



LOW COST SOLAR POWERED ELECTRIC VEHICLE FOR MILK VENDOR

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Abstract: Hot house gas emigration from transportation is one of the major environmental issues and its emigration rate is adding at faster rate. So solar power for transportation can break this problem. The end of proposed work is to contribute a technology that supports Green energy, consider a script we could use a solar energy to charge electric vehicle that too solar panel are inbuilt in the vehicle, but the coming question is whether it's doable in stormy season. It's delicate to charge inbuilt solar panels during stormy season. The result is solar powered electric vehicle is supported with a charging string that entrapments in to the vehicle and into a 230v wall socket. Milk merchandisers are frequently those who are unfit to get regular jobs in the lucrative formal sector on account of their low position of education and chops. They try to break their livelihoods problems through their own stingy fiscal resource. They're the main distribution channel for a large variety of products of diurnal consumption like milk and other milk products.

Key Words: Solar Panel, Motor, Controller

I. INTRODUCTION

Solar electric vehicle is an electric vehicle powered fully or significantly by direct solar energy. generally, photovoltaic(PV) cells contained in solar panels convert the sun's energy directly into electric energy. The term" solar vehicle" generally implies that solar energy is used to power all or part of a vehicle's propulsion. Solar power may be also used to give power for dispatches or controls or other supplementary functions. presently, dairy husbandry has been an important part of the agrarian script for thousands of times. India being a generally agricultural frugality has about 70 per cent of its population living in town lets, where beast play a vital part in the socio-profitable life. Beast give high- quality foods similar as milk, rubbish, adulation, ghee, etc. India isn't only one of the top directors of milk in the world, but also the largest consumer of milk and milk products in the world. Due to the space in force, we've to import significant quantities of milk products to meet internal demand.

II. BLOCK DAIGRAM

24V (12V*2=24V)Battery will charge with help of solar panel and also by charger. Charged supply is given to motor. Speed the motor is controlled with help of charger.

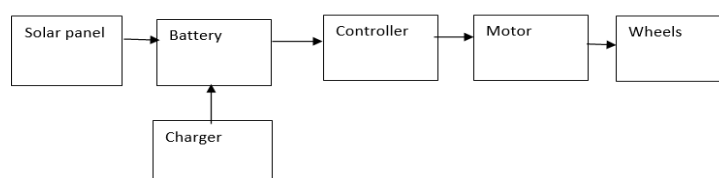


Figure: Block Diagram

III. COMPONENTS REQUIRED

SOLAR PANEL:

- Solar panel are those devices which are used to absorb the sun's rays and convert them into electricity or heat.
- It is actually a collection of solar (or photovoltaic) cells, which can be used to generate electricity through photovoltaic effect. These cells are arranged in a grid like pattern on the surface of solar panels. It has voltage about 12Volts and 40 Watts. Solar cells are available in different volts and watts, with different sizes.
- It is a set of photovoltaic modules mounted on a structure supporting it.

CONTROLLER:

Controller is a device that serves to govern the performance of an electric motor. This may have automatic or manual means of starting and stopping the motor, concluding forward and reverse rotation, concluding and regulating or limiting the choker and guarding against overloads and faults. The given controller is of manual starting or stopping Direct on Line(DOL) type which is controlled by using throttle. This is pre-loaded with software to work for the given electric motor.

LEAD ACID BATTERY:

An electric battery is a device consisting of one or more electrochemical cells with external connections provided to power electrical devices such as flashlights, smart phones, and electric cars. When a battery is supplying electric power, its positive terminal is the cathode and its negative terminal is the anode. The terminal marked negative is the source of electrons that when connected to an external circuit will flow and deliver energy to an external device. When a battery is connected to an external circuit, electrolytes are able to move as ions within, allowing the chemical reactions to be completed at the separate terminals and so deliver energy to the external circuit. It is the movement of those ions within the battery which allows current to flow out of the battery to perform work. Historically the term "battery" specifically referred to a device composed of multiple cells however the usage has evolved additionally to include devices composed of a single cell. The battery used is 12v dc battery which stores the charge and operates the system when required.

MOTOR:

An electric motor is a machine which converts electrical energy to mechanical energy. Its action is based on the principle that when a current-carrying conductor is placed in a magnetic field, it experiences a magnetic force whose direction is given by Fleming's left-hand rule. When a motor is in operation, it develops torque. This torque can produce mechanical rotation.



Figure: Model of the Vehicle

ADVANTAGES:

- Its emission free
- Low maintenance with longer life span value of motor
- Fossil fuel free
- Free energy availability
- Ability of harness solar energy to its full potential
- Reduces noise pollution

APPLICATIONS:

- This technology can be used by milk vendors for distribution of milk with limited vehicle charges.
- Considering the application to reduce transportation expenses and in providing “zero” emission of harmful pollutants to the Environment and also to ease in purchase of the electric cart compared to other transportation vehicles which run on fossil fuel
- Overall the project is built in the sense, up their ours endeavor, who does not have to depend on outcart commercial job givers
- It is more helpful for Rural women’s

CONCLUSION:

The main aphorism of our design is to regularize the outlook of public towards the milk merchandisers by furnishing a vehicle that contains installation like mobile charging and solar charging. Traditional win uses mortal trouble to move and does not have installation, merchandisers can depend on this solar powered vehicle for easy transportation of milk with effectiveness. As the cost of vehicle is low, it's affordable indeed by pastoral women for diurnal migration conditioning. Government can give different identification system to manage the merchandisers and to manage the business by enforcing this technical for betterment of the society

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