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PRESS RELEASE

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European projects REVIVE and HECTOR pioneer the use of hydrogen refuse trucks in Groningen

The REVIVE (Refuse Vehicle Innovation and Validation in Europe) project, co-financed by the Clean Hydrogen Partnership, and the HECTOR project, co-financed by Interreg Northwest Europe, are pleased to announce the start of operation of two fuel cell refuse truck in Groningen, The Netherlands.

Supporting Groningen's ambitious strategy to develop hydrogen in the region, the first two trucks from the REVIVE project have started operation in real-world urban waste collection. This major milestone supports the development of heavy-duty fuel cell technology in Europe, demonstrating significant technical progress, and adding to the developing European fuel cell refuse truck fleet already deployed in cities such as Breda, The Netherlands, and Aberdeen, UK across the REVIVE and HECTOR projects. The fuel cell systems are provided by leading European supplier Proton Motor and act as range extenders for E-Trucks Europe's electric drivetrain technology.

The E-Trucks Europe hydrogen refuse trucks in Groningen are supported by two hydrogen refuelling stations. Production of hydrogen will take place via onsite electrolysis with electricity supplied by the nearby Woltjespoor solar park, ensuring the hydrogen is green.

The Groningen municipality has long been working on deploying a zero-emission fleet, with the aim of having a 100% carbon neutral fleet by 2035. The first hydrogen refuse truck was deployed in 2019 and further development was sought since then in cooperation with European subsidy programs. Together with the HyTrEc2 project (Interreg North Sea Region), the HEAVENN project (Horizon 2020) and the REVIVE and HECTOR projects the municipality is now deploying close to 20 hydrogen-driven electric vehicles.

In total, Groningen will deploy 3 hydrogen refuse trucks from the REVIVE project before the end of 2023, in addition to another truck that has been developed under the HECTOR project, to be deployed as part of the HEAVENN project from 2024. The truck developed in the HECTOR project will collect paper from underground waste disposal systems once deployed, while the REVIVE trucks will collect smaller containers and underground household waste. The REVIVE trucks will operate around the inner-city of Groningen, supporting the municipality's objective to have an emission-free inner-city by 2025.



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The REVIVE and HECTOR projects signed a letter of cooperation in December 2019, along with the LIFE 'N Grab HY! project (now concluded), as an intention to share knowledge, experiences and spread awareness of the technology. The work on developing and deploying these trucks in projects funded by two European funding agencies highlights the importance of collaborative activities in the development of fuel cell hydrogen technology as a clean, low-emission energy solution. These activities, along with the knowledge and expertise shared across the projects, leverages the impact of the project in Groningen. As the trucks operate in real-life waste collection, data will be collected with results and conclusions shared across the projects, enhancing the achievements of both projects and providing an important step towards the commercialisation of sustainable waste collection and the further scaling up of hydrogen technology for heavy trucks in Europe.

In total, 11 REVIVE trucks will be deployed across 6 sites in Europe, and 6 trucks have been deployed by HECTOR across 6 sites, compiling a robust evidence base for the continued roll-out of fuel cell technology as a viable option for zero-emission waste collection.

Mirela Atanasiu, Executive Director ad Interim Clean Hydrogen Partnership:

“The operation of these 3 new trucks in real life conditions, marks another important step toward the competitiveness of the FCH technology in an ever-growing list of transport applications.

We are proud to see how our funding supports the Groningen to seamlessly transition from diesel powered trucks towards refuse trucks, which can serve as an excellent example to improve the quality of air and reduce noise in other European cities.”

Rebecca Grossberg, Project Officer, Interreg North West Europe, said:

“Interreg North-West Europe is proud to be supporting cooperation projects that are working on innovative low carbon solutions. The development and deployment of greener garbage trucks across the North-West Europe area has a strong potential to reduce the GHG impact. We are also happy to see that new perspectives are now opening up for the HECTOR partnership through collaboration with the REVIVE project and cooperation with the Clean Hydrogen JU.”

Saskia Gerritsen, director business operations and public services at the Municipality of Groningen, said: *“Groningen municipality is looking forward to deploying our new hydrogen refuse trucks from the REVIVE and HECTOR projects. Hydrogen is playing an important role in our municipal fleet and is a possible solution for an emission-free fleet in Groningen. We are curious to further explore our work in the hydrogen mobility-field and to contribute to the optimization of this new technique.”*

Dimitri Van Den Borre, Project Manager at Tractebel, coordinator of REVIVE, said:

“Groningen has been a frontrunner in terms of zero-emission mobility and implementing hydrogen solutions and we are very happy to have them on board in the REVIVE project. Within the REVIVE project these trucks will provide valuable data with regards to their operations



which will be used for recurring assessments of the technology's performance throughout the project."

Aberdeen City Council Co-leader, Councillor Ian Yuill said

"Aberdeen has been working for more than ten years to position itself as a leading city in bringing hydrogen technology to market, and schemes like the HECTOR project have an important role to play. To meet our target of becoming a net zero city, it's vital that we move towards using cleaner and greener energy, so we are pleased to have the HECTOR truck as part of our fleet, complimenting the hydrogen and clean energy projects happening in our city.

Aberdeen and Groningen share a common bond in their efforts to pioneer low emission vehicles. We are pleased to work together to play our part in the HECTOR project, knowing that we will both benefit from it and that we will feed into the progress that others are making with this technology."

Background Information:

The REVIVE project is an EU-funded project that aims to be the largest demonstration of hydrogen fuel cell refuse trucks to date, integrating fuel cell powertrains into 11 vehicles and deploying them across 7 sites across Europe. The project will highlight the potential for the decarbonisation of heavy-duty vehicles and providing the operational flexibility required for urban waste collection.

The HECTOR project is a part EU-funded project that deployed and tested 6 fuel cell garbage trucks in 6 pilot sites across the north-west Europe area. The aim of the HECTOR Project is to demonstrate that fuel cell garbage trucks provide an effective solution to reduce emissions from road transport.

The Clean Hydrogen Partnership is supporting research and innovation (R&I) activities in hydrogen technologies in Europe. It aims to accelerate the development of advanced clean hydrogen applications ready for market, across end-use sectors such as energy, transport, building and industry, while strengthening the competitiveness of the clean hydrogen value chain. The members of the partnership are the European Commission, fuel cell and hydrogen industries represented by Hydrogen Europe and the research community represented by Hydrogen Europe Research.

Interreg North West Europe is a series of programmes to stimulate cooperation between regions in and out of the European Union, funded by the European Regional Development Fund. Interreg North West Europe offers opportunities for regional and local public authorities across Europe to share ideas and experience on public policy in practice, therefore improving strategies for their citizens and communities.



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