

Hybrid Power Generation (Solar, Wind And Water)

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Abstract- Renewable energy sources i.e energy generated from solar, wind, water, geothermal and ocean resources are considered as a technological option for generating clean energy.

The Solar, Water, and Wind Hybrid System generates electricity that can be used for charging batteries and with the use of inverter we can run AC appliances.

The main sources of the Hybrid System are wind, water and solar photovoltaic panels, batteries, cables, charge controller and inverter.

Keywords- PV cell, solar panel, wind turbine, battery

I. INTRODUCTION

As we all know solar, wind, and water are optimistic renewable resources for production of energy. So various research are been carried out for utilization of this energy resources in the best way.

To setup wind turbine for converting wind energy into electrical energy.

To collect rain water from roof top for generating electrical energy using Kaplan (propeller) turbine and alternator.

To install Solar PV technology in order to trap solar radiation for converting into electrical energy

The motto of this project is to produce the energy in an eco-friendly way by using renewable sources of energy.

II. METHODOLOGY

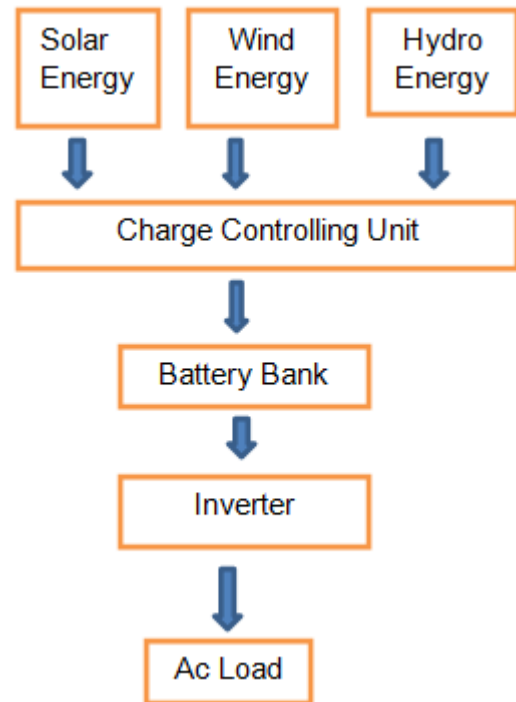


Fig1. Block diagram of Hybrid power generation

- In our present study planning to develop a hybrid power generation model consists of Rain water power, Solar PV and Wind energy, the process of working and installation as below
- Solar power is converted into the electric power by a common principle called photo electric effect..
- PV (Photo-voltaic) cells are made up from semiconductor structures as in the computer technologies. Sun rays are absorbed with this material and electrons are emitted from the atoms which activates a current.
- Wind is the flow of atmospheric air in accordance with temperature, which carries enormous quantity of energy. The wind generator units convert wind power into electrical power.
- In Hydro plant water is store in tank and with the of pump it given to the water turbine to generate the electricity.
- Thus through these all generated electricity is store in battery bank and then given it load .

III. INSTRUMENT USED

1. Solar panel

Photovoltaic solar panels absorb [sunlight](#) as a source of energy to generate [electricity](#). Photovoltaic modules constitute the photovoltaic array of a [photovoltaicsystem](#) that generates and supplies [solarelectricity](#).

increase efficiency, and reduce cost. Research is being carried out on many hybrid system and their alloys to develop more efficient power supply. Thus this technology will definitely live up to its potential sometime in the future.

2. Battery

The purpose of the battery in a series circuit is to give the circuit a source of energy. The purpose of a switch in a series circuit is to make it easy to open or close the electrical circuit, turning the flow of electricity on or off. The function of battery is to store the Dc supply in the battery.

3. DC motor

A DC motor is any of a class of rotary electrical machines that converts direct current electrical energy into mechanical energy.

4. Wind Turbine

It is a device that converts the wind's kinetic energy into electrical energy.

5. A water turbine is a rotary machine that converts kinetic energy and potential energy of water into mechanical work.

IV. ADVANTAGES

1. No pollution
1. Running cost is less
2. Fuel saving
3. High energy output
4. Clean and pure energy
5. Efficient and easy installation
6. Longer life

V. DISADVANTAGES

1. Intial cost are high .
2. Storage Considerations are high cost.
3. Property Requirements are high.

VI. CONCLUSIONS

The hybrid system are used at very low scale, at present. Though they have been around for about few years only, the technology is still in the developmental stage.

So here is the conclusion that the challenge lies in making it a viable means of area and efficiency. Further research is needed in this regard to improve plant area,

REFERENCES

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