

Pan American Energy (PAE)

Oil & Gas

Power Profile

Customer

Pan American Energy

Location

Aguada Pichana Oeste,
Neuquén Province, Argentina

Commissioned

April 2023

Fuel

Raw Natural Gas

Technologies

- C1000S Microturbine

Lease Term

18 Month Rental

Capstone Green Energy Partner

Turbine Heat and Power (THP)

The Challenge

Pan American Energy (PAE) is a leading energy company in Argentina and the region. With operations in six Latin American countries, PAE participates in all sectors of energy production, with operations in upstream (conventional, unconventional, onshore and offshore), midstream (oil pipelines, gas pipelines and oil terminals), downstream and power generation from both traditional and renewable sources.

PAE aims to be a leader in the energy transition. It innovates and produces energy sustainably, complying with the highest international standards through five principles: operational safety, operational excellence, efficiency, sustainability, and long-term strategic investment.

As part of its Sustainability strategy, it contributes to the Sustainable Development Goals (SDGs) and adopts the universal principles of the United Nations Global Compact on prevention, environmental responsibility awareness, and promotion of ecosystem-friendly technology development.

Within this framework, the company sought to address its isolated power generation needs using field gas at the Aguada Pichana Oeste compression plant in the province of Neuquén, Argentina, where 550Kw of electrical generation was required to supply essential services for the gas compression system with redundancy and availability.

"Our technology cooperates with the client to reduce their carbon footprint, contributing to their environmental goal since its modularity allows generation to accompany 100% of the demand curve without the need for resistive banks or dummy loads, as each 200 kW module can deliver power starting from 10% of its installed capacity."

— Susana G Antico,
General Director, Turbine Heat and Power

**Smarter Energy
for a Cleaner Future**





The electricity generated by the C1000S-HPNG microturbine satisfies 100% of the compression plant's demand.

The Solution

PAE partnered with Capstone distributor Turbine Heat and Power (THP) to identify an effective replacement for traditional rented generators at their remote gas processing facility. For the pilot project, they selected a C1000 Signature Series rental microturbine to evaluate its performance in meeting the facility's power needs. The C1000S system, fueled by natural gas, delivered 1 MW of power and proved to be a reliable and efficient solution throughout the pilot phase.

Following the successful demonstration of the system's capabilities, PAE opted to purchase the C1000S microturbine, solidifying their investment in Capstone technology. They expanded the project by renting two additional C1000S units (providing an extra 2 MWs) which are scheduled to be deployed in late 2024. This brings the total power generation capacity to over 3 MW, with the additional units providing redundancy and scalability to meet increasing energy demands.

The C1000S features a modular design that integrates five 200 kW microturbines into a single container, offering flexibility to respond to variable load demands. Additionally, the solution features a SCADA application with 24/7 remote monitoring, eliminating the need for dedicated on-site operators. The commissioning process, completed within two weeks, demonstrated Capstone's capability for rapid deployment in remote locations, ensuring minimal disruption to operations.

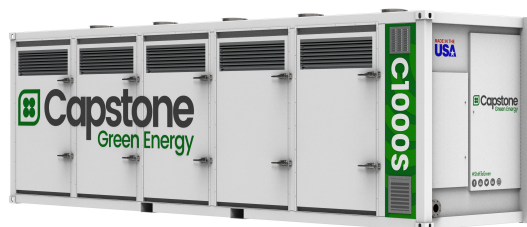
Capstone's microturbines are plug-and-play systems, requiring no paralleling switchgear, lubricants, or coolants, further streamlining installation and reducing operational costs. The system's fuel flexibility supports PAE's sustainability goals, utilizing the available field gas produced on-site to power the facility while reducing emissions.

The Results

Powered by natural gas, the microturbine system has delivered outstanding performance since its commissioning. The 1 MW system initially installed significantly reduced the facility's fuel consumption. The flexibility of Capstone's modular design enabled PAE to scale up the system by adding rental units, demonstrating how easily the solution could adapt to increasing energy demands.

The project also aligned with PAE's environmental goals, reducing emissions of NOx, CO, and CO₂, and eliminating waste from lubricants, filters, and other environmentally harmful materials. Since commissioning, the system has provided 100% availability, supporting continuous plant operations with zero downtime.

Capstone C1000S Microturbine



A C1000S Microturbine provides 1MW of reliable electrical power in one small, ultra-low emission, and highly efficient package.