

# Soluz Honduras

**Location:** North and northwestern Honduras  
**Type:** Rural energy delivery  
**Size:** 2,500 photovoltaic (PV) systems delivering the equivalent of 500 kW of conventional centralized power  
**Funding:** Total: US\$1,500,000  
 Private: US\$1,000,000  
 Public: US\$500,000  
**Objective:** To provide electricity to dispersed rural households and small businesses.  
**Duration:** 1998–2002  
**Scale:** Rural

## Summary

Soluz Honduras, a private energy company with a strong market orientation and customer focus, supplies more than 2,000 rural households, micro-enterprises, churches, schools, and clinics off the power grid with electricity generated by PV systems, including over 1,500 on a monthly rental basis. Key to project success were revised private foreign investment laws, rational and transparent import tariffs, and private-sector participation in public conferences with government agencies.

## In-Country Principles That Attracted Nondonor Financing

- Capacity building and informed decision making
- Public participation in, and support of, sustainable development
- Institution building and access to justice and enforcement of laws

Key to attracting private financing for the project were comprehensive and transparent energy laws and policies that defined the basic structure of the energy sector and provided



a framework for private investment and ultimate privatization. In 1994, Honduras implemented a foreign investment law. Enforcement of this law, combined with rational import tariffs on equipment, was critical to attracting investment capital. Access to and linkage with available and transparent rural electrification plans were important in attracting private investment.

Also important were principles that allowed utilities to operate under standard commercial practices and to form management teams independent of the government.

## Financing

Total investment in the project was US\$1,500,000. Private-sector sources included Triodos-Solar Investment Fund (US\$250,000), Corporacion Financiera Ambiental (CFA) (US\$300,000), and SunLight Power International (US\$250,000).

The World Bank Group’s International Finance Corporation (IFC) provided US\$500,000 through the Small and Medium-Sized Enterprise (SME) Program, which is funded by the Global Environment Facility (GEF). A US\$200,000 investment from E+Co included funds that originated from the Inter-American Development Bank’s Multilateral Investment Fund. The United States Agency for International Development (USAID) provided US\$23,000 in cost-shared funds for market assessment, and Soluz funded two market surveys costing \$73,000.

Costs were allocated in two phases. Phase I, “market assessment,” was US\$500,000, and Phase II, “breakeven,” was US\$1,000,000, with three disbursements based on performance milestones.

## The Project

This project provides electricity, on a private basis, to households, small businesses, schools, clinics, and churches that are not connected to the national electricity grid. It provides energy for lighting, cooking, recreation, refrigeration, entertainment, wireless communication, personal computer operation, and standard appliances to users who otherwise would have no access to electricity from the electric utility. The service displaces unsustainable kerosene and battery usage.

The company provides electricity for dispersed rural households and small businesses, mainly through a “wireless” fee-for-service (rental) approach that offers PV systems and services at affordable prices. By eliminating the up-front costs of purchasing PV systems, Soluz Honduras has achieved

significant market penetration without customer subsidies or donor programs. The company's infrastructure, developed for service to private residential and commercial customers, has expanded to serve public applications such as schools and clinics. Phase I began in 1998 and was completed with 500 customers served. Phase II is 60% complete, with service provided to 1,500 out of the 2,500 projected for this phase.

Completion of the 2,500 installations is taking 4.5 years and includes a 1-year delay due to Hurricane Mitch. Subsequent expansion phases to 5,000 units or more will occur as appropriate.

## Technical Data

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The distributed micropower technology is powered by PV systems ranging from 20 to 200 Wp. The systems are installed at point of use on a "wireless power" basis, thereby eliminating the need for an electrical distribution infrastructure (similar to the avoidance of telephone wires with cellular telephone technology.) A battery-recycling program helps limit pollution.

## Performance Data

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By early 2002, Soluz Honduras provided electricity to over 10,000 people through a rental customer base of 1,500 and a total customer base of 2,000. Monthly collection rates above 90% are attributed to customer service and client responsibility commitments.

By eliminating the need to reach remote customers through the normal electric power distribution system, about US\$2,500,000 in distribution infrastructure investment (roughly US\$1,000 per connection) has been avoided. The elimination of kerosene use reduces energy unit costs by 90% and eliminates 625 metric tons of carbon dioxide (CO<sub>2</sub>) emissions per year.

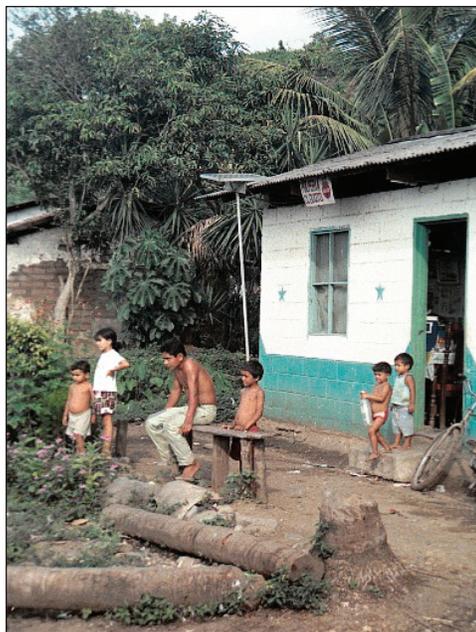
Quality of life improvements include better in-home study habits, improved education (through access to computers), improved health (through reduced respiratory disease), and income generation (by providing energy to micro-enterprises). Participation in the democratic process is also facilitated through access to modern communications (the election process is televised).

Nearly 100 people have been trained in rural energy delivery.

## Participants and Roles

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Soluz Inc. developed and raised capital for the project. Triodos-Solar Investment Fund, CFA, SunLight Power International, E+Co, and International Finance Corporation



(IFC/SME-GEF) provided financing. USAID provided cost-shared funds for market assessment through Winrock International.

## Partner Contacts

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