Renewable Eforecasting for an Integrated Smart Grid

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Abstract: *Now a day's electricity is most demanded installation for the mortal being. All the conventional energy coffers depletion is being happening every day. So, we've to shift from conventional to non- conventional energy coffers. In this coffer of wind and solar energy combination takes place. We are going to use cold-blooded energy system for continuation of power. Principally in this system integration of two energy system used which gives continue power supply. For solar energy conversion Solar panels are used and conversion of wind energy to electrical energy wind turbines are used. Electricity generation will be at affordable cost. This paper deals with the generation of electricity by using two sources combine which leads to induce electricity with affordable cost without damaging the nature balance. Wind and solar energy. This process reviles the sustainable energy coffers without damaging the nature. This paper deals with the generation of electricity by using two sources combine which leads to induce electricity with affordable cost without damaging the nature balance.*

Keywords: Energy, Microcontroller, Solar panel Resistance, LCD, etc.

I. INTRODUCTION

Now a day's electrical energy is generated by the conventional energy resources like coal, diesel, and nuclear etc. These sources produce waste like ash in coal power plant, nuclear waste in nuclear power plant and taking care of this wastage is very costly this is the biggest disadvantage and it also damages he nature, nuclear waste affects human being too. We have to find another alternative for generation of electricity which will be reliable, pollution free and economical too, because these conventional energy sources are being depleting. There are many non-conventional energy resources like geothermal, tidal, wind, solar etc. the tidal energy has drawbacks like it can only implemented on sea shores.

While geothermal energy needs very lager step to extract heat from earth. Solar and wind are easily available in all condition. The nonconventional energy resources like wind and solar can be good alternative source. Drawback of Solar energy is that it could not produce electrical energy in cloudy and rainy so we need to overcome this drawback for that we could use two energy resources so that any one source can keep generating electricity when other one fails. And in good weather condition we can use both sources combine.

II. LITERATURE SURVEY

[1] Hybrid Power Generation by Using Solar and Wind Energy: Case Study Peter Jenkins, Monaem Elmnifi, Abdalfadel Younis, Alzaroog Emhamed, Hybrid Power Generation by Using Solar and Wind Energy: Case Study Energy is critical to the economic growth and social development of any country. Indigenous energy resources need to be developed to the optimum level to minimize dependence on imported fuels, subject to resolving economic, environmental and social constraints.

This led to an increase in research and development as well as investments in the renewable energy industry in search of ways to meet the energy demand and to reduce the dependency on fossil fuels. Wind and solar energy are becoming popular owing to the abundance, availability and ease of harnessing the energy for electrical power generation. This paper focuses on an integrated hybrid renewable energy system consisting of wind and

solar energies.

[2] Hybrid Power Generation System using Solar and Wind Energy. B. Mohan Krishna, S. Prathap, K. N. Lokesh Chandra Assistant Professor Ug Students Department of Mechanical Department of Mechanical Vemu Institute of Technology Vemu Institute of Technology P. Kothakota - 517112 P. Kothakota– 517112.This paper proposes a hybrid power generation system using Solar and Wind energy. It is fact that energy is an important resource for any country in the world to develop economically strong in all aspects. Without energy one cannot sustain the life such as transportation from one place to another, home needs, industrial purposes etc.

III. WORKING
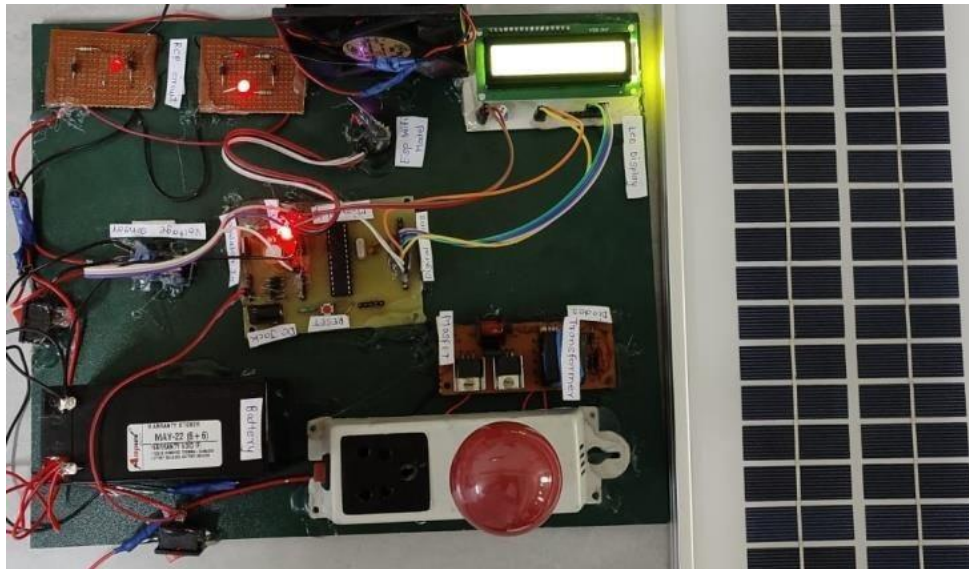
Figure 1: Constructed Project

A hybrid solar-wind system be composed wind turbine, PV array, inverter, battery bank, controller and cable. The PV array and wind turbine working with each other to satisfy the demand. When energy sources (solar-wind) are abundant, the generated power from the solar, in the day time will continue to charge the battery until it is fully charged. On contrary the when energy sources are poor, the battery will release energy to assist the PV array and wind turbine to cover the load requirements until the storage is depleted. The hybrid solar wind system model is based on the performance of individual components. so as to predict system performance, each of the power sources must be designed separately and integrated to meet the required reliability.

If the power output prediction from these individual sources is accurate enough, the resultant combination will deliver power A hybrid system could be designed to operate either in isolated mode or in grid-connected mode, through power electronic interface. Depend the hybrid system that studies on wind and solar energies as the main power resources and it is backed up by the batteries as shown in Figure 4. Used Batteries are because of the stochastic Features of the system inputs.it is used to meet the electricity demand while the solar and wind energies are not adequate. The basic income variables in the hybrid model are wind speed, solar radiation, and temperature**.**
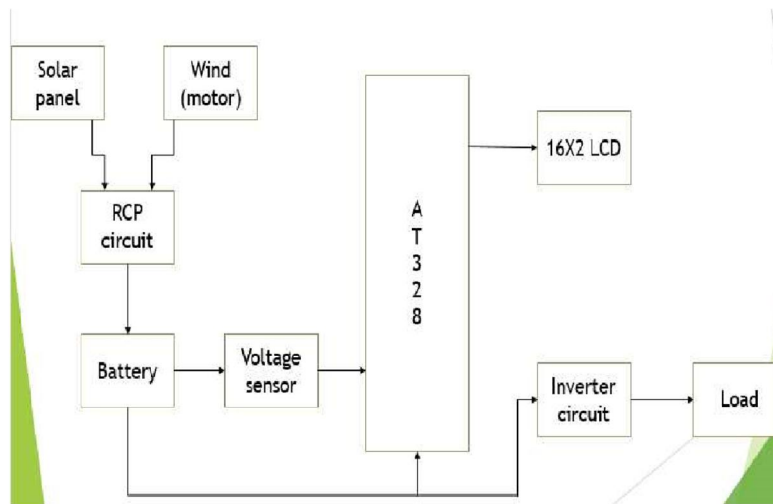
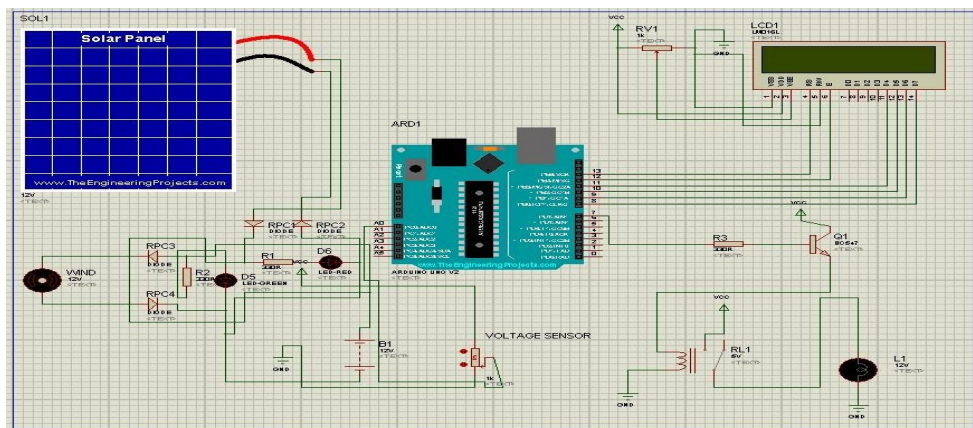## IV. BLOCK DIAGRAM

Figure: Block Diagram

Figure: Circuit Diagram

The block diagram for proposed Child Tracking system is shown above Presented here is a GPS based child tracking system based on the Arduino using global positioning system (GPS) and global system for mobile communication (GSM). The solution for tracking and a missing child is done with the help of GPS and GSM technologies. There are two main services are used for this application that is GPS and SMS. Generally, the selected operating system is android to over all the features.

This system is based on client-server architecture. The application is user-friendly on both sides. Parent side acts as server whereas child side acts as a client. The system is being mounted over a device in a hidden or suitable compartment. Once application is installed you can easily track your child using your mobile phone by dialing the mobile number of the SIM attached to the GSM modem. You will automatically get the location of the child position in the form of an SMS (short message service) on your mobile phone.

V. CONCLUSION AND DISCUSSION

Hybrid power generation system is good and effective solution for power generation than conventional energy resources. It has greater efficiency. It can provide to remote places where government is unable to reach, so that it will reduce the transmission losses and cost. By increasing the production of the equipment cost reduction can

takes place. People should motivate to use the non-conventional energy resources. It is highly safe for the environment as it doesn't produce any emission and harmful waste product like conventional energy resources. It is cost effective solution for generation. It only needs initial investment. It has also long-life span. Overall, it good, reliable and affordable solution for electricity generation.

VI. ACKNOWLEDGEMENT

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