



The Challenge

It was during the development of South America's first geothermal power plant "Cerro Pabellón", inaugurated in September 2017, situated in the Antofagasta region of Chile that Enel first came in contact with the inhabitants of Toconce. Committed to improve the quality of life in remote areas by clever electrification, Enel took on the challenge of finding a solution for 90 of the village's households.



Enel Green Power

Why Studer

This village is installed at 3'310 meter above sea level and any equipment installed there must support both hot and cold extreme temperatures. Studer products were chosen for their demonstrated reliable performance under extreme conditions.

Studer products also offer a unique versatility in programming, and are compatible with many types of batteries, in this case lithium-ion batteries from SimpliPhi.

System components

- Inverter/charger:** STUDER XTM 4000-48
- Solar charge controller:** STUDER MPPT VarioTrack, VT-65
- Solar panels:** 4 x Astronergy Polycrystalline module CHSM6612P 310 Wp
- Battery:** SimpliPhi Lithium technology Model Phi3.4
- Mounting system:** Mounting Systems, aluminium and stainless steel
- Other:** Battery monitor, SBM-02

The Solution

By implementing a distributed energy solution, each home is equipped with its own photovoltaic energy system, complete with PV panels on the roof and an integrated cabinet containing an inverter/charger, an MPPT solar charge controller and a lithium battery. With individual systems the households can manage their energy consumption autonomously. The electrical cabinets are mounted in accordance with the Chilean electrical standards and access to the cabinets is restricted. The households with installed solar systems have received a detailed training on how to use and maintain their installations.

Project outcome

The inhabitants of Toconce have now access to electricity in their homes 24/7. Their quality of life has greatly improved with their use of household electronics such as refrigerators, washing machines and lights. Their previous use of noisy, polluting diesel generators have been replaced by clean, green energy giving them the opportunity to grow and/or start new businesses.

The Company

Enel Green Power Chile is part of the Enel Green Power Group, fully dedicated to the development and management of renewable energy sources. With a strong focus on innovation and sustainability, it has a portfolio that combines four clean technologies: wind power, solar energy, hydropower and geothermal energy. Enel Green Power is present in Europe, America, Africa and Asia.

STC Sunbelt is a Chilean company, specialized on all kind of solar solutions. Sunbelt was in charge of the design, commissioning and installation of this project.

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