

## **DEVELOPMENT AND TESTING OF COST EFFECTIVE SOLAR INVERTER**

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### **Abstract**

Solar energy is the most abundant energy resource on earth. The solar energy that hits the earth's surface in one hour is about the same as the amount consumed by all human activities in a year. Direct conversion of sunlight into electricity in PV cells is one of the three main solar active technologies, the two others being concentrating solar power (CSP) and solar thermal collectors for heating and cooling (SHC). Today, PV provides 0.1% of total global electricity generation. However, PV is expanding very rapidly due to dramatic cost reductions. PV is a commercially available and reliable technology with a significant potential for long-term growth in nearly all world regions. A Solar inverter or Photovoltaic Inverter is a type of electrical inverter that is made to change the direct current (DC) electricity from a Photovoltaic Array into alternating current (AC) for use with home appliances and possibly a utility grid. DC- AC inverters are electronic devices used to produce mains voltage AC power from low voltage DC energy. . A solar cell converts solar optical energy directly into electrical energy. The objective of this paper was to develop cost effective Solar Inverter. Detailed review on solar inverter, Simulation of a Photovoltaic Panel, Design of solar inverter, calculation and testing performances evaluation have been presented with discussions.

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**Keywords:** Solar inverter, Simulation of a solar panel, Design, Testing performance