

Long Ridge Power Plant Moving to Hydrogen

PENN VALLEY, PA, US, February 24, 2021 /EINPresswire.com/ -- In the tiny town of Hannibal, Ohio, by the Ohio River at mile marker 126.4, U.S. energy history is under construction and 85% complete.

“

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Robert “Bo,” Wholey, Long Ridge Energy President

The Long Ridge Energy Generation facility is a 485 MW combined cycle plant utilizing one General Electric gas turbine connected with one horizontal gas flow heat recovery steam generator and a single GE steam turbine.

Nothing out of the ordinary for this \$800 million power plant until you examine its power source. The GE turbine is designed to operate on 80% [natural gas](#) – and 20%

[hydrogen](#). And, with adjustments, the plant will burn hydrogen only in the future.

Operated by Long Ridge Energy Terminal, a unit of private-equity companies Fortress Investment Group and GCM Grosvenor, the new plant is on track to be the first in the U.S. to use a large-scale gas turbine fired by a blend of hydrogen and gas, another milestone in the power industry’s efforts to shrink its carbon footprint.

“A lot of combined-cycle gas plants will transition to hydrogen in the future,” according to Robert “Bo,” Wholey, Long Ridge Energy President.

Wholey will be part of a panel discussion discussing the expanded use of hydrogen in energy-related projects at the First Annual Appalachian Hydrogen & Carbon Capture [Conference](#).

The one-day program, presented by Shale Directories, is set for April 8, at the Hilton Garden Inn Pittsburgh Southpointe, south of Pittsburgh.

“We are pleased to have Bo Wholey as a presenter at our conference. Long Ridge is certainly leader in hydrogen energy,” commented Joe Barone, President and & Founder, Shale Directories.

Wholey said his company acquired the 1,600 acre site several years ago and that the site previously operated for nearly 60 years as an aluminum smelter. The area, south of natural gas pipeline depot Clarington, Ohio, was “begging for a power plant.”

When combined with oxygen and burned, hydrogen — the most abundant element in the

universe — could power a modern gas turbine with near-zero carbon emissions.

But the move to burning hydrogen won't happen overnight. The element likes to bond with other chemicals, like carbon and oxygen, and it's expensive to make it pure.

While natural gas costs roughly \$3 per million BTUs in the U.S., and around twice that much in Europe, hydrogen might sell for between \$10 and \$60/MMBtu, according to GE.

Long Ridge sits on top of an underground layer of salt, which can be leached to create caverns that can store hydrogen.

"We will initially sell power into the power grid under long term contracts," Wholey said. A Long Ridge affiliate also will provide electricity to customers that will locate on its massive site. Big power users, like data centers, are natural partners.

"These companies want carbon-free power," according to Wholey. Long Ridge has previously announced it plans to develop a 125-acre data center campus. The campus will offer more than 300 MW of capacity.

Another question with hydrogen is how to get enough of it. In the early months, Long Ridge will purchase hydrogen from a nearby facility that currently has excess supply. The site will begin accepting hydrogen in November.

But eventually, the Long Ridge site will be home to facilities that make hydrogen, including so-called green (pure) hydrogen, made via electrolysis. In this process, an electric current splits water into its constituent elements to produce oxygen and hydrogen.

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