maintaining the thermonuclear reaction. The electro-magnetic radiation (including visible light, infra-red light, and ultra-violet radiation) streams out into space in all directions only a very small fraction of the total radiation produced reaches the Earth. The radiation that does reach the Earth is the indirect source of nearly every type of energy used today

PROTOTYPE MODEL

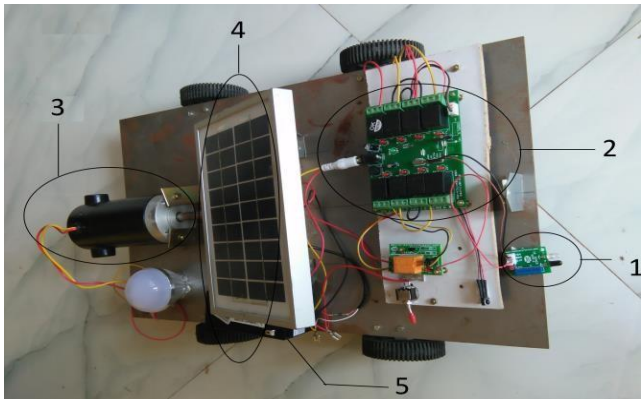

Fig-5a Prototype of the model

Fig-5b Prototype of the model (1-IR Sensors, 2- Control Relay, 3-Generator, 4-Solar Panel, 5-Battery)

The Prototype model of the Electric vehicle is as shown in Fig-5a and Fig-5b, the detailed labelling is represented in the Fig-5b

STORAGE SYSTEM

The vitality can be created utilizing self generation, recovery and both the techniques do not deliver any pollution to the environment. Using these techniques the driving scope of the vehicle can be moved further. The power stocking should be possible with the assistance of Hybrid Energy Storage techniques. This technique can enhance the battery life. In additionally boost the overall efficiency if the system is properly estimated and controlled shown in fig 6.

Fig-6 Storage System

MOTORS

NR-DC-ECO is high quality low cost DC geared motor. It contains Brass gears and steel pinions to ensure longer life and better wear and tear properties. The gears are fixed on hardened steel spindles polished to a mirror finish. These spindles rotate between bronze plates which ensures silent running. The output shaft rotates in a sintered bushing. The whole assembly is covered with a plastic ring. All the bearings are permanently lubricated and therefore require no maintenance. The motor shown in Fig -7 are mounted to the wheels and also to the power. Generating system intern to the generator where the power is generated and stored in battery.

Fig -7 Shows the motor drive mounted to the wheels

CONCLUSION

The energy can be generated using self generation and regeneration principle and both the methods does not produce any pollution to the system this method and the system is called the SELF PROCLIME POWER GENERATION SYSTEM. Using this technology the driving range of the Electric vehicle can be improved. The energy storage can also be done with the help of Hybrid Energy Storage system. This method can improve the battery life of the system. It is also possible to boost the overall efficiency if the system is properly sized and controlled.

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