Case study

Mini-Grid // Pan de Azúcar

Chile - Atacama

The challenge

Inside the Pan de Azúcar National Park in the Atacama region of Chile lies the small fishing cove of Pan de Azúcar, as well as the facilities of the National Forest Corporation (CONAF). The village of 40 houses did not have access to electricity, a grid or electrical installations. The municipality of Chañaral, in collaboration with Chile's Department of Regional and Administrative Development, decided to bring electricity to this village while respecting the national park environment. After much consideration they opted for an energized minigrid as the best option for the village.



FluxSolar

Being a remote area, the demands on the quality of the products and installation are extremely high. That is why the combination of FLUX SOLAR, for the implementation, and STUDER equipment is an optimal solution for this requirement.

Why STUDER

STUDER is a recognised brand in systems for remote installations owing to the robustness of its equipment. One of the most important reasons is that the equipment offers a minimum level of faults and has several remote monitoring options.

System components

150 x Canadian Solar CS6P 260Wp panels
Mounting system Alusín Solar Bulnes with variable tilt
6 x MPPT Studer VarioString VS-120 and VS-70 solar chargers
6 x Studer XTH 8000-48 inverters / chargers
48 x Narada Rex 2V 2.000Ah batteries with 192kWh capacity
1 x equipment hut
1 x installation of microgrid underground distribution network measuring 2 km
40 x certified electrical installations for homes with energy meter system

The solution

To meet the demands of a national park, only a solar system is a viable option due to its minimal visual impact and zero pollution.

Instead of individual solutions, the decision was made to install a main 39kWp plant in panels with a three-phase 48kW distribution network.
This mainly carries the advantages of greater energy availability per investment, and the centralisation of operation and maintenance allows for building a self-sustaining system over time through a corporation that manages the plant.
The energy use of each user is regulated by a pay system with individual meters.

Project outcome

The solar plant manages continuously the supply of electricity to the entire cove and CONAF, generating zero atmospheric and acoustic emissions. Its visual impact is minimal as it can be incorporated into the natural environment of the national park.

The availability of electricity allowed the fishermen to have a higher-quality yield as they are able to freeze their products. This economic activity generates a source of important income and enables the existence of a small artisanal fishing industry. In addition, it has enabled CONAF to utilise centres for study and tourist information.

The Company

Flux Solar

Flux Solar Energías Renovables SpA is a Chilean-German company specialising in the engineering, design, development and construction of projects in the field of renewable energy and energy efficiency, also acting as a distributor of these products and solutions in Chile.

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