Wintershall Holding GmbH

Oil and Gas

Innovation is second nature to Wintershall, the largest crude oil and natural gas producer in Germany. So it's no surprise that a Capstone C65 Microturbine is producing about 40 percent of the electricity at the company's Großaitingen production station. Installed initially as a test in 2011 to determine the microturbine's ability to run on wet gas from on-site oil production, Wintershall soon deemed the C65 an ideal power source for production sites in remote locations.

Wintershall officials have been so impressed with the microturbine's performance that they has started installing additional microturbines at several facilites.

Compared to processes in other countries, oil and gas production in Germany requires additional, often more demanding extraction technologies. Fortunately, these strict requirements are easily met by the rugged, low-cost, dependable, and low-maintenance Capstone microturbines.

"The test was performed to understand if the turbines would run with wet gas – the gas which we get from our wells and our oil production," said Jürgen Mahr, Deputy Plant Manager for Wintershall Holding GmbH. "We wanted to test if the wet gas could run without any purification in the turbine."

Set among the hills and forests of Bavaria in southern Germany, Großaitingen sits about 90 kilometers (56 miles) west of Munich. Wintershall's Großaitingen site consists of an array of wells that produce crude oil. Oil is gathered at the production site and separated into three products: gas, water, and oil. Wintershall sells the gas and oil, and pumps the water back into a nearby reservoir.

"The aim of the test was to determine if we can use these turbines later on in remote locations where we don't have any infrastructure to supply or store gas to run the turbines," Mahr said. "We can then use our gas for the turbine that's produced

"The whole project was a success."

— Max von Doderer, Managing Director
Microturbine Süd GmbH

Power Profile

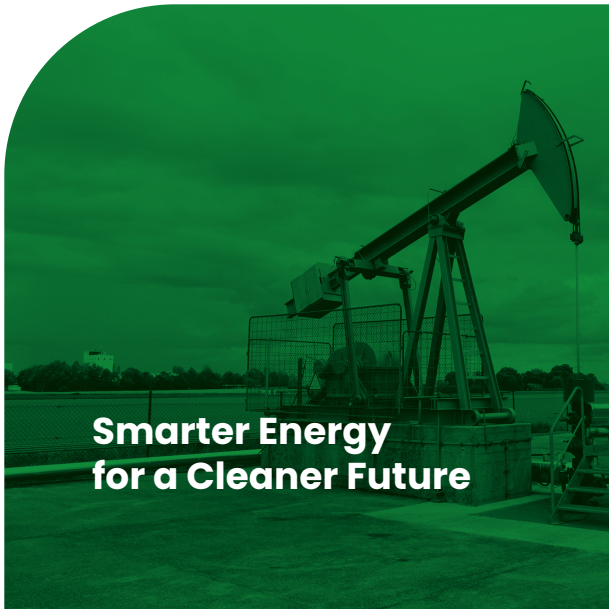
Customer
Wintershall Holding GmbH

Location
Großaitingen, Germany

Commissioned
September 2011

Fuel
Raw Natural Gas

Technologies
- A C65 Capstone microturbine



A Capstone C65 microturbine produces electricity for the facility and may use heat exhaust and warm facility buildings for process heating, and to heat pipelines.

with the oil and we don't need any gas pipelines or any other facilities specifically to operate the turbines."

Capstone C65 microturbines are smaller than equivalent generators by 33 percent, and can reliably power onshore and offshore operations using unprocessed wellhead gas (economic or flare, sweet or up to 7 percent sour) to generate 3-phase, load-following continuous power. Capstone's patented air bearing technology creates ultra-low emissions and reliable electrical generation using raw natural gas with minimal gas treatment.

Max von Doderer, Managing Director of Microturbine Süd GmbH, the sales and service partner of Capstone's German distributor E-Quad Power System, explained, "The gas comes straight out of the Earth. It is compressed after that. The only treatment is a heating line and watching the temperature. Nothing else is done with the gas. It's the easiest way, the cheapest way to get electricity."

"At the moment we are producing electricity from the turbine which we use here in the facility," said Wintershall's Mahr. "We are producing about 40 percent of our electricity needs here at the plant. In the future we are thinking about using the heat from the turbine for our facilities, building, process heat, and also for heating our pipelines."

After the C65 ran 5,000 hours during the test, it was considered a success. "We are very satisfied at the moment with the turbine and what we got as a result of the test," Mahr said.

Since the original C65 microturbine was commissioned in 2011, Wintershall officials have installed additional Capstone microturbines at numerous facilities in the region.

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