



 Gemeente Breda



FUEL CELLS AND HYDROGEN
JOINT UNDERTAKING

 
Vlaanderen-Nederland
Europees Fonds voor Regionale Ontwikkeling

PRESS RELEASE

Breda, 30th of October 2020

Hydrogen refuse truck from European REVIVE project starts operation in Breda using a Hydrogen Region 2.0 refuelling station

The REVIVE (Refuse Vehicle Innovation and Validation in Europe) project, co-financed by the Fuel Cells and Hydrogen Joint Undertaking (FCH JU), is pleased to announce the start of operation of a fuel cell refuse truck in Breda, The Netherlands, supported by an Interreg-funded refuelling station as part of Hydrogen Region 2.0.

In a key milestone for the development of heavy-duty fuel cell technology in Europe, the first REVIVE truck today starts operation in real-world urban waste collection. The truck demonstrates significant technical progress, as the first fuel refuse truck developed and produced for the City of Breda by E-Trucks Europe. The fuel cell system is provided by a leading European supplier Proton Motor and acts as a range extender for E-Trucks Europe's electric drivetrain technology.

The E-Trucks Europe hydrogen refuse truck in Breda is supported by a mobile hydrogen refuelling station, deployed as part of the Interreg-funded Hydrogen Region 2.0 project to demonstrate various hydrogen applications by different end-users. In time, the truck will refuel at a new permanent hydrogen refuelling station, which will be integrated into a multi-fuel station currently under development by Total Nederland. This new refuelling station will also be implemented in the scope of Hydrogen Region 2.0, funded by Interreg Vlaanderen-Nederland.

This link between two European funding agencies highlights the importance of coordinated and collaborative activities in the development of fuel cell hydrogen technology as a clean, low-emission energy solution. The complementarity between the two funding structures leverages the impact of the project in Breda, enhancing the achievements of the REVIVE project whilst enabling the sharing of knowledge and expertise.

The fuel cell technology doubles the operational range compared to a standard electric truck and allows it to operate along equivalent duty cycles to conventional diesel trucks, performing back-to-base missions every day. In total, 15 REVIVE trucks will be deployed across 8 sites in Europe, compiling a robust evidence base for the continued roll-out of fuel cell technology as a viable option for zero-emission waste collection.





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Refuse trucks are a particularly attractive application for early heavy-duty hydrogen fuel cell platforms, offering the ability to decarbonise a captive fleet with large and steady hydrogen demand. A key advantage of fuel cell refuse vehicles over diesel equivalents is that fuel cell options result in zero tailpipe emissions. Air quality is currently an issue of key political, and public health importance in Europe, and so the necessity for zero-emission options for urban vehicles is expected to increase significantly over the coming years.

The Netherlands is committed to significantly decarbonising transport by 2030, by which time only zero-emission passenger vehicles will be sold. The [Dutch government](#) has confirmed its support to decarbonise urban cleaning and waste-collection vehicles, and several municipalities have signed a [letter of intent](#) to ensure that these vehicles will be zero-emission and run on renewable energy by 2030. The first REVIVE truck in Breda acts as a blueprint for the development of zero-emission waste collection in The Netherlands and across Europe.

Bart Biebuyck, Executive Director, Fuel Cells and Hydrogen Joint Undertaking, said: “With its zero-emission transport solution, the REVIVE project demonstrates the readiness of fuel cells and hydrogen applications as a promising technology in the heavy-duty sector. We are particularly proud to see that by joining forces with our partners in Interreg and the City of Breda, our project contributes to the reduction of carbon emissions while enhancing industrial competitiveness in Europe.”

André Beukers, Director of E-Trucks Europe, Driven by Hydrogen said: “The Municipality of Breda was one of Europe’s first early adopters with serious interest in a hydrogen refuse truck. They ordered two refuse trucks with a hydrogen-electric driveline. Refuelling 15 kilograms of hydrogen will take only 8 to 10 minutes, and then the truck is able to do its work for two days again.”

Daan Quaars, Alderman for the Waste Service of the Municipality of Breda, said: “We are proud to be the first in Europe to drive a hydrogen-powered refuse truck from the European REVIVE project. Hydrogen is cheaper to use and better for the environment and our drivers. This vehicle is a nice innovation and therefore ties in well with our goal for the waste policy in Breda: a smart use of our raw materials to ensure a good life on a healthy planet in the future.”

Adwin Martens, Director, WaterstofNet, said: “This is a strong case of the complementarity of European programmes, a nice example of ‘1 + 1 = 3’. The combination of Interreg and FCH JU projects allows unique demonstrations at specific locations for dedicated end-users. Our experiences at WaterstofNet have shown that short-term on-site demonstration is a prerequisite for upscaling hydrogen technology.”

Marja Versleijen, Director Mobility and New Energies, Total Nederland: “This step towards hydrogen mobility is a great example of taking responsibility in the energy transition. At Total



Nederland we are very happy to contribute and facilitate the operations of the refuse trucks in this project. It is Total's ambition to get to net-zero emissions by 2050 together with society, a goal aligned with the purpose to provide energy that is more reliable, affordable and clean to as many people as possible."

This project has received funding from the Fuel Cells and Hydrogen 2 Joint Undertaking under grant agreement No.779589. This Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme, Hydrogen Europe and Hydrogen Europe Research.





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Background Information:

The REVIVE project is an EU-funded project that aims to be largest demonstration of hydrogen fuel cell refuse trucks to date, integrating fuel cell powertrains into 15 vehicles and deploying them across 8 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 Fuel Cells and Hydrogen Joint Undertaking (FCH JU) is a Public Private Partnership in which the European industry, research, academia (represented by Hydrogen Europe and Hydrogen Europe Research) and the EU (represented by the European Commission) work together to accelerate the deployment of fuel cell and hydrogen technologies. The FCH JU supports a wide range of projects, which help to put the EU at the forefront of research and innovation, bring the benefits of the technology to the citizens and enhance industry competitiveness.

Hydrogen Region 2.0, funded by Interreg Vlaanderen-Nederland, is a regional hydrogen project that strengthens the structural collaboration between Flemish and Dutch industrial players by developing unique demonstration projects in the field of hydrogen infrastructure and zero-emission applications.

ENDS

Contact:

Municipality of Breda

+31 (0)76-5293015

persvoorlichting@breda.nl

REVIVE

+32 (0)2 773 78 27 or +32 (0)479 35 87 12

revive_coordination@tractebel.engie.com

WaterstofNet

+32 (0)499 73 83 60

Stefan.neis@waterstofnet.eu

