Open Hydrogen Initiative Unveils Open-Source Tool Kit to Measure Hydrogen's Carbon Intensity at Facility Level to Aid Marketplace Development

New beyond-the-color-wheel measures bring greater transparency to hydrogen markets

- New tool kit aims to help unlock hydrogen's full potential as fuel alternative & important driver of energy transition -

CHICAGO and NEW YORK, March 25, 2024 /PRNewswire/ -- The Open Hydrogen Initiative, unveils a first-of-kind open-source tool kit aimed at furthering transparency into the environmental impact of hydrogen production and helping unlock hydrogen's full potential as a fuel alternative and important driver of energy transition, as announced by its founding partners GTI Energy and S&P Global Commodity Insights and a cohort of collaborators from a diverse field of industry and scientist experts worldwide. This industry-leading toolkit for measuring carbon intensity is available on an open-source basis.

As evidenced by key international discussions at COP28, hydrogen remains one of the key pathways to energy transition and global decarbonization goals.

The OHI has gained industry and marketplace momentum since its launch in early 2022. In addition to its initial Foundational Sponsors, National Grid, Capgemini, EQT, EY and Shell, the international cohort has expanded to more than 40 organizations spanning a wide array of sectors and geographies.

Alan Hayes, Head of Energy Transition Pricing and Market Data at S&P Global Commodity Insights:"Regulators, international agencies and market participants all recognize that tools that drive deep and detailed understanding of carbon intensity are a vital part of the development of carbon differentiated commodity markets. Understanding a commodities decarbonization potential via its carbon intensity and having the tools and data to assign a dollar value will play a central role in helping markets deliver a low carbon economy."

The OHI tool kit has been demonstrated in 13 industry projects spanning two continents and contains detailed analyses for more than 60 technologies across 270 countries and regions of the world. It is the most comprehensive open-source hydrogen life cycle assessment (LCA) tool available to the market, setting a new standard for quantifying trust in data.

"The OHI toolkit offers open and auditable emissions accounting to help companies and governments understand the tradeoffs between the cost and environmental impacts of hydrogen," said Paula Gant, Ph.D., President and CEO of GTI Energy. "We are proud of this collaboration which brings together technical expertise, real-world insights, and decades of experience to help the market connect demand for low-carbon energy with suppliers and investments that will spur the hydrogen economy."

Understanding carbon intensity across commodity and related markets is being put at the center of regulations around the world. Mechanisms such as the Inflation Reduction Act in the US, support mechanisms in the EU and emerging contract for difference schemes in parts of Asia all incorporate a detailed understanding of the carbon intensity associated with the each of the multitude of production pathways.

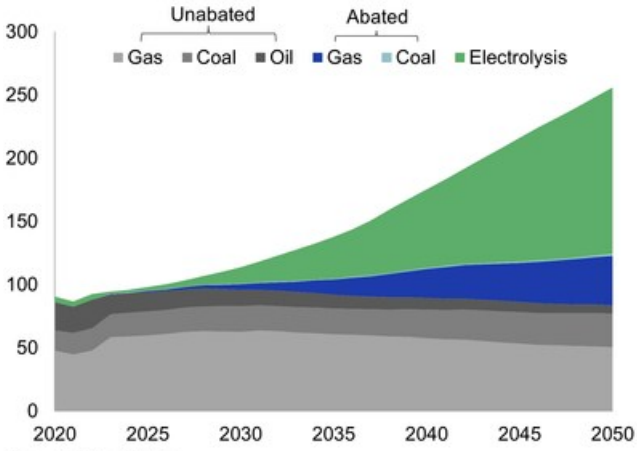
This tool kit delivers on the initial mission of OHI to create an industry-led objective, credible, and harmonized methodology and toolkit for measuring the carbon intensity of hydrogen production at the facility level to lay the foundation for a low-carbon hydrogen marketplace.

HYDROGEN SUPPLY TO GROW 170% BY 2050

Hydrogen supply is on a trajectory to grow some 170% by 2050, according to S&P Global Commodity Insights, from 2023's 95 million metric tons (mmt) to 114 mmt in 2030 and 256 mmt in 2050. Last year, some 98% of hydrogen supply was from fossil fuels, with only a small fraction of associated emissions abated by carbon capture and sequestration (CCS). The forecast is for low-carbon technologies like CCS and water electrolysis to produce 16% of hydrogen in 2030 and 68% in 2050, driven mostly by growth in electrolysis.

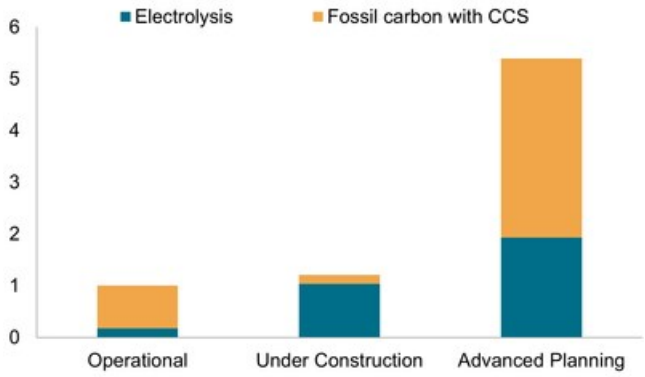
Long term, demand growth is driven by the uptake of clean hydrogen in new sectors, and an industry-standard emissions measurement and verification process is key to providing the market transparency that facilitates new supply agreements.

Hydrogen supply outlook, 2020 to 2050
million tonnes H_2/year



Data compiled February 22, 2024
Source: S&P Global Commodity Insights.

Global clean hydrogen capacity in operational, under construction, or advanced development projects
million tonnes H_2/year



"Advanced Planning" refers to projects that are undergoing front-end engineering and design (FEED), applying for permits, issuing equipment purchase orders, or have taken a Final Investment Decision.
Data compiled February 22, 2024
Source: S&P Global Commodity Insights.

GTI ENERGY

OPEN **HYDROGEN** INITIATIVE

To lend your expertise or learn more about this the initiative, visit gti.energy/OHI or contact OHI@gti.energy.

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