

The "Hydrogen Economy" Is Here

It Was Introduced at the Appalachian Hydrogen & Carbon Capture Conference V

PENN VALLEY, PA, US, December 7, 2023 /EINPresswire.com/ -- The long predicted "<u>Hydrogen</u> economy" no longer is a lot of pontificated rhetoric, computer-generated blueprints and project funding proposals.

Hydrogen now is part of the U.S. energy industry – a portion that's growing daily – but a soon-to-be behemoth that could and should coexist with fossil fuels, speakers at last week's Appalachian Hydrogen & Carbon Capture Conference V affirmed.



Tom Gellrich, CEO & Founder, H2-CCS Network

The sold-out, one-day program, produced by the H2-CCS Network and Shale Directories, was held south of Pittsburgh at the Hilton Garden Inn in the Southpointe office park.

One piece of concrete information flowing from H2 & CCS V was that the size of the companies

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involved in the move to Hydrogen is as varied as the <u>feedstock</u> and equipment used to produce H2.

For Empire Diversified Energy, the feedstock of choice is waste, specifically food waste and waste sludge. According to the United Nations, lost and wasted food accounts for 38% of total energy usage globally.

"Every person generates four pounds of trash per day, and 1.5 pounds of that total is food waste," according to Bernard Brown, Empire's Chief Operating Officer.

Instead of burying food waste and sludge in landfills, Empire will build an anaerobic digester at its waterfront

site in Follansbee, WV, which will process 400-470 tons of waste per day and produce H2, Renewable Natural Gas, biochar, carbon black and water.

A large portion of the project site is the Port of West Virginia, which will use Hydrogen generated onsite to power its short line railroad engines, all trucks and forklifts traversing the 900-acre brownfields site.

Empire Diversified will sell a portion of its H2 to US Energy for transportation fuels.

The Appalachian Hydrogen Hub will store H2 underground, but is comprised of companies that produce and utilize H2 using varied feedstocks, including the lowest-cost natural gas in the U.S. Currently, no fewer than 15 varied projects located in Pennsylvania, West Virginia, and Ohio are included under the Hub umbrella.

"What our ARCH2 (Appalachian Regional Clean Hydrogen Hub) project will do is serve as a springboard for Hydrogen production, which will draw more and more companies to the region," said Shawn Bennett, Energy and Resilience Division Manager for Battelle, the point company for the consortium of companies that comprise ARCH2 presenting the group's plan to the U.S. Department of Energy.

"But it's all about jobs."

It's also all about analyzing Hydrogen to move through pipelines and where to store the product.

There are a number of challenges in analyzing Hydrogen-natural gas blends, Ken Thompson, President of Valtronics and Mustang Sampling, told the H2 & CCS Conference. "There is enhanced fatigue growth in steel pipe, and the composition of blended gas changes in storage."

While Hydrogen suppliers and transporters would like to be able to move product now, Thompson said it will take time to modify <u>chromatographs</u> to handle H2 or RNG.

"There are only two chromatograph manufacturers and they can't make enough new equipment to be integrated into existing measuring instruments or new chromatographs within the five-year timeframe producers want," Thompson said.

There are a variety of options to store Hydrogen and carbon emissions underground, said Tim Reichwein, Executive Vice President and Chief Operating Officer with Lane Power & Energy Solutions. Building or readying caverns for storage takes time, he added.

"Our Appalachian Hydrogen & Carbon Capture V Conference was a launching pad for jobs, projects, challenges and opportunities," stated Tom Gellrich CEO and Founder, H2-CCS Network. He further comment, "Next year's conference on November 7, 2024 will further expand on these opportunities."

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