Individual stand alone system



The main objective of rural electrification project should be to ensure power supplies to the entire population, so in Khirbat birin cases; some inhabitants live far away from the cluster so the only solution is to install stand-alone system to get electricity service for the whole area, the from the user's point of view, what is important is service and get a certain amount of energy.

Awareness project Training

During the implementation of the project, Energy Research Center carried out several trainings on energy solar systems and rationalizes consumption and dealing with electrical appliances and how to regulate electricity consumption and energy demand management.



Birin project workshop

The workshop of "Good Practices - Electrification of small communities by using PV systems in Palestine" aims to:

- * Technology transfer of solar PV solar system
- * Communicate the lesson learned from the project and other projects in Palestine
- * To know the priorities and barriers for rural electrification and grid PV system in Palestine

The target group: municipal, electric company engineers, university electricity department, technical staff and installer from the electric sector, NGO's operating in Palestine

The workshop will take place on 28th of September, 2016 at Korean-Palestinian IT Institute of Excellence at An-Najah National University.

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SEBA

Improvement of Productive systems through Solar PV electrification in the Community Khirbat Birin / Hebron

C aecid



The project was funded by Spanish corporation agency and co-funded by project partners. The partnership: SEBA (non-profit organization in Spain), as project coordinator, together with ERC (Energy Research Center at An-Najah National University in Palestine) and UAWC (Union of Agriculture Work Committee in Palestine)

The installation of PV systems was done by Excellent Company under supervision of ERC.

Project Objective

The project aims to provide electricity access to the community to cover the current and future needs with management model for electricity services and provide a comprehensive improvement of the quality of inhabitant's life of Birin by deploying reinforcements for agriculture and livestock production such as; solar water pumping, dairy and wool production resources with the addition of new electrical inputs in production process and electric weaving machine as basis for income generation for women.

The application of renewable energy sources in khirbat Birin

Palestine has an important number of small and remote villages lacking of electricity and with a very small chance of getting connected in near future to the electricity network given the economical and political situation as Khirbat Birin. Autonomous electric power generators using renewable energy resources are suitable alternative of conventional electrification for these villages which contributes in local development and foresters a responsible culture.

MSG, the Ideal Solution

A Multi user Solar Grid is operating in khirbat birin, a rural community situated in south of Hebron, this system is providing a service equivalent to that of the conventional grid in terms of technical quality and security supply.

Technical description:

PV generator power = 18.6 Kwp The daily consumption for each user = 1100 Wh/day Performance Ratio (PR) = 65% Average daily radiation = 5.4 KWh/m2



Innovation Aspect of project

- User-centered approach: supply of a service with long term guarantees and support for local economic and domestic activities.
- Optimization of energy use: demand side management using appropriate means such as energy dispenser/meter and high involvement of users
- Optimization of costs of services to uses, and it's not according to KWH generated.
- Tariff system divided into blocs to guarantee service over the long term.
- Allow higher power peaks for each user, enabling small-scale production activities to be included in the services.
- Increase facilities by providing power for common services, for example: public lighting, clinic, school, electrical tools...etc.

The energy dispenser: A key element in MSG energy management

The energy dispensers is an electronic energy meter which installed in each user's home, it contains an algorithm that limits consumption and guarantees each user a minimum mount od energy (EDA) according to the tariff contracted. The tariff contracted is recorded on an individual user card which contains full information about the available energy and total consumption and it can be used in other meter for different consumption, so the energy dispenser represents an important contribution to making the service scheme sustainable for energy operator

