

ABB helps build a brighter future for Costa Rica



ABB has delivered a unique solar solution enabling Costa Rica's largest solar park to provide a clean and independent power supply to 10 percent of the country's population, supporting Costa Rica's ambition to ensure 100 percent of its energy comes from renewable sources.

Costa Rica's climate and dramatic geography means that over the past four years more than 95 percent of its energy has been supplied by hydro, geothermal, solar and wind sources. In 2018, Costa Rica reached 300 cumulative days of 100 percent renewable energy generation.

Costa Rica has been praised for its decision to rely on renewable sources of power. However, the country needed to prepare for changing weather conditions that would challenge its reliance on hydropower by expanding its solar power capacity. COOPELESCA (Cooperativa de Electrificación de Rural de San Carlos), a

cooperative founded in 1965, together with CONELECTRICAS (Consortio Nacional de Empresas de Electrificación de Costa Rica R.L.), took steps to explore new projects in these areas, including appointing Thesan to build the country's largest solar park in just four months.

To help them achieve the task, Thesan immediately turned to ABB. As a long-term trusted partner, Thesan knew they could count on ABB to help them meet a challenge of this scale and provide a solution that could be successfully implemented within such a demanding timeframe.



ABB certainly didn't disappoint. While the initial proposal had been to use a central photovoltaic (PV) solution, ABB and Thesan unlocked a more flexible solution that COOPELESCA and CONELECTRICAS weren't expecting. The answer was a modular 'power block concept' that uses multiple inverters across the park. This meant that the solution was perfectly sized to requirement with not too many stations, nor too few. The solution is also flexible and scalable for the future and allows for better sustained performance - if one unit shuts down, the others continue operation at their highest capacity for performance with no single point of failure.

The solution provided by ABB includes the following:

- 28x PVS-175 string inverters
- 1x PVS-175-MVCS (medium voltage compact skid)
- Size: 5 MW
- Spares
- Commissioning of inverters and MVCS
- 72 hours on-site support for the first year of operation

ABB's unique approach with the PVS-175 also offered 1500 Vdc (volts direct current) and 800 Vac (volts alternating current) - the largest solution available on the market. Due to the higher AC and DC voltage, the solution provides the greatest cost-savings, with increased return on investment. ABB's solution is also plug-and-play, which enabled considerably faster installation to meet project timings.

"ABB's technical expertise and complete solution meant we could deliver a ground-breaking response beyond customer expectation."

Maurizio De Donno, CTO, Thesan

ABB's solution went beyond expectation and has led to further business opportunities in Costa Rica for both Thesan and ABB. Their successful delivery of Costa Rica's largest ever solar park has also enabled COOPELESCA and CONELECTRICAS to provide a clean and independent power supply to 10 percent of Costa Rica's population. Today, more people in rural areas are connected to renewable sources - helping Costa Rica take a big step towards its goals of becoming 100 percent renewably powered.

Thinking about your next installation project?

With our huge portfolio of solar solutions, integrated digital services and reliable support network, you can count on us. To find out how ABB can help you achieve even more with your installations, visit www.abb.com/solarinverters to find your local sales rep.