

Press release

23 December 2021

Barcelona takes delivery of the first Caetano hydrogen bus, soon to be refuelled at Iberdrola's green H2 plant

The innovative vehicle arrived at the TMB depot this week, while the fuel supply station began Spain's first commercial production of green H2

This week saw the first of **eight state-of-the-art hydrogen fuel cell buses**, built by CaetanoBus, arrive at a Transports Metropolitans de Barcelona (TMB) depot. At the same time, Iberdrola has now started producing green hydrogen at its **Zona Franca** facility, where these city buses will soon be refuelled, thus setting under way the project to apply this innovative technology to **decarbonise public transport** and move towards a new mobility with zero polluting emissions.

This is the first time that this type of renewable energy vector has been generated in Spain for commercial use, making both companies **pioneers in the decarbonisation of heavy urban mobility**.

The vehicle recently delivered by Caetano – the **H2 City Gold LHD** model – will follow the usual process for TMB fleet additions before beginning a period of testing without passengers. It will then enter commercial service on a regular line in 2022.



CaetanoBus H2 City Gold LHD at Iberdrola's refuelling plant in Zona Franca, Barcelona

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As planned, this innovative bus, which emits only water vapour, will be fuelled with green hydrogen (around 20 kilos per day) at the **refuelling plant** located in the **Zona Franca** industrial estate, near the depot where it will be based. Promoted by TMB and owned by Iberdrola, the initiative has received a subsidy from the Connecting Europe Facility for Transport programme run by the European Climate, Infrastructure and Environment Executive Agency (CINEA).

The opening of the Zona Franca hydrogen plant, which was completed in less than a year, will enable the creation of a **green hydrogen hub** in one of the country's most important industrial areas. The facility will also supply any additional fleets and industries on the industrial estate that adopt this vector as an energy solution. The idea is to drive everything related to this technology, in line with the principles of the European Hydrogen Strategy and the Hydrogen Roadmap produced by Spain's Ministry for the Ecological Transition and the Demographic Challenge.

The new zero-emission hydrogen bus manufactured by CaetanoBus for TMB is a standard bus measuring 12 metres in length and featuring a lightweight aluminium body and three doors. The hydrogen system incorporates Toyota's fuel cell, with 60 kW rated power and five Type 4 hydrogen tanks with a total H2 storage capacity of 37.5 kg. The Siemens traction motor delivers a maximum power output of 180 kW peak power, and the ELFA 2 voltage inverter, also from Siemens, manages the full power of the motor. The hydrogen system is complemented by LTO lithium-ion technology traction batteries with a total capacity of 44 kWh, which store the energy generated by the fuel cell and the energy generated by the regenerative braking system.

TMB Chair **Laia Bonet** referred to the forthcoming start of the hydrogen bus project as a "milestone for our company, for Barcelona and for the metropolitan area, which are now positioned as leaders in innovative solutions for sustainable mobility. This is precisely what we are seeking with our TMB 2025 Strategic Plan, and that is why we are going to increase the number of hydrogen buses and in general our commitment to green energies in the years to come".

For **Millán García-Tola**, Iberdrola's Global Hydrogen Director, the opening of this facility means that the commercialisation of green hydrogen in Spain is now a reality, thanks to the first production of this energy vector in an Iberdrola project: "Thanks to the collaboration of pioneering and forward-looking companies, we have a tangible and scalable example of a clean solution for heavy mobility in front of us today. Green hydrogen is the perfect complement to electrification for the global decarbonisation of the economy".

CaetanoBus CEO **Patrícia Vasconcelos** said that being part of this project was an honour for the company: "To have a Caetano bus included in TMB's Strategic Plan is a source of

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pride for us as we can, in this way, be present in a city like Barcelona and support the objectives of decarbonisation by investing in zero-emission buses".

The adoption of green hydrogen by the TMB fleet is supported by the European JIVE 2 programme for the promotion of fuel cell and zero-emission vehicles, co-financed by the European Union. The project is being promoted in collaboration with the Barcelona Metropolitan Transport Authority (ATM).