



Financing Rural Energy Services

Title: Increased Use of Renewable Energy Resources in Central America - FENERCA
Program Area: Rural Energy
Implementer: E+Co, in partnership with Biomass Users Network – Central America (BUN-CA), EEAF (Environmental Enterprises Fund) and Instituto Eco Engenho (IEE)
Geographic Focus: Latin America and Africa
Country: Guatemala, El Salvador, Honduras, Nicaragua, Panama, Brazil, South Africa and Zambia
Duration: April 2000 – April 2005



Village Energia Ambiental photovoltaic powered irrigation system, Brazil.

Enterprises Assistance Fund) and IEE (Instituto Eco Engenho).

The Program is targeted to stimulate a policy, investment and entrepreneurial climate conducive to the development and investment in renewable energy. To overcome constraints to bringing in the private sector, particularly to the rural energy markets, a partnership between the public and private sector is necessary. The approach recognizes the shortage of public capital for renewable energy, which then stimulates increased interest in changing policies to attract private investment capital, creating a positive momentum for change and an enhanced opportunity for results.

Project Background

FENERCA aims to assist Guatemala, El Salvador, Honduras, Nicaragua, Panama, Brazil, South Africa and Zambia to set a course that integrates environmental and economic sustainability into their energy development agenda. The program is being implemented by E+Co since April 2000, in partnership with BUN-CA (Biomass Users Network-Central America), EEAF (Environmental

Although the constraints to renewable energy supply of the host countries vary, experience has evidenced similar barriers in its advancement. These barriers include, but are not limited to: government policies that fail to address environmental externalities or provide incentives for fossil fuels; legal and policy frameworks that discourage private investment or produce uncertainties that add to the normal risks

of investment; energy entrepreneurs or project developers that do not have the capacity to assemble a “bankable” business plan or project pro forma; lack of available early stage and patient capital to advance implementation of energy enterprises; and decision-makers in the public or private sectors, including financial institutions, that are not aware of the economic and technical benefits of renewable energy.

Development Objective

To promote the financial viability of renewable energy enterprises and projects, while increasing the capacity of financial institutions, entrepreneurs, and NGOs to support the region’s renewable energy sector.

Approach

The provision of enterprise development services, with a specific deliverable of a “bankable” business plan, is one of the fundamental components of FENERCA. This work builds on the E+Co model of energy enterprise development. At the core of the work is the goal to attract financing for renewable energy entrepreneurs so that they in turn can deliver renewable energy services to households, businesses, communities and the grid. This assistance and support includes: market validation, market planning, business planning, detailed financial analysis, preparation of business plans and investment options, development of management capacity and systems and financial structuring. Where appropriate, E+Co will make seed capital investments from its own resources into these enterprises. The FENERCA team also strengthens the internal capacity of targeted local and regional financial institutions to evaluate the technical, financial and business dimensions of renewable energy projects. This includes identification of interested financial institutions and group training sessions. It is important to note that FENERCA also assesses policy barriers in an effort to initiate policy changes that encourage the development of and investment in renewable energy projects.



Center for Environmental Studies with a photovoltaic system – ANCON- National Park Punta Patiño, Panama.

FENERCA seeks to expand efforts to increase the sustainable production, use and finance of renewable energy in USAID assisted countries. The activities detailed below focus on support to financial institutions, governments and enterprises for the adaptation of the models, tools and approaches needed to ready renewable energy enterprises for finance and the stimulation of such finance.

USAID Role in Project

Since April 2000, USAID has awarded, through a Leadership with Associates Award to E+Co, a total of \$5.31 million for the period through April 2005 for the E+Co FENERCA program to focus in general terms on the production of a pipeline of renewable energy projects and enterprises and improving the capacity among NGOs, enterprises and financial institutions to perpetuate that pipeline. This USAID support has been central to the advancement of the energy enterprise centered model in Central America, Brazil and Africa, allowing the completion of “bankable” renewable energy business plans, leveraging approximately \$1.1 million of operating support from a UNDP-GEF program (FOCER) and from two United Nations Foundation Programs (AREED, BREED). The concentrated focus of the USAID funded tasks on engaging local financial institutions has produced direct investment of more than \$37 million of private capital.

Project Partners

Biomass Users Network-Central America (BUN-CA) and EEAF (Environmental Enterprises Assistance Fund) help support operations in Central America and IEE (Instituto Eco Engenho) supports operations in Brazil. Hagler Bailly (now PA Consulting) was also involved during the initial 18 months of the program in Central America.



La Castalia, municipal hydroelectric plant in San Marcos, Guatemala, is supported by the FENERCA program.

Project Activities

The program is composed of twelve tasks being implemented in five countries of Central America, Brazil, South Africa and Zambia. These tasks have four main areas of emphasis:

- Strengthening the capacity of entrepreneurs and financiers, organizing next stage finance and the opening of new markets for the replication of the FENERCA program and its activities

- Policy and productive use applications related to renewable energy projects or enterprises
- Management and monitoring of the program and enterprises supported; outreach to local USAID Missions were the program is being implemented and the implementation of best practices and document sharing among regional FENERCA teams; and
- Improvement of technical manuals and resources and expanded dissemination of energy related resources.
- 18MW of clean energy expected to come on-line in Honduras in 2004. Project construction currently under- way (La Esperanza second phase and Tres Valles)
- Four direct “one-on-one” training sessions held with entrepreneurs in Panama and Zambia and four training sessions held with entrepreneurs in Brazil
- With support from Citigroup, organized a regional training session for mid-size renewable energy project developers

Project Results

The following are highlights of achievements for the period October 1, 2002 to September 30, 2003:

- 35 enterprises supported with enterprise development services and business plan structuring services.
- 13 business plans completed
- Five additional business plans under preparation
- USD 14 million committed and/or invested by financial institutions for investment in renewable energy initiatives supported by FENERCA. These funds will contribute to the finance of ~ 24.5 MW of new and clean energy projects
- 27 financial institutions trained on “Financing Hydroelectric Projects” in El Salvador, Nicaragua and Panama
- Continuing support to the Secretary of Natural Resources and Environment in Honduras in its plans to structure and re-design the national electric framework
- Technical support provided to the Nicaraguan National Commission of Energy in drafting a policy document to incentive the promotion of small renewable energy projects
- Improvement and dissemination of training materials and manuals (Toolkit, Off-grid manual and Manual on Financing hydroelectric projects)
- Several financial institutions have shown interest in the creation of a Central America Fund for Renewable Energy Projects. Preliminary conversations show a tentative total of US\$22 million – US\$25 million fund.
- 485 kW hydro plant of new on-line capacity (La Esperanza in Honduras)



As a result of the work achieved to date, FENERCA has identified numerous opportunities and built a strong network with local enterprises, financial institutions and regulatory bodies in the targeted countries (Brazil, El Salvador, Honduras, Nicaragua, Panama, South Africa and Zambia). FENERCA's services are well known and many entrepreneurs and other stakeholders, including financial institutions, often approach the FENERCA team without the need for targeted outreach.

Development Impact

As a result of FENERCA's activities, to date:

- 1,290 solar home systems have been installed, with an additional 2,100 systems to be installed through year-end 2004 by two companies, one in El Salvador and one in Nicaragua. Using five people per household, this translates into clean energy services delivery to 6,450 people.
- 41,860 MWh of renewable electricity has been sold into the grid in Honduras and Guatemala, projected to increase to

136,000 MWh by 2006. This equates to 8,720 households receiving renewable energy based electricity and is equal to 43,600 people served.

- \$37.5 million of private capital has been invested into FENERCA supported enterprises, with an estimated additional \$17 million under consideration by local financial institutions.

Lessons Learned

- There are more renewable energy opportunities than FENERCA can serve;
- Post-initial training, often significant continuing enterprise development services are required;
- Regulatory frameworks are in constant change;
- Challenge of balancing various goals within a specific time frame;
- In-country partners are key; and
- Lack of seed investment capital in the market constrains early growth.

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