



Hydrogen Production System Development Update

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Hydrogen Future Industries plc

("HFI" or the "Company")

Hydrogen Production System Development Update

Hydrogen Future Industries PLC (AQSE:HFI), a developer of proprietary wind and water-based green hydrogen production systems, is pleased to provide an update on development progress following the formation in March 2022 of HFI Energy Systems Limited ("HESL"), the Company's wholly owned product development subsidiary. HESL forms part of a group of companies which will include HESL as the holding company, an additional wholly owned intellectual property development company (HFI Development Limited), and a further joint venture intellectual property holding company (HFI IP Holdings Limited), which have been newly incorporated (together, the "HESL Group").

HESL Group Objectives

HESL was formed in collaboration with wind turbine engineer, and now HESL Chief Executive Officer, Timothy Blake to develop and commercialise proprietary technologies based on development work carried out by Mr Blake which the Company's directors believe will have a significant positive impact on the hydrogen production market by materially lowering the cost of green hydrogen production.

The most advanced system under development by the HESL Group (currently comprised of HESL) is a wind-based hydrogen production system combined with electrolyser technologies which aims to generate hydrogen for under \$2 per kilogram - significantly lower than other green hydrogen production systems ranging from \$4 to \$6 per kilogram, and in line with the global 2030 target.

The directors believe the HESL Group's system will be a smaller, quieter, safer and more efficient alternative to existing open rotor wind turbines, using advanced aerodynamics and rotor blade design, and a smart hydraulic drive system, resulting in significant advantages, including reduced weight and cost, simplified installation and maintenance and standardised transportation, with components fitting inside shipping containers.

Based on development work to date, the directors believe the system will achieve a significant increase in energy output compared to an open rotor wind turbine of the same overall diameter allowing the HESL Group to potentially produce hydrogen cost efficiently.

The HESL Group intends to incorporate hydrogen compression and on-demand energy storage technology, allowing energy to be stored in the form of hydrogen at a fraction of the cost of lithium-ion battery storage, solving the challenges faced by current windfarms during periods of reduced energy demand.

The system being developed by the HESL Group aims to generate hydrogen from a choice of feed stocks including waste or contaminated water, saline or fresh water, and remediation processes, meaning it can be operated in a variety of settings, including offshore, mining, and industrial. It could also deliver constant electricity at costs up to 50 percent below current wind turbines, while nearly halving capital costs per megawatt of electricity generated.

Development Progress and Roadmap

The HESL Group's current primary focus is developing a wind turbine based on Mr Blake's historic work which is undergoing independently verified wind tunnel testing. Work has been ongoing since the formation of HESL to leverage the data generated in testing and simulations in preparation for the installation of a test system in real world conditions. This includes flow testing the speed of wind through the turbine and improving electrolyser efficiency. Where required and appropriate, the HESL Group will acquire or register patents to protect the intellectual property being developed.

Construction of an automated tower for the wind turbine has commenced for outdoor installation later this year. The prototype unit will be 12 metres tall with a 1 metre wind turbine diameter and is anticipated to be built shortly. The Directors anticipate the prototype unit will be tested for several months prior to the construction of the first commercial scale units for testing and certification at or above 20 metres tall with a 5-metre wind turbine diameter.

HFI has agreed to commit a minimum of US\$1 million to the development of the test units and the economic interest of all intellectual property developed by Mr Blake and the HESL Group (or any additional subsidiaries it may incorporate in the future) will be split 51% to 49% between the Company and Mr Blake, respectively.

David Ormerod, Executive Director of HFI, commented:

"We are making excellent progress and preparing for installation of the 1 metre diameter wind prototype, potentially as

early as next month. This milestone will represent the beginning of a hugely important testing and data collection period that will feed into the construction of the first commercial scale units of 5-metre diameter.

Existing renewable energy based hydrogen systems are not achieving the cost of production levels that will be required for mainstream adoption of hydrogen, particularly in the transport sector. Based on the significant development work undertaken to date, we believe HESL's system could meet and surpass the target cost of hydrogen without the need for Government subsidies."

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.

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Note:

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