



QUICK FACTS

Market:	Power Generation and Utilities
Design:	Modular
Scope:	Design, Fabrication, Start-up and Commissioning
Owner:	Planta Termoyopal
Location:	Yopal, Colombia
Client:	GE
Gas Turbines:	3 - GE LM6000
Chilling Capacity:	4,923 TR
Total Capacity:	150 MW

TERMOYOPAL POWER PLANT

Turbine Inlet Air Chilling



Colombia has a high dependence upon hydroelectricity, which makes the country subject to energy shortages during times of severe drought brought on by the El Niño phenomenon. To help combat these periodic shortages, the Termoyopal power plant was in need of modernization to increase gas-fired capacity and reliability of meeting the plant's power purchase agreement – all while increasing efficiency and adhering to the country's environmental requirements.

As a trusted and repeat supplier, Stellar Energy was commissioned by GE to design and fabricate a **turbine inlet air chilling (TIAC)** system to augment three new LM6000 turbines that would replace two aging units at the Termoyopal plant. Stellar Energy's TIAC technology is ideally compatible with GE's latest and greatest aeroderivative turbine, allowing the turbine to meet or exceed the design capacity by providing ideal conditions for the combustion turbine inlet regardless of ambient weather conditions.

Stellar Energy provided GE with a modular solution consisting of packaged air-cooled chillers as the most effective, efficient and reliable solution to minimize cost at the remote plant. Upon successful start-up and commissioning, performance testing confirmed that the capacity of the Stellar Energy solution exceeds the performance requirements established by GE, while maintaining a zero-tolerance rating on the chiller plant parasitic load. Most importantly, as the plant provides 2% of the country's total power supply, Termoyopal can reliably meet the capacity and emission requirements set forth by the Colombian government as they move towards a more sustainable future.

Stellar Energy has provided TIAC solutions through GE for additional GE LM6000 projects: Symbion Power Plant in Tanzania, Valle de Mexico power plant in Mexico, Glenarm Repowering Project in Pasadena and Petrobras Regap in Rio de Janeiro, Brazil.



PICTURE CREDIT: GE

The addition of TIAC to GE's efficient LM6000 gas turbines provides
consistent & predictable capacity

to meet the plant's power purchase agreement while adhering to Colombia's vision for a lower carbon future.