

THE GENERATION OF ELECTRICAL ENERGY BY USING WIND

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PROJECT REPORT

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ABSTARCT

Today we are facing a power crisis due to increasing power demand which is due to increasing population and Industrialization. In India major source for power generation is conventional energies in particularly thermal , hydro, which is highly uncertain in nature. Hence it quite difficult for the government to meet the increasing power demands every year, resulting power cuts, but this is highly objectionable in hospitals , industries and in commercial utilization.

Hence we have to depend on generator sets run by wind turbine to meet power cuts. But in small wind turbine DC generators are used without automatic gearing and braking system, so it requires high wind force to meet the power demand. Hence in this project we made an attempt to overcome these difficulty and the result is automatic gearing braking controlling and monitoring of alternator .

Here during high wind speed the sensor will senses the alternator speed and gives the signal to electro magnet in which it will operates the braking system that will maintain the constant speed and the constant frequency is maintained, flywheel is also used to get the continuous power supply.

In this project we designed wind blades which is based on the wind blades designed by wind care limited Chennai and gearing system to meet the alternator speed . The designed gear ratio is 1:75 spur gears are used. Another important feature of this project AC generator which is directly fed to the load (lighting) or it can be rectified for charging the batteries. This project is designed for 3.5KVA capacity.