

# Case study

## Off-grid System by LA CASA DE LAS BATERÍAS

### Bocas del Toro

### Panama



#### The challenge

La Loma Jungle Lodge and Chocolate Farm is located in the heart of the Isla Bastimentos rainforest, nestled in a 55-acre estate that stretches from the shores of the Bahia Honda mangroves, through tropical forests and groves of fruit trees, to the highest point of



La Casa de la Baterías

Isla Bastimentos, in Bocas del Toro, Panama. This location offers breath-taking views of the jungle and the bay. The lush, nectar-rich gardens attract a wide variety of rare wildlife. The property borders the spectacular National Marine Park, and the idyllic white sand beaches of the Panamanian Caribbean are just a short boat ride away. Passionate about sharing this natural beauty and luxury while protecting its precious environment and the lives of its inhabitants, this one-of-a-kind hospitality complex set itself the goal of generating 100% of the electricity from solar, aiming for the highest quality standards and using available cutting-edge technology. The system designed and installed by La Casa de las Baterías includes a solar system, lithium-ion batteries and STUDER equipment that ensure the efficient supply of all the electrical energy necessary for this majestic place to provide its guests with eco-friendly luxury accommodation.

#### Why STUDER

STUDER offers the reliability that customers demand for remote installations of off-grid systems, which, together with its flexibility, durability and 10-year warranty, are the main reasons for choosing STUDER equipment. The fact that it bears the "Swiss Made" label is a guarantee of top quality recognised all over the world.

#### System components

The system contains the following components:

- 4 x STUDER VarioString VS-120 solar charge controllers
- 3 x STUDER Xtender XTH 6000-48-01 Inverter/Chargers
- 1 x STUDER Remote Control Centre RCC-02
- 1 x STUDER Xcom-CAN
- 1 x STUDER Xcom-LAN
- 58 x 400Wp monocrystalline Jinko Solar Panels
- 8 x BYD 48Vdc, 10.2kWh lithium-ion battery banks

#### The Solution

A 23.2kWp solar photovoltaic (PV) system was installed to supply the entire tourist complex with electricity, designed to charge the 81.6kWh lithium-ion battery bank, using STUDER charge controllers which enable an input of up to 600V, the ideal voltage to optimize the energy generated and reduce the wiring. 3 Xtender 6kVA inverters/chargers were used, in a 208/120Vac three-phase configuration. A backup generator set kicks in to maintain the continuity of the electricity supply should the PV energy generation fail. The system works automatically, controlling lithium battery discharge values and optimizing the loads that can happen randomly, at peak solar times. All system monitoring is done remotely.

#### Project outcome

Once completed, the project allowed the luxury tourist complex to generate 100% of its power supply from solar PV energy, providing its guests with a unique experience amidst the beautiful natural setting, while minimizing the lodge's environmental impact in this truly magical region.

#### The Company

La Loma Jungle Lodge and Chocolate Farm is a tourist complex located in Isla Bastimentos, Bocas del Toro, Panama. This heavenly place offers its guests a luxury experience, surrounded by a nature that combines the lush virgin rain forest and majestic white sand beaches of the Panamanian Caribbean.

La Casa de las Baterías Energía is a company whose experience in the design and construction of electric power projects in Central America spans more than 45 years. It has extensive experience in the development of microgrids, solar photovoltaic systems, uninterruptible power supply systems and electric vehicle charging stations. Supplier of the best brands of electrical components for the region.

#### For more information please contact:

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