# SIZING SOFTWARE FOR LARGE SCALE ROOFTOP-BASED GRID-CONNECTED PHOTOVOLTAIC SYSTEMS

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## ABSTRACT

This paper presents a software for sizing large scale rooftop-based Grid-Connected Photovoltaic systems. Existing sizing software for PV system such as HOMER is not able to consider the availability of roof space and PVSyst cannot duplicate system to be used for sizing large scale rooftop. Therefore, new sizing software is created to overcome the limitations. The sizing involves the selection and dimensioning of PV modules and inverter instead of include the computation of technical parameters and economic performance of the system. Besides that, inverter size from 20 kW to more than 1000 kW is considered in this study to suit large scale Grid-Connected Photovoltaic systems. This sizing software is expected to produce a better sizing accuracy as compared to existing software used to size Grid-Connected Photovoltaic systems for large scale rooftop- based system.

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# CHAPTER 1

# INTRODUCTION

## 1.1 BACKGROUND OF STUDY

**In** the recent years, the amount of new renewable energy project being increased. This is consequence of increasing need of energy, increasing power prices and the need for more environmental friendly power source. The technology that produces the electricity from solar energy known as Photovoltaic (PV) and it is one of the new renewable energy sources nowadays. Grid connected Photovoltaic system is the important applications in PV system.

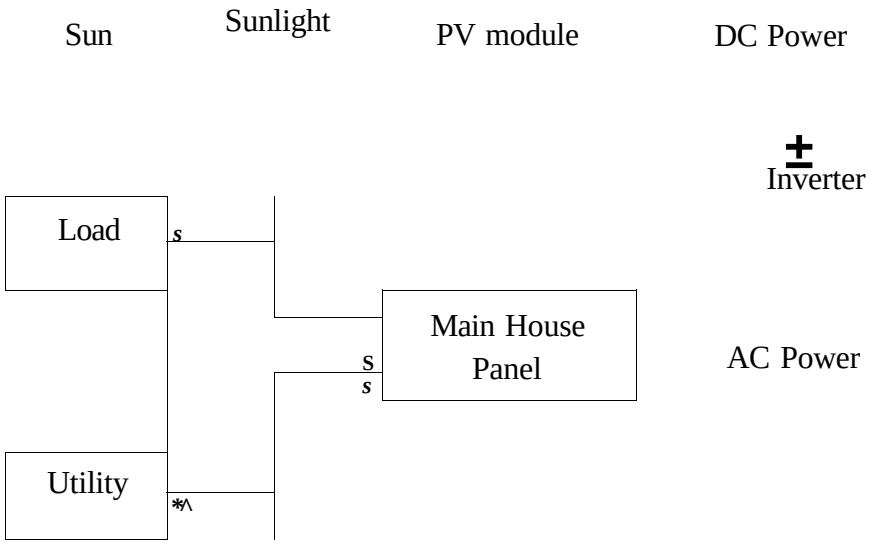


Figure 1: Basic operation of PV system