

INDUSTRIAL AUTOMATION ENERGY INDUSTRIES

Enel Generación brings hydropower fleet under close control with ABB Ability™

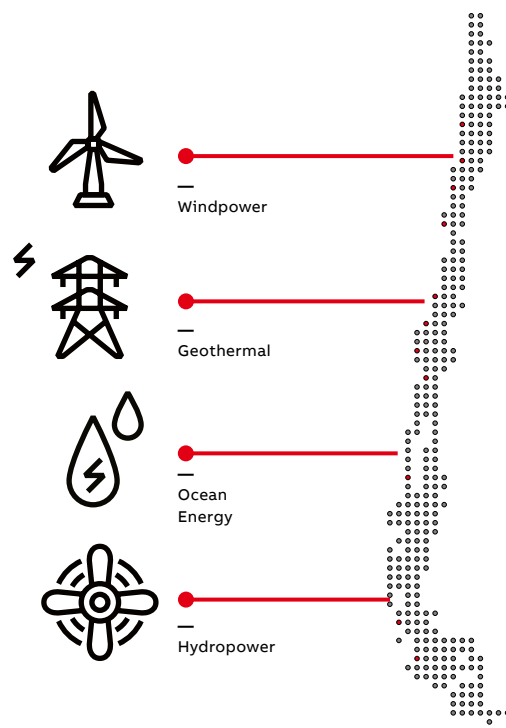


ABB Ability™ digital control technology is optimizing the remote support of Enel Generación's hydropower fleet across Chile, improving coordination and information-sharing and ultimately helping the country reach its renewable energy targets.

With electricity demand set to grow considerably, Chile's generation capacity has more than tripled over the past two decades.

Poised to become a potentially rich source of renewable energy, Chile's Atacama Desert, the world's driest, with an average rainfall of less than 0.05mm per year, offers optimum potential for developing solar resources. The longest country on earth, its shoreline and national mountain ridge (The Andes) also provide excellent opportunities for wind, hydropower, geothermal and, in the future, ocean energy production.

Significant investment is needed, however, in grids and in Chile's renewable infrastructure to enable further generation capacity, and to help the country meet its long-term energy policy, which aims for a 90 percent share of renewable power by 2040.



Shrinking the distance

In terms of new grid infrastructure, a major achievement was made last year when the central and northern electricity systems were interconnected, creating the National Electricity System. This interconnection was one of the reasons utility giant Enel Generación modernized much of its equipment to meet the required standard for information-sharing with the National Electricity Coordinator, which oversees the new Chilean grid structure.

As part of this modernization, Enel turned to ABB – with whom it already has a long relationship – to connect 16 of its Chilean hydropower plants, situated in distant locations, to its headquarters in the capital of Santiago. ABB supplied a state-of-the-art digital solution based on its ABB Ability™ Symphony® Plus control technology.

This technology collects information from the remotely located Zonal Operations Centers and supplies it to Enel's central Control Room Hydro, allowing a better coordination of the hydroelectric fleet and improved information-sharing within Enel and the energy coordinator.

No one size fits all

ABB Ability™ turns data collected in the plants into informative insights that lead to better business decisions. This approach is the basis for ABB Ability™ Collaborative Operations – a remote operations and maintenance model that helps power generation companies harness the potential held within their data. Collaboration is scalable to customer needs, capable of being applied at a device or process level, up to plant and enterprise-wide operations.

Another selling point for Enel was ABB's extensive experience integrating technology from third-party vendors for a high number of power plants. This no-one-size-fits-all solution reflects ABB's open and adaptable approach, which overcomes challenges presented by use of various competing protocols to achieve the desired results.

The result of this approach and ABB's remote support offering is that the location of Enel's hydropower plants is less of an operational obstacle, with engineers no longer needing to make the long and complex journey out to distant sites. This allows Enel to redeploy its operators onto other tasks in Santiago, enabling the utility to optimize its process operations.

Long-term collaboration for long-term goals

Commissioning of the solution has been a step-by-step process, with the last plant being completed in spring of 2018. Future operations and maintenance are also being covered by an ABB Power Generation Care agreement, helping to keep the plants at peak performance. This reinforces ABB and Enel's positive long-term relationship, which could be expanded to additional plants and new projects in South American countries such as Colombia and Peru.

Looking further to the future, by improving both the reliability of clean hydropower generation facilities and boosting overall grid stability to support the integration of more variable renewables, solutions like this will help bring the aims of Chile's energy policy a step closer.

“We are driven to help our customers benefit from emerging digital technologies so they can respond to the changing energy market,” says Kevin Kosisko, Managing Director of ABB's Power Generation & Water. “ABB not only helps them best meet their needs, but also delivers sustainable progress for power generation operators and society.”

ABB is a leading provider of integrated power and automation solutions with unparalleled experience in partnering with the energy and water industries, bringing them improved operations and sustainable progress. We deliver integrated and secure digital systems, services and solutions to automate and optimize the performance of conventional and renewable power plants and water facilities.