



Energía, Ambiente
y Sostenibilidad

2023 IMPACT REPORT

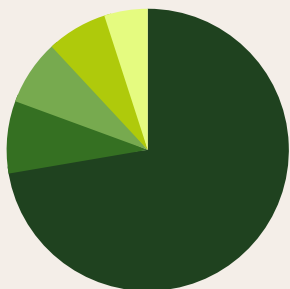
Powered by solar, run by women: Ice Making in the Peruvian Amazon

**31 kW solar photovoltaic system
supports 800kg of ice flake
production each day**

Run by a women's collective

**Developed in collaboration with
11 fisherman associations**

BUDGET FOR SOLAR ARRAY & COMMUNITY TRAINING:



- Equipment & Materials: \$47,887
 - Operating Expenses: \$5,490
 - Technical Expertise: \$4,950
 - Training: \$4,600
 - Management and Admin: \$3,300
- Total: \$66,227**

**MADE POSSIBLE BY FUNDING FROM
CHRISTADELPHIAN MEAL-A-DAY OF THE
AMERICAS, DISPENSA AMAZÓNICA,
MUNICIPALITY DISTRICTAL DE PUNOA,
OSPFA BRETaña FISHERMAN
ASSOCIATION, AND DONORS LIKE YOU**

The community of Bretaña sits well off the national power grid in the hot and humid Peruvian Amazon. Fishing is the primary local industry, but it is over 125 miles as the crow flies to the nearest regional market. So fishing families sell to intermediary vendors, reducing the price they can get for their fish by about half. On top of that the high price of ice - sold by private vendors - used to cut even further into profits.

To address this issue, the community collaborated with the local organization Energía, Ambiente, y Sostenibilidad (EA&S) and their long-time partner Green Empowerment. Together, we secured funding, finalized technical designs, and ultimately installed a 31 kW solar photovoltaic system, which provides enough power for the production of 800kg a day of ice flake (a hybrid ice form required for fish preservation).

EA&S was able to leverage this early support from Green Empowerment to secure additional partners in the region. Ultimately building a coalition including non-profits, regional industry, and the local government who all lent support to the community

as they renovated a building, purchased freezers and ice makers and established the physical plant.

For long term sustainability, 20 women from the community established a formally registered collective business. These women completed intensive training with EA&S, covering business administration, technical operation and maintenance of the ice machines and solar array, and female empowerment & entrepreneurship. They now work in shifts to operate the ice plant and manage the business, creating a new source of income for themselves and their families while providing crucial service for their community's main industry.

Eleven local fisherman associations collaborated on the project, representing 720 fishermen and community members who can now access locally-produced ice, saving approximately 400 soles per month (~\$107 USD) per family. One year later, the plant is still running strong and the customer base has expanded, with neighboring communities buying and benefitting from this lower cost ice.



STRONG WOMEN

Like many communities in the Peruvian Amazon, traditional gender roles are prevalent in Bretaña. Which makes it all the more impressive that the women in the community came together to create a 100% women owned and operated business. Their founding document speaks volumes about how they see themselves as leaders in the region.




Company Name: "Punchi Warmi" translates to "Strong Women" in Quechua

Motto: Business women without limits

Mission: We are a company made up of women with the capacity to provide services to our community and inspire other women to start businesses and empower themselves

RESILIENT RAINFOREST

Bretaña is located just outside the Reserva Nacional de Pacaya Samiria, one of the largest protected areas in the Peruvian Amazon. With the power of solar, this project has boosted local commerce without creating negative environmental impacts in this invaluable region of pristine rainforest, showing that 21st century development does not have to follow the destructive model set in the 20th century. EA&S hopes to use the ice plant as a model for inspiring additional clean energy projects in the region.

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