

We have more than 40 years of experience in developing direct current compressors and helping customers benefit from the opportunities of mobile refrigeration technology.

With in-depth knowledge of use across various applications, we have earned a position as market leader, working with OEM customers.

CASE STORY GEPSCO SOLAR



STORING FOOD AND MEDICINE AT FAVORABLE TEMPERATURE CONDITIONS IN RURAL AREAS IN THE NORTHEAST OF MOROCCO



Gepeco Solar GSR 170 / 308
off-grid DC refrigerators

In Morocco, the rural population still remains important today. A significant proportion of households lives in isolated villages, making rural electrification by connection to the national grid technically more complex and financially more expensive. This is the case for the isolated villages in the northeast of Morocco. It is therefore necessary to consider alternative solutions that would lead to the sustainability of rural electrification.

Gepeco Solar has installed more than 3000 off-grid solar home systems for isolated homes in rural areas of Morocco. The project improves the lives of more than 15,000 people with no access to electricity. For food preservation, Gepeco has developed two refrigerators. Secop supplied its well-proven BD compressors which are equipped with an electronic unit with built-in protection against shortages, operation outside temperature limits and destructive battery discharge.

SOLUTION

Photovoltaic solar technology is a very promising alternative for decentralized rural electrification. These systems overcome the problem of site remoteness and a distant power grid. It gives rural and nomad families the opportunity to benefit from the significant solar potential in the region to improve their living conditions and reduce their energy bills. Among the advantages of access to electricity in these areas:

- Improving children's education as they can do their homework in better lighting conditions and benefit from Internet access.
- Storing food (milk, vegetables, meat, fruits, etc.) and medicines in favorable temperature conditions.
- Improving overall domestic comfort through adequate lighting and access to modern communication media (TV, telephone, Internet, etc).

SYSTEM COMPONENTS

The solar kit is composed of the following components:

1. DC refrigerator, driven by a Secop BD Compressor
 2. 315 W solar PV module
 3. 20 A MPPT battery charge controller
 4. Two 150 Ah 12 V gel batteries
 5. Three 4 W LED lamps and two 7 W LED lamps
- Such equipment solves not only the lighting needs but also makes it possible to save food in ideal temperature conditions.

ADVANTAGES

- Solar energy is a reliable, stable, and inexhaustible source of energy.
- The important solar radiation potential in the region eliminates energy costs, thus improving household income.
- Photovoltaic solar systems are reliable and require minimal maintenance.
- Electrical power has a clear positive impact on children's education (lighting, television, and Internet) and household health quality (storing food and medicines in the refrigerator).
- Photovoltaic power production reduces the emission of greenhouse gases.
- Public opinion is generally favorable to the use of solar energy. The population feels it is a clean and sustainable renewable energy.

PROJECT PARTNERS OF

Gepeco Solar GmbH (gepeco-solar.de)

- Initiative Nationale pour le Développement (INDH, Morocco)
- SEWTO S.à r.l., Oudja, Morocco
- AMASYS S.à r.l., Temara, Morocco



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