

Information note

23 December 2021

Barcelona receives the first Caetano hydrogen bus that will soon be refuelled at Iberdrola's green H2 plant

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

This week the first of **eight** state-of-the-art **hydrogen fuel cell buses** built by CaetanoBus arrived at a Transports Metropolitans de Barcelona (TMB) depot. At the same time, Iberdrola has already begun to produce **green hydrogen** at its **Zona Franca** facility, where these city buses will soon be supplied, thus kicking off 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 the Iberdrola refuelling plant in Barcelona's Zona Franca.

Information note

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, which has a grant from the Connecting Europe Facilities for Transport programme of the European Executive Agency for Climate, Infrastructure and Environment (CINEA).

The start-up of the Zona Franca hydrogen plant, which has been 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. In addition, the installation will allow supplying the rest of the fleets and industries in the industrial estate that adopt this vector as an energy solution and the aim is to generate a tractor effect on everything related to this technology, in line with the principles of the European Hydrogen Strategy and the Hydrogen Roadmap of the Ministry for Ecological Transition and the Demographic Challenge.

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

Laia Bonet, President of TMB, referred to the forthcoming start of the hydrogen bus project as "a milestone for our company, for Barcelona and for the metropolitan area, becoming a benchmark in terms of 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 our commitment to green energies in general in successive years".

For **Millán García-Tola**, Iberdrola's Global Hydrogen Director, the start-up 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 before us today a tangible and scalable example of a clean solution for heavy mobility. Green hydrogen is the perfect complement to electrification for the global decarbonisation of the economy".

Patrícia Vasconcelos, CEO of CaetanoBus, says that being part of this project is an honour for the company: "To have a Caetano bus included in TMB's Strategic Plan is a source of pride for us as we can, in this way, be present in a city like Barcelona and support the objectives of decarbonisation, investing in zero-emission buses".



Information note

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).