

1 July 2025

Clean Power Hydrogen plc
("CPH2", the "Company" or the "Group")

Publication of Wastewater Treatment Efficiency Gains

Oxygen trials yielding energy and efficiency gains at Northern Ireland Water project

CPH2, the UK-based green hydrogen technology and manufacturing company that has developed the IP-protected Membrane-Free Electrolyser ("MFE"), is pleased to note the publication from specialist engineering company, Lagan MEICA ("Lagan"), on the benefits witnessed at Northern Ireland Water's ("NIW") site of using high purity oxygen, as part of a project which incorporates an MFE electrolyser in wastewater treatment.

CPH2's MFE technology is currently operating at NIW's Duncrue Street site in Belfast, producing green hydrogen and oxygen. By using the oxygen-enriched air in secondary treatment, Lagan has observed a 15% reduction in aeration time, a 31% increase in ammonia removal, and a 13% reduction in energy consumption, amongst other efficiency gains. These efficiency gains translate into increased capacity and reduced sludge transportation and disposal. Upon scaling this process is expected to result in a significant reduction in cost for NI Water, whilst also producing a valuable fuel cell-grade hydrogen byproduct available for sale.

Lagan's publication of the energy and efficiency gains at NIW's site has identified and quantified the benefits of oxygen-enriched aeration into secondary wastewater treatment processes using oxygen produced from green hydrogen electrolysis. The publication shows the potential benefits of using CPH2's technology at waste treatment plants, which can be replicated across multiple sites around the world.

The commercial benefits of CPH2's technology at NIW's site will be further enhanced by the commercialisation of the fuel cell grade green hydrogen being produced at site. Being the first and only production of pure hydrogen and oxygen generated reliably by an electrolyser at scale in Northern Ireland, there are a number of potential uses available which all have significant effects in reducing carbon emissions for industry and transport in the area.

Jon Duffy, CEO of Clean Power Hydrogen commented:

"It is extremely pleasing to read Lagan MEICA's report detailing the significant efficiencies brought about to Northern Ireland Water's treatment plant through the use of oxygen, such as that produced through our MFE technology. To have our technology in the field creating tangible efficiencies in a key target market for CPH2 is what we have been working tirelessly to achieve, and the results show the true potential in rolling out our technology in similar processes around the UK and beyond. We look forward to continuing to work together with our partners in harnessing the gains and efficiencies which our technology can create."

Commenting on the report Neil McKenzie, Director at Lagan MEICA JV, said:

"This cutting-edge scheme is investigating the benefits of supplying oxygen from an electrolyser to wastewater treatment sites. By harnessing green power from the grid during periods of wind curtailment, we aim to produce oxygen, reduce energy consumption, lower greenhouse gas emissions, and explore the potential of using hydrogen fuel cells to power the plant. Lagan MEICA is delighted to work in partnership with NI Water as part of its green hydrogen and oxygen journey towards a net zero utility environment."

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Overview of CPH2

CPH2 is the holding company of Clean Power Hydrogen Group Limited which has almost a decade of dedicated research and product development experience. This experience has resulted in the creation of simple, safe and sustainable technology which is designed to deliver a modular solution to the hydrogen production market in a cost-effective, scalable, reliable and long-lasting manner. The Group's strategic objective is to deliver the lowest LCOH in the market in relation to the production of green hydrogen. CPH2 is listed on the AIM market and trades under the ticker LON:CPH2.

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