

The World is Embracing Hydrogen

PENN VALLEY, PA, US, September 7, 2022 /EINPresswire.com/ -- If you do not believe the world is rapidly moving toward embracing hydrogen for fuel and feedstock, just look at the latest numbers from global energy consultancy Wood Mackenzie:

“

We are excited to have Bridget van Dorsten from Wood MacKenzie set the stage on hydrogen production. Hydrogen availability is critical to the development of the hydrogen transportation sector.”

*Tom Gellrich CEO & Founder,
H2 CCS Network*

- 900-plus low-carbon hydrogen production projects announced globally, representing 73Mtpa (million tonnes per annum) of low-carbon H2 production
- Of those total projects, 58Mtpa is electrolysis-based hydrogen
- In North America, there are 11.97Mtpa low-carbon hydrogen production projects announced, of which 6.81Mtpa will be produced via electrolysis
- In the U.S. alone there are currently 9.2Mtpa low-carbon projects, of which 6.41 are projected to be produced using electrolysis.

“There has been massive growth in announced projects since the second quarter of 2021,” according to Bridget van

Dorsten, Wood Mackenzie Research Analyst, Hydrogen and Emerging Technologies.

“The overwhelming number of projects are low-carbon projects, primarily blue and green projects, and 90% of the low-carbon projects are green,” van Dorsten added.

A “blue” hydrogen project uses natural gas combined with Carbon Capture and Storage (CCS) to produce hydrogen, while “green” hydrogen is created using renewable electricity to power an electrolyzer.

Hydrogen expert van Dorsten will share their H2 expertise at the Pro Football Hall of Fame on Sept. 23, when SARTA, the Stark (County, Ohio) Area Regional Transit Authority, presents the Appalachian Hydrogen [Transportation Conference](#). The one-day program is produced by the H2-CCS Network Shale Directories and the Canton Chamber of Commerce.

van Dorsten said billions of government dollars, including tax incentives through the recently enacted Inflation Adjustment Act, will kick start the hydrogen revolution in the U.S. Private funding through investments, acquisitions and stakes in major projects will make the hydrogen dream a reality.

Green hydrogen, created from the electrolysis of water using renewable energy, claims a diminutive share of today's global hydrogen production. However, cost reductions in both electrolyzer capital costs and renewable energy prices in hand with government tax incentives could make a substantial difference, according to van Dorsten.

As manufacturing scales and becomes automated, electrolyzer capex will fall 35-65% in the next decade, making sub-\$2/kg green hydrogen achievable in most markets by 2040.

Substantial investment is required to accommodate the anticipated growth up to 2050. Developers will need to invest roughly \$100 billion to support supply growth up to 2030, and an additional \$500 billion by 2050.

Looking specifically at using hydrogen in the transportation industry, van Dorsten believes the infrastructure for transportation projects will be both fleet and publicly-owned.

"The infrastructure will be both and case dependent," van Dorsten said. "Currently, California's FCEV (Fuel Cell Electric Vehicle) market is mostly passenger vehicles, so the stations being mostly public makes sense because there are not many fleets to service.

"Outside of the U.S., most stations are fleet-owned because they're combined projects, as combined projects lessen the risk of the project overall if the producer and offtaker are under agreement," van Dorsten continued.

The Wood Mackenzie hydrogen analyst said a better idea of station ownership will occur once the FCEV market develops more. In California, the companies that own stations are either private retailers, or wholesale hydrogen retailers (Shell, AirProducts, Air Liquide, etc.).

"The global hydrogen market is expected to more than double from below 100 million metric tonnes of carbon intensive hydrogen today, to 223 Mt of low-carbon hydrogen by 2050," van Dorsten said. "Low-carbon hydrogen will both displace existing fossil-intensive demand and create new markets."

"We are excited to have Bridget van Dorsten from Wood MacKenzie set the stage on hydrogen production." Said Tom Gellrich CEO and Founder H2-CCS Network. "Hydrogen availability is critical to the development of the hydrogen transportation sector."

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