Renewable Energy Jobs & Access

A SERIES OF CASE STUDIES

Central America Solar

PROJECT PROFILE

Solar Company B, an E+Co portfolio company, was established in 1998. It has 17 branches in Nicaragua, entered El Salvador in 2009, Panama in 2010, and is expanding to Honduras and Guatemala in 2011 and 2012.

It has a strong distribution network, and relies on a computerised accounting system that keeps track of branch sales and inventory. Its business model has won several awards. The company has so far installed more than 50 000 photovoltaic (PV) systems (14-100 Watt) that provide electricity to about 300 000 people. It plans to sell 40 000 systems in the next five years.

In addition, it sells solar water pumps, solar water heaters, and other solar-powered equipment and energy-efficient appliances. Solar water pumps provide 815 people (163 households) with access to water.

In Nicaragua, the company participated in the Government-World Bank PERZA (Programa de Electrificacion Rural en Zonas Aisladas) programme that offered subsidies and micro-financing for PV systems. The four year programme, which ended in 2009, also allowed the firm to act as a micro-credit financier, alongside a USD 200 000 credit line from the Inter-American Development Bank (IADB).

In El Salvador, the company is working with the government's FOMILENIO (Fondo del Milenio) Programme. In Panama, it won a concession under with the government's Rural Electrification Office (IADB-supported).

The company set up a battery collection program in Nicaragua, unlike most other solar companies in the country.

JOBS AND TRAINING

As of late 2011, the company employed 98 people in Nicaragua, El Salvador and Panama, and expects to add 12-15 positions as it expands. There are additional indirect jobs among installers and electricians in the field.

The company enhances skills and capacity among several groups of people:

- Its technical staff is trained at a laboratory in Managua, including the staff from rural branches.
- The company encourages its managers to attend courses that will result in better operations control (for example, training provided by E+Co and World Resources Institute's New Ventures is aimed at improving resource management and monitoring).
- End users receive basic instructions to learn how their systems work.

SUPPLY CHAIN

Upstream Linkages

There is no local sourcing of PV equipment or components and therefore no domestic supply chain. The company imports its entire inventory. It works with a number of Spanish, German, U.S., Japanese and Chinese manufacturers and suppliers, including Isofoton, Solarworld, Komaes, Sony, Phocos, Black & Decker, Morningstar, Alari, Magnum, Motorola, Picana, DEKA, Synthesis Power and Trojan.

Downstream Benefits

The installed PV systems assist with income generating activities in local communities. This includes opening small businesses such as mobile phone-charging facilities and small shops known as "pulperias". Access to electricity allows easy refrigeration of goods, and store lighting, leading to longer operating hours. Solar company B also sells refrigerators that have been adapted to work with the PV systems it sells.

PROJECT SNAPSHOT

Solar Company B is based in Nicaragua. It also operates in El Salvador and Panama and is expanding into Honduras and Guatemala. It sells and installs solar energy products, mostly solar PV equipment.

- **Technology**
  Solar PV, solar water pumps, solar water heaters, solar appliances
- **Employment**
  98 employees, plus installers and technicians in the field

COUNTRY INFORMATION

- **Population (million people)**
  5.8 (Nicaragua); 6.2 (El Salvador); 3.5 (Panama)
- **GDP/capita (USD)**
  1 132 (Nicaragua); 3 426 (El Salvador); 7 589 (Panama)
- **Electrification rate (% average; rural; urban)**
  72.1; 42; 95 (Nicaragua); 86.4; 70; 97.1 (El Salvador);
  88.1; 72; 94 (Panama)
- **Access to modern fuels* (%)**
  41.7 (Nicaragua); 73.7 (El Salvador); 81 (Panama)

The data from the case study was provided by E+Co. Population and GDP data are from the World Bank Indicators (http://data.worldbank.org/indicator/). Energy access data from United Nations Development Programme and World Health Organization (2009) report, The Energy Access Situation in Developing Countries: A Review Focusing on the Least Developed Countries and Sub-Saharan Africa.

** Modern fuels refer to electricity, liquid fuels, and gaseous fuels such as LPG, natural gas and kerosene..*

Households incur savings by not having to buy kerosene, candles or wood, allowing them to spend incomes on other goods or services. Since 2003, the company has reported kerosene savings of 10.3 million litres among users of its products (an average household uses about 20 litres per month).

By gaining access to clean energy, family members are no longer exposed to dangerous indoor fumes that compromise their health. Better health is likely to translate into greater ability to pursue income-generating activities.

FINANCING

Since 2003, E+Co has invested USD 1.8 million in the company to support its growth.

PV buyers in Central America have so far depended on government/donor assistance. However, there is the capacity for end-user finance (via micro-credit; agricultural cooperatives).

The Policy Advice and Capacity Building Directorate (PACB) welcomes your comments and feedback at pacb@irena.org.
These local case studies were prepared by IRENA in cooperation with the organisations described. They intend to explore the employment dimension of renewable energy development and deployment in rural areas in the developing world. For a more detailed version of this case study, please see IRENA (2012), Renewable Energy Jobs and Access, which is available at:
http://www.irena.org/DocumentDownloads/Publications/Renewable_Energy_Jobs_and_Access.pdf.
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