



SAINT JOSEPH MONASTERY
TOMB OF SAINT RAFQA

PROJECT CONCEPT: Installation of a PV system with Energy Storage

OBJECTIVE

This project consists of installing a PV system premises of Beit Rafqa, for the purpose of reducing the energy cost of the elderly home, which is now relying mainly on electricity generation from the expensive diesel generators. System concept is based on adding 180kWp of PV to the existing 70kWp, and adding an energy storage system of 500kWh capacity, the PV will be able to provide the necessary energy for charging the batteries and for supplying the normal loads of the home during day time and the night time loads will be feed by the energy stored in the batteries.

FINANCIALS

Project turnkey Cost: **488,000\$**

Time of construction 5 months

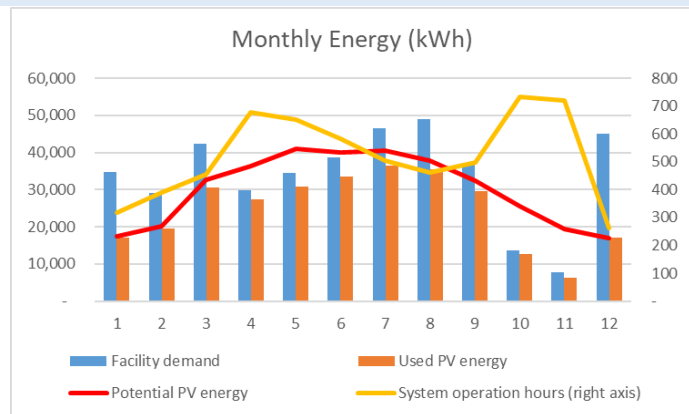
System Annual Electricity Production: 296000 kWh
(taking into consideration losses due to full battery and low loads)

Electricity Cost at Beit Rafqa: 0.3\$/kWh

Total savings of energy per year: **88,800\$ (88**

Number of Hours where the generator is off = 6250 hours per year

Project Payback = 5.5 years



Potential Environmental Savings: **208 TCO2 avoided**

DETAILS

The system capacity of 180kWp with the energy storage will occupy an area of 1700sqm of land will consist of the following components:

335 PV panels Jinko Solar JKM540M-72HL4-V (540W)

PV Support customized as per the local terrain

DC Cables and DC connectors

Micro grid System JinkoSolar JKS552K-250H

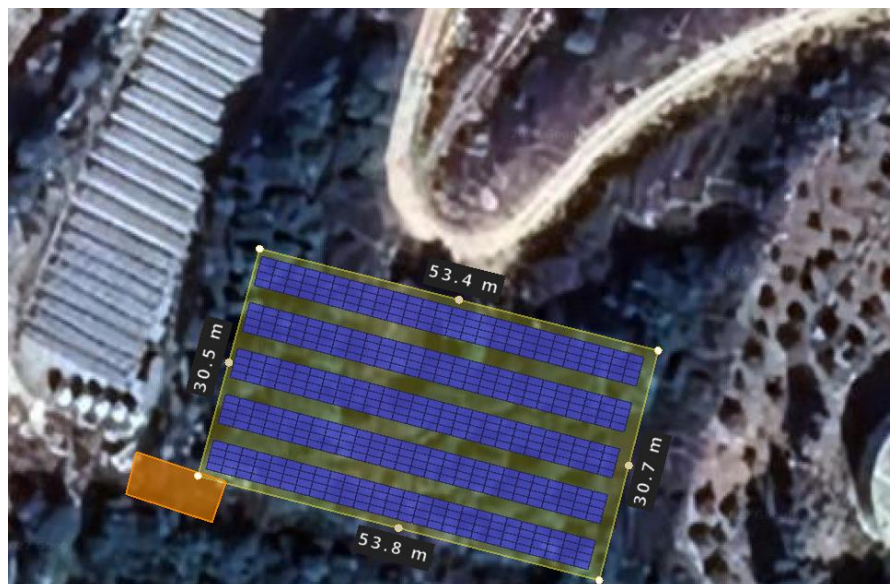
System controller

AC Cables torsade

All needed civil works for installation of structure and PV

Earthing cables

Cable trays and conduits





Communication Cables
All needed safety system

