

SOLAR-POWERED REMOTE MICROGRIDS

➤ CHOCÓ, COLOMBIA



“THIS PROJECT IS THE FIRST OF ITS KIND IN THE CHOCÓ REGION AND ALLOWED 431 HOUSEHOLDS, INCLUDING AN INDIGENOUS COMMUNITY, TO HAVE ACCESS TO CLEAN, AFFORDABLE, AND RELIABLE ENERGY FOR THE NEXT 20 YEARS.”

ANA MARIA MURILLO ➤ BUSINESS DIRECTOR OF TECMAC INGENIERIA (SOLAR INSTALLER)

➤ LOCATION

Acandía,
Western Colombia,
South America

➤ CHALLENGE

Provide clean, reliable energy and eliminate the need for diesel-fueled generators.

➤ SOLUTION

Construction of five solar hybrid microgrids using Trojan batteries with Smart Carbon™ for energy storage.

➤ OUTCOME

More than 400 households have access to reliable energy for 17+ years.



300 BATTERIES

POWER FOR 400 HOMES

LIFE: 17+ YEARS

LOCATION

The Municipality of Acandia is located in the northern department of Chocó in western Colombia. The remote area is mainly jungle along the Caribbean Sea on the border with Panama.

CHALLENGE

The region is not tied to the country's electrical grid and residents had access to only a few hours of unreliable, diesel-generated electricity each day. The government of Colombia decided to address this problem by building five solar hybrid microgrids, comprised of solar photovoltaic panels and batteries for energy storage.

SOLUTION

The project required batteries designed to last the 15-year duration of the project, withstand the region's harsh conditions, and have the lowest Levelized Cost of Energy (LCOE).

Trojan's Industrial Line of advanced lead-acid batteries with Smart Carbon were selected for energy storage for all five microgrids. Trojan's Smart Carbon proprietary paste formula provides improved performance and life when batteries operate in Partial State of Charge (PSOC), making them ideal for solar applications.

SYSTEM SPECIFICATIONS

- Batteries: (288) Trojan SIND 04 2145*, 2,105Ah @ C100-Hr, deep-cycle, advanced lead-acid with Smart Carbon, (12) Trojan SIND 06 920**, 695Ah @ C20-Hr, deep-cycle, advanced lead-acid with Smart Carbon
- Inverter-chargers: Bidirectional Sunny Island inverter-chargers
- Battery Life: 17 years (per IEC 61427)
- Inverters: Sunny Boy inverters
- Solar System Capacity: 191 KWp
- Backup Generator: Cummins Diesel Generators
- Battery Bank Configuration: 48V and 24V
- Total Microgrid, Installed: 5
- Solar Modules: 250W Trina Solar panels
- System Integrator: Tecmac Ingenieria

**The Solar Industrial SIND 04 2145 battery was previously known as the IND29-4V battery.
**The Solar Industrial SIND 06 920 battery was previously known as the IND13-6V battery.*

OUTCOME

More than 400 households in the region now have access to clean, affordable, and reliable energy for the next 17 years, vastly improving their quality of life.

BATTERY SOLUTION



- 17+ Year Life Span
- Withstands Harsh Conditions
- Lowest Levelized Cost of Energy



PARTNER



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Trojan batteries are available worldwide and backed by outstanding technical support provided by full-time application engineers.

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