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ENERGY ANALYSIS OF SOLAR PHOTOVOLTAIC SYSTEM FOR AN ACADEMIC INSTITUTION IN NORTHERN INDIA

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Abstract

Energy is essential to our society to provide us good quality of life and economic growth. Renewable energy technology offers promises of clean energy from unending reserve of sun, wind, earth, and plants. Out of all these sources of energy, solar energy may be converted directly into electrical energy using a solar Photovoltaic (PV) system. Its basic conversion device used is known as solar PV cell. Solar PV systems could be applicable to either small or large power plants. For small scale system, local energy generation may be achieved even on roof tops of buildings. PV technology has progressed tremendously – both performance-wise and cost-wise. The main advantages are its modularity, portability reliability and low environmental impact. As there is no moving part in this system, operation and maintenance costs are low. PV system is open to innovation and new technology. It has an extraordinary flexibility that different PV systems can be used in different applications. Selection of appropriate location and suitable PV system, have wider effect on the performance of PV system. The technical status, cost, environment impact, and financial viability of PV technology application will be reviewed here with the help of Renewable Energy Technology Software in North Indian scenario.

Keywords: Photovoltaic, Renewable Energy, Green House Gases, Financial Analysis