BLUE PLANET ENERGY
CUSTOMER
SUCCESS STORY



COMMERCIAL GRID OPTIONAL

Harvesting the Sun and Cocoa

The first cocoa processing plant to implement solar-plus-storage energy in Latin America

From dusk 'til dawn and beyond, cocoa farmers reap the rewards of a solar-plus-storage system in Colombia. Serving the community of Tumaco in the southern department of Nariño, CORTEPAZ, is a cooperative promoting and improving the cocoa industry. Working with several farmers, the organization produces quality cocoa through technical and commercial training and high-quality processing practices.



By processing cocoa to meet quality standards, the organization aims to reach preferential markets and end consumers, reducing intermediaries, improving product prices, and transferring profits to farmers for improved income and quality of life.

The CORTEPAZ solar-plus-storage project was designed and implemented to solve the problem of a deficient energy supply from the public power grid. One of the main objectives is to ensure the successful drying of cocoa to produce high-quality cocoa with fine flavor and aroma, in demand on both national and international markets. Cocoa dryers are necessary due to the high humidity, but power failures can cause the process to stop and the cocoa to be lost.

The installed system ensures the uninterrupted drying process and prevents loss of cocoa and capital for the corporation's associated cocoa-growing families, enabling them to improve their income and quality of life.

"In 2016, CORTEPAZ lost 10 tons of cocoa (22% of the total cocoa received), reducing its income by $35,000; in 2017, 6 tons (21%) were lost, representing $22,000; and in 2018, 4 tons (25%), equivalent to $12,000. This mainly occurs during the drying process due to frequent power outages. This project aims to eliminate these losses and improve productivity by installing a system for solar self-generation and battery storage, reducing dependence on the unreliable public energy grid."

— **Gustavo Mindineros**, Administrative and Commercial Manager of CORTEPAZ

OVERVIEW

PROJECT

CORTEPAZ
Corporacion Tecnica Para El Desarrollo Del Pacifico

LOCATION
San Luís Robles
San Andrés de Tumaco
Nariño, Colombia

APPLICATION
Commercial, Grid-Optional

YEAR COMPLETED
2022

PRODUCT
Blue Planet Energy
Blue Ion HI

SYSTEM SNAPSHOT

BATTERY SYSTEM
(3) 16 kWh Blue Ion HI

STORAGE CAPACITY
48 kWh

COMMUNICATIONS
Studer Portal

POWER CONVERSION
Studer Innotec

SOLAR INTEGRATION
ZNShineSolar
17, 2 kWp





The agriculture sector is one that we specialize in. CORTEPAZ's priority of self-sufficiency, requires reliable energy solutions.

The benefit is uninterrupted operation, creating a domino effect of economic impact and opportunity for its community.

An outcome Blue Planet Energy is proud to be a part of."

—Kevin Fenner
Managing Director
Blue Planet Energy

Solution
The system powers the CORTEPAZ headquarters which includes a cocoa processing facility and operations office. Providing 24/7 power supply through battery storage, ensuring reliable and isolated operation, the system features a 17.8 kW solar array, integrates Studer Innotec inverter/chargers, and three Blue Planet Energy Blue Ion HI, each at 16 kWh bringing the total storage capacity to 48 kWh.

The Blue Ion HI stores the energy mainly generated by the solar array and the associated Maximum Power Point Tracking (MPPT) charge controllers (DC coupling), which was sized to meet 100% of CORTEPAZ's energy needs. For precautions the system also allows the batteries to be recharged from the grid if and when needed.

A requirement from the conception of the project was to implement batteries that were totally maintenance-free and that would have a useful life of more than 20 years.

"Blue Planet Energy batteries meet all quality requirements, a unique 15-year warranty and one of the lowest Total Cost of Ownership (TCO) over their long lifetime," says Daniel Medina, Renewable Energy Division, Hemeva S.A.S

CORTEPAZ is located in the collective territory of the Community Council "Rescate las Varas" in the municipality of Tumaco, specifically in the village of San Luis Robles, 37 km from the municipal capital of Tumaco but more than 1 hour away.

This region, in recent times, has been affected by the armed conflict in Colombia and this situation added to the state abandonment, evidenced in the precarious access roads to the village, leading to the state of poverty in which most of the inhabitants live, who are resisting to leave their territory and have sought alternatives to change their living conditions.

"Despite the logistical complexities, the installation process is streamlined thanks to the efficient design of the Blue Planet Energy battery, which is shipped in compact enclosures and requires minimal space, reducing logistical costs."

"This premium solution has allowed Cortepaz to overcome the unique challenges of the region," explains Juan Sebastian Gonzalez, Business Development Manager, MGM Ingeniería y Proyectos

Continuing the Legacy of Tumaco Cocoa and Laying the Foundation for the Future
The CORTEPAZ project was brought to life through a collaboration between, MGM Ingeniería y Proyectos, MGM Foundation, Hemeva S.A.S and CENIT.

The use of solar energy has transformed lives and conditions, positioning the cooperative as a leading national and international role model in the cocoa industry.

With the ability to receive 100% of production, the corporation has become the first cocoa processing plant in Latin America and the second in the world to use solar energy, and is making a positive impact on the environment through the use of alternative energy sources.