

## **STC Parameters versus Real Time Measured Parameters to Determine Cost Effectiveness of PV Panels**

**Authors :** V. E. Selaule, R. M. Schoeman H. C. Z. Pienaar

**Abstract :** Research has shown that solar energy is a renewable energy resource with the most potential when compared to other renewable energy resources in South Africa. There are many makes of Photovoltaic (PV) panels on the market and it is difficult to assess which to use. PV panel manufacturers use Standard Test Conditions (STC) to rate their PV panels. STC conditions are different from the actual operating environmental conditions where the PV panels are used. This paper describes a practical method to determine the most cost effective available PV panel. The method shows that PV panel manufacturer STC ratings cannot be used to select a cost effective PV panel.

**Keywords :** PV orientation, PV panel, PV STC, Solar energy

**Conference Title :** ICEE 2014 : International Conference on Electrical Engineering

**Conference Location :** Cape Town, South Africa

**Conference Dates :** November 06-07, 2014