

## Spain

### The Challenge

Vodafone has made it one of their strategic business objectives to be a responsible company by taking care of and respecting the environment. One important step in this direction was to start using renewable energy in the electrification of their base stations and thereby reducing the use of diesel generators.



Enair/Vodafone

### Why Studer

Studer is a highly recognized brand for renewable energy system solutions in remote telecommunication installations.

Besides its outstanding reliability, Studer offers a unique feature: the “battery priority function”, that allows using renewable energy as much as possible over costly and polluting generators.

### System components

- Solar modules:** 10 x 150 W at 24 V
- Batteries:** 24 elements of stationary batteries OPzS de 1200 Ah or 2200 Ah each
- Inverter/Chargers:** 5000 W Studer Xtender  
40A solar charge controller
- Other:** Studer SBM-02  
ENAIR Wind turbine from 3.5 kW to 48 V  
Generator of 10kW

### The Solution

To reduce the diesel consumption, wind turbine manufacturer ENAIR suggested an energy system solution with battery storage of the generated renewable energy. The solution, based on the direct accumulation of batteries, comprise wind turbines, PV panels, deep-cycle lead-acid batteries with OPzS technology and power electronics from Studer Innotec.

With this system, the diesel generator is only used if there is no wind nor photovoltaic production and the batteries are discharged.

### Project outcome

The new renewable energy solution has successfully reduced the operating time of the diesel generators, saving 85% of diesel consumption. The payback period is about five years for a system that has a durability of about 25 years.

All this has been made possible thanks to the accumulation of energy produced by ENAIR wind turbines and photovoltaic panels.

### The Company

#### VODAFONE

Vodafone Group is a multinational company working with mobile and fixed telephony and ADSL, headquartered in Newbury, Berkshire, United Kingdom. It is the second largest telecommunications operator in the world in terms of number of customers and benefits.

#### ENAIR

Enair is a wind turbine manufacturer and complete energy solutions provider based in Castalla, Spain. It is the entrepreneurial initiative resulting from the evolution and experience of David Bornay, who has dedicated his career to the manufacture of wind turbines. More than 4000 small wind turbines have gone through his hands during his career.

#### For more information please contact:

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