Tech & Feasibility Study Update, Board Changes

Released : 06.11.2024

RNS Number : 0589L
Hydrogen Future Industries PLC
06 November 2024

6 November 2024

Hydrogen Future Industries PLC

("HFI" or the "Company")

Technology & Feasibility Study Update, Board Changes

Hydrogen Future Industries PLC (AQSE: HFI), a developer of a proprietary wind-based green hydrogen production system featuring an advanced aerodynamic wind turbine and a high-performance electrolyser, is pleased to provide the following update on its technology development and feasibility activities, alongside board changes.

Technology & Feasibility Study Update

Wind Turbine & Mining Feasibility Study

Further testing of the 1-metre diameter wind turbine prototype in Montana, USA has been delayed due to a fault with the control unit which requires upgrading, and a shortage of specialist consultants at site in recent months. The replacement parts and requisite personnel are expected to arrive in Whitehall, Montana later this month as the Company looks to maximise testing operational time during the historically windier period in the winter months. The improved testing configuration will enable remote data collection whilst new sensors will provide more reliable automatic yaw and turbine braking control in high winds.

Tim Blake, CEO, has recently returned from an extended site visit to Whitehall having conducted a review of the testing facilities and equipment whilst meeting with key stakeholders. Mr Blake also took delivery of several litres of wastewater from the mine site tailings facility proximate to the wind turbine site. The wastewater has recently been delivered to the University of Bristol for analysis so that the Company can determine the appropriate separation and cleaning process for its use as electrolysis feedstock.

Agreement has also been reached with Schneider Electric ("Schneider") to provide key software to assist in the flow-sheet and economic analysis to support the mine site feasibility study at Whitehall, and other locations within the major mining company's international operations. It is expected that the analysis provided by the Schneider software will provide further evidence of the positive carbon and economic benefits the HFI system could deliver in the mining sector.

Electrolyser development

Concept testing of the Company's novel electrolyser continued throughout the period in California, USA, led by quantum-physicist, Dr Nicholas Blake, a consultant to HFI and Technical Advisory Board member. The

series of tests undertaken achieved an exceptional efficiency of over 97%.

The Company is now undertaking to expedite the development of its inaugural commercial scale electrolyser and apply for patents around the new intellectual property, whilst advancing efficiency and cost-reduction strategies. Notably, HFI's electrolyser operates efficiently without the need for expensive platinum group metals, marking a significant stride towards reduced operational and maintenance cost, one of the project's primary objectives.

Board Changes

Effective immediately Mr Neil Ritson will assume the role of Executive Chairman. Mr Daniel Maling will transition to the role of Non-Executive Director, enabling him to focus on his executive responsibilities outside of the business. Mr Tim Blake remains as the non-board CEO of the Company responsible for development and commercial activities.

As announced on 1 November 2024, the Board are reviewing potential candidates for a new independent non-executive director.

Tim Blake, CEO, commented:

"Whilst the turbine testing delays are frustrating, I have been encouraged by the feedback and enthusiasm of our local partners in Montana. The need for new sources of renewable energy and energy infrastructure is compelling. Our relationships in Whitehall are providing us with access to a significant opportunity to unlock a new renewable energy hub utilising our latest generation green hydrogen technology."

Neil Ritson, Executive Chairman, commented:

"The development of new technology is rarely straightforward, and we have been managing through a period of equipment and resourcing issues. Whilst the capital markets remain challenging, we believe our project in Montana will attract new sources of non-dilutive investment in the coming months and the Board remains optimistic about the Company's future as end user markets start to increasingly demand future supplies of green hydrogen."

Enquiries:

Hydrogen Future Industries plc
Neil Ritson, Executive Chairman +44 (0) 20 3475 6834

Vigo Consulting (Investor Relations)
Ben Simons +44 (0) 20 7390 0230
Peter Jacob

Cairn Financial Advisers LLP (AQSE Corporate Adviser)
Ludovico Lazzaretti +44 (0) 20 72130 880
Liam Murray

Peterhouse Capital Limited (Broker)
Duncan Vasey +44 (0) 20 7469 0930

Inside Information

This announcement contains inside information for the purposes of the UK Market Abuse Regulation and the Directors of the Company accept responsibility for the contents of this announcement.

About Hydrogen Future Industries

Hydrogen Future Industries was established to invest in projects and companies focused on the Hydrogen

Economy. We are developing a proprietary wind-based hydrogen production system, incorporating hydrogen compression and storage. Hydrogen Future Industries is at the forefront of green hydrogen production with its integrated system that marries an advanced ducted wind turbine with a state-of-the-art Anion Exchange Membrane Water Electrolyser (AEMWE). This innovative pairing is designed to optimise renewable energy for the efficient production of hydrogen.

About HFI wind turbine technology

The HFI wind turbine is at TRL (Technology Readiness Level) 6-7, showcasing an advanced design with superior aerodynamics and rotor blade technology that generates three times the energy of a traditional open rotor design. The aim is to generate energy at a cost below $30/MWh and a unit CAPEX of $700,000/MW. This innovation represents a smaller, quieter, and more efficient alternative to existing wind energy generation technology. The turbine's unique features include a smart hydraulic drive that improves efficiency and reduces the cost of energy production, the ability to generate energy over a broader range of wind speeds, and versatile energy output in hydraulic, DC, or AC forms without the need for additional AC to DC rectifiers for hydrogen production. Significantly, the turbine can be raised and lowered for optimal wind capture, reducing maintenance and installation costs, as servicing can be performed at ground level.

About HFI Anion Exchange Membrane Water Electrolyser (AEMWE) technology

At TRL 4-5, the HFI Anion Exchange Membrane Water Electrolyser (AEMWE) presents a step forward in power efficiency, longevity, and cost-reduction for green hydrogen production. Testing has confirmed a cell efficiency of 97%, notably higher than the 80-85% of rival technologies. Constructed without platinum group metal catalysts, the AEMWE utilises more affordable and accessible materials, resulting in a projected cost that is 50% lower per kW than the PEM electrolyser. It is designed to deliver high efficiency even with variable energy supply typical of renewable sources, and it features a unique system where individual cells can be replaced without halting hydrogen production. The AEMWE's catalysts are chemically attached to the electrodes, preventing wash-off and ensuring durability. The ongoing patent applications aim to protect the unique intellectual property developed around this technology.

Visit our website: www.hydrogenfutureindustries.com

Follow us on social media:

LinkedIn: @Hydrogen Future Industries

X (formerly Twitter): @HydrogenFI

Caution Regarding Forward Looking Statements

Certain statements made in this announcement are forward-looking statements. These forward-looking statements are not historical facts but rather are based on the Company's current expectations, estimates, and projections about its industry; its beliefs; and assumptions. Words such as 'anticipates,' 'expects,' 'intends,' 'plans,' 'believes,' 'seeks,' 'estimates,' and similar expressions are intended to identify forward-looking statements. These statements are not a guarantee of future performance and are subject to known and unknown risks, uncertainties, and other factors, some of which are beyond the Company's control, are difficult to predict, and could cause actual results to differ materially from those expressed or forecasted in the forward-looking statements. The Company cautions security holders and prospective security holders not to place undue reliance on these forward-looking statements, which reflect the view of the Company only as of the date of this announcement. The forward-looking statements made in this announcement relate only to events as of the date on which the statements are made. The Company will not undertake any obligation to release publicly any revisions or updates to these forward-looking statements to reflect events, circumstances, or unanticipated events occurring after the date of this announcement except as required by law or by any appropriate regulatory authority.

END

NEXBRBDBDGGDGSU