



CONERGY

Reference Project | Off-Grid Hybrid

Repeater Base Station, Indonesia

Conergy successfully installed four stand alone off-grid photovoltaic (PV) systems for telecommunications micro-wave repeater stations on the remote Maratua Island in Indonesia. The project presented many challenges which were addressed by Conergy comprehensive range of solutions. The result ensured a high quality power supply at all times to the customer, Telkomsel, the largest cellular phone network provider in Indonesia.

Challenges

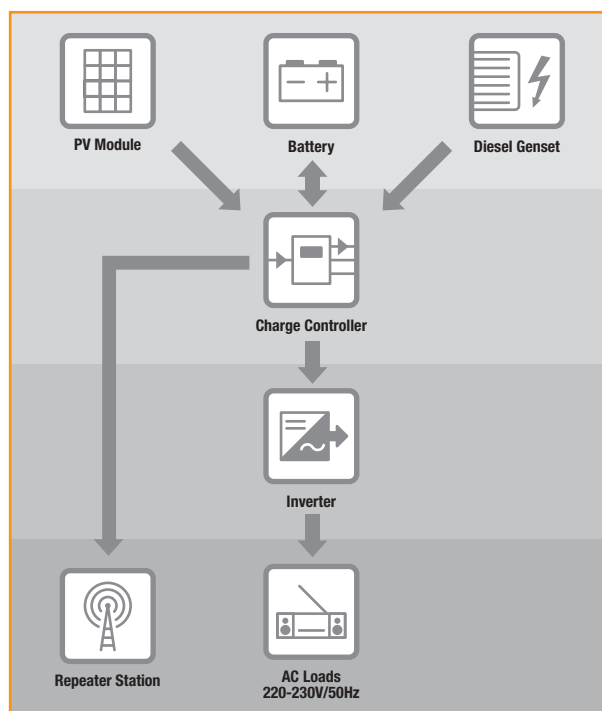
- | Very remote area (3 hours by speed boat, 11 hours by fishing boat to nearest airport) made maintenance very costly and difficult
- | First telecom electrification project in Asia-Pacific region for Conergy

Our Solution

- | Large safety margin -12.5 kW PV system for 0.8 kW load
- | Maintenance free battery - deep cycle, no refill, 2300Ah capacity for 3days autonomous operation
- | Partnership with GMN (Conergy cooperation partner) provided local expertise, language and logistical help
- | All systems equipped with lightning protection

Benefits

- | Cost-effective and higher reliability
- | Lower maintenance and cost of ownership than pure fossil fuel systems
- | 24/7 power supply (for BTS, VSAT or UHF systems)
- | Batteries need only periodic inspection (no need for refill)
- | Diesel generators are only used as a last resort (extended bad weather or battery replacement)
- | Protects the environment with almost no carbon emissions



Data

Date	February 2007
Location	Remote archipelago in the Celebes Sea
Type of System	4 sites PV/Diesel hybrid for telecom repeater stations
Installed Capacity	12.5 kWp
Type of Module	Polycrystalline 165 Wp
Load	1500 W 24 hours/day
Diesel Genset	16.5 kW
Battery Bank	2300Ah, 48 V (Sonnenschein, OPzV gel batteries)
Autonomy	3 days
Special Voltage Requirements	-48 V (or positive grounding)

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OFF GRID HYBRID