



# Using Renewable Energy to Promote Ecotourism

Renewable energy installations provide the important enabler for a giant leap forward in advancing ecotourism, research and economic development in a unique and vital protected area of Guatemala.

Punta de Manabique, which lies on the eastern seaboard of Guatemala and near the port of Puerto Barrios, has been declared a Special Protected Area. Ecologically, this area is especially important for several migratory, aquatic and marine species, including the manatee, the jaguar, sea turtles, and the yellow headed parrot. The area also contains some small communities of people who struggle to make a living and preserve the natural environment.

In the community of San Francisco del Mar, a small fishing village, the community members had worked hard to build their specialty fish preparations business. They educated themselves on the proper fish processing techniques and hygiene measures, constructed a small processing facility, and studied the market to identify the kinds of products desired. However, they were continually challenged by product loss because they had to rely on ice, hauled by boat to their village, for preservation.

In the community of Santa Isabel, nestled in the jungle waterways of the bay at Punta de Manabique, the business is two-fold: first, protect the environment, and second, make charcoal. Through a long process of self-education, the “Carboneros” have come to fully understand, and to follow, sustainable practices for the preservation of the forest upon which their economic survival depends. They have also come to understand how the ecosystem health depends on their stewardship.

The Carboneros are also interested in showing the world how they perform this stewardship in conjunction with making charcoal. Through their own efforts, with some technical assistance, they have established a visitor’s center to attract ecotourists. However, they had no electricity, and therefore could not have lights for the center or refrigeration for beverages and foodstuffs to serve the tourists. These accommodations would make their center much more attractive as a tourist destination.

At the Julio Obiols research station, dedicated to advancing the study and protection of Punta de Manabique, the research and education agenda has always been limited by the lack of energy. To reach its full potential, it needed literally to be energized. With the combined help and funds from USAID, Sandia National Laboratories, Fundación Solar, Fundación Mario Dary, Winrock International and CONAP, energy has been provided to each of these points of need.

The Fisherman of San Francisco del Mar now have a 340W solar-powered freezer and solar-powered lighting for their fish processing operation. They have done so well that their products were in the 20 finalists of those participating in a nation-wide rural products competition. The women also use the freezer to make ice cream. They sell 200 ice creams per day at the cost of 1 quetzal each. With this money they are able to buy enough fish to produce 180 lbs. of sausages. The women were able to buy their first pair of shoes with the earnings after their first sale, in which each earned between 150 and 200 quetzales. They have also been able to



considerably reduce the fish preservation costs since they previously had to spend approximately 835 quetzales (including the boat ride to Puerto Barrios) to purchase ice that only lasted three days. They consider the solar powered freezer system to be 'white gold'.

At the visitors' center in Santa Isabel, there is a 170W solar refrigerator and 100W of solar powered lighting. They have been attracting and educating a growing number of ecotourists, and have experienced a measurable impact on their own economic security while educating people about taking care of the environment. The men take turns each night to guard the center and they implemented a community store that sells candies, cookies, other basic need items, and fresh water. Before this existed, somebody came by boat to sell the

products. They are currently discussing the cost of tours and other services offered by the center.

At the Julio Obiols research station, a 400W wind turbine and a 560W solar power system were installed for lighting, audio visual equipment, and computers, greatly enabling the advancement of the research and education agenda. The team at Puerto Barrios is very happy with the quality of the installations and the improvement in comfort in the station thanks to energy. They have already received a group of researchers.

People from other surrounding communities, such as La Graciosa, Santa Isabel, San Francisco del Mar, Estero Lagarto and Cabo Tres Puntas have approached the team with a genuine interest in purchasing their own photovoltaic system for home lighting.

**USAID Contact:**

Jeff Haeni  
Office of Infrastructure & Engineering  
+1 202 712 0546  
jhaeni@usaid.gov

**Project Contact:**

Debra Ley  
Sandia National Laboratories  
+1 505 844 5955  
dley@sandia.gov