

Jonah Field

Oil & Gas

Jonah Energy is serious about lowering methane emissions. It's the first U.S. oil and gas company pledging to openly track and reduce methane emissions as part of a United Nations program. Low-emission Capstone Clean Energy microturbines installed at 14 of the company's natural gas well sites in Wyoming's Jonah Field are helping the producer meet its pledge.

Jonah Field is one of the largest onshore fields in the U.S. with an estimated 10.5 trillion cubic feet of natural gas.

It all started in 2007 when a Capstone microturbine replaced a pneumatic pump that was powering production well site equipment. The pump used compressed natural gas for fuel. The C30 microturbine, which continues to run today at the remote site, is fueled by raw natural gas direct from the site (also referred to as dry gas) to generate 20 kilowatts of on-site electricity.

In addition to eliminating the environmentally unfriendly gas-driven pump, the microturbine has increased revenue by keeping gas in the system and reduced the wellsite's environmental impact.

The Capstone microturbine produces electricity that powers triethylene glycol (TEG) dehydration and glycol heat tracing pumps. Four months after the first microturbine was installed, staff tested the use of wet 'flash' gas as a free fuel source. The test was a success. No longer was the wet gas put in a combustor and burned into the atmosphere.

In 2009, three more microturbines were installed at other Jonah Field well sites. The four microturbines significantly



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— Hop Lee
Horizon Power Systems

Power Profile

Customer

Jonah Energy

Location

Wyoming, USA

Commissioned

2007-2009

Fuel

Dry and Wet Natural Gas

Technologies

- 14 Capstone C30 Microturbines
- Each microturbine uses "wet" flash gas to generate 20kW of power.
- Electricity produced by the microturbines power TEG dehydration and glycol heat tracing pumps.

Capstone Green Energy Distributor

Horizon Power Systems



**Smarter Energy
for a Cleaner Future**



Capstone C30 microturbines at 14 remote Jonah Field well sites generate electricity to power production equipment.

reduced greenhouse-gas emissions and saved nearly 12 million-standard-cubic feet of natural gas each year that once had been used to fuel pumps.

Today, Capstone microturbines are installed at 14 Jonah Energy well sites. Each C30 unit is housed in a small, insulated building for protection from sub-zero temperatures and winds that can gust over 100 mph. The buildings are outfitted with forced ventilation, catalytic heating, gas detection, and a small fuel-gas delivery system.

“Each system has two fuel types coming in and we have to be able to switch between fuels on the fly,” said Hop Lee of Horizon Power Systems, the Capstone distributor that co-designed the Jonah Field applications.

The microturbines have replaced solar panels at several larger sites because of the microturbines’ high reliability and continuous operation when it’s cloudy or snowy.

Capstone C30 Microturbine



A C30R Microturbine provides 30kW of reliable electrical power in one small, ultra-low emission, and highly efficient package.