

SYSTEM DESIGN GUIDELINES. If the system is based on photovoltaic modules, then a comparison should be undertaken between the available energy from the sun and the actual energy demands. The worst month is when the ratio between solar energy available and energy demand is smallest.

In order to completely go off the grid enough electricity needs to be generated by either photovoltaic solar panels or wind turbines to cover their electrical requirements. Two different simulation programs, HOMER and PVSUN3, were used in order to determine the required size of the solar collector array and components.

3 | Off-Grid PV Power System Design Guidelines This guideline provides an overview of the formulas and processes undertaken when designing (or sizing) an off-grid PV power system, sometimes called a stand-alone power system.

1) Example: 1000 kWh / (kWp \times a) corresponds to a specific energy yield of 1000 kWh in 1 year per 1 kWp of installed nominal PV system power. In off-grid systems, the nominal PV system power may not be more than double the total nominal AC power of the Sunny Islands inverters (see Section 3.3, page 13).

5. Designing and Modeling Off-Grid Solar Systems. Foundations of Off-Grid Solar in Haiti. Overview. The objectives of this module are to provide an overview and key resources/tools for understanding: What is the Renewable Energy Optimization Tool (REopt[®];) and how is it used for designing and modeling distributed renewables? (Go to Section)

This overview of solar photovoltaic systems will give the builder a basic understanding of:

- o Evaluating a building site for its solar potential
- o Common grid-connected PV system configurations and components
- o Considerations in selecting components
- o Considerations in design and installation of a PV system

This paper will focus on how methodology of off grid systems/stand-alone systems can help to reduce the dependency of grid and allow us to live in self-sufficient manners without reliance on one or more public utilities.

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