VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Belgaum-590014

A REPORT ON PROJECT WORK

"Wind Solar Hybrid System"

Submitted in the partial fulfillment of the requirements for the award of the degree of

BACHELOR OF ENGINEERING

IN

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ABSTRACT

The prime objective of electrical energy generation is to satisfy customer needs economically with emphasis on Safety, Reliability and Quality. Recent events have posed a setback to the sector of conventional power generation, the results of which include Higher fuel prices, Societal pressures to conserve resources, Environmental awareness, Increase in production cost and Concern for safety related to certain technology (like the Nuclear).

Hence in present day energy scenario, for meeting the ever-increasing energy demand, efforts have come into focus with a view to develop new generation technologies. The major goals of these approaches are to have Reduced Environmental damages, Conservation of energy, Exhaustible sources and increased safety. In this context during the past few years, renewable energy sources have received greater attention and considerable inputs have been given to develop efficient energy conversion and utilization techniques.

The hybrid system of power generation provides more consistent year-round renewable energy production. These systems are modular and can be expanded easily. A hybrid renewable energy system utilizes two or more energy production methods, usually solar and wind power.

Standalone Wind with Solar photovoltaic is known as the best hybrid combination of all renewable energy systems and suitable for most of the applications taking care of seasonal changes. They also complement each other during lean periods, example additional energy production by wind during monsoon months compensate less output generated by solar. Similarly, post winter months when wind is dull solar takes over. The major advantage of solar-wind hybrid system is that when solar and wind power productions are used together, the reliability of the system is enhanced. Additionally, the size of battery storage can be reduced as there is less reliance on one method of power production. Often, when there is no sun, there is plenty of wind.

The present project work deals with the construction, installation and study of wind energy conversion system and installation and study of solar energy conversion system. Both are combined to generate power and utilize it effectively.