ENDESA AND TMB INSTALL 2 NEW PANTOGRAPHS TO CHARGE ELECTRIC BUSES IN BARCELONA

- *These will be used on the H16 line, linking the Barcelona Forum with Zona Franca. This line already boasts two of the same current collectors that were installed three years ago, the first of their kind in Spain.*
- *Pantographs are ultra-fast systems that can charge a battery to 80% in an estimated five to eight minutes.*

Madrid, 21 November 2019 - Endesa X will install two new ultra-fast pantograph charging devices for electric buses on the H16 line in Barcelona, linking the Forum with Zona Franca. The objective is to guarantee that the 22 TMB buses currently circulating on this metropolitan line are kept charged up to deliver excellent service to the bus users.

Today, the H16 line is already equipped with an electric charging station at both ends of the line (Zona Franca-Cisell and UPC-Campus Diagonal Besòs). These were also installed by Endesa three years ago and were pioneers not only in Spain but in the whole of Europe. With the two new pantographs - also installed at the beginning and end of the 12-kilometre route - the charging infrastructure is set to increase at the same pace as the line's expansion, which has evolved from 20 standard units back in 2014 when the current bus route was launched to the 22 articulated vehicles now.

The ultra-fast pantograph charging system has two parts: the charger, a pillar approximately five metres high, like a lamppost, which is installed at the beginning and end of the line to take advantage of the times when buses are stopped to not interfere with the route's timetables; and

the pantograph, a kind of retractable mechanical arm on the roof of the bus, which lifts and attaches to the charger to begin charging.

Pantographs are ultra-fast systems (500 kW of power) that charge 80% of battery capacity in an estimated five to eight minutes. That is enough charge to undertake the journey again. A complete route normally requires between 40% and 80% of the battery, depending on the conditions.

At night, as the buses have been parked in the garage, the vehicles recover 100% of their battery power in three or four hours, and they begin the next day with their batteries fully charged. Endesa has installed seven fast-charging points (50kW) in TMB's garages to complement the bus charging, taking advantage of the night time pause in their timetables.

The H16 metropolitan bus line links the Barcelona Forum with Zona Franca, drawing a line parallel to the sea passing through Poblenou, the Olympic Village, Plaça de Catalunya, and Plaça d'Espanya, a total length of about 12 kilometres.

In this video you can see how it works...

Committing to electric mobility

Endesa maintains a firm commitment to sustainable development, aware of the energy challenges facing society. It promotes electricity as the power source that can reconcile ever greater environmental and efficiency demands to the population's energy requirements. Electric mobility is, therefore, fundamental to the energy transition we are experiencing. Endesa's response to this paradigm shift in the energy sector is 'Endesa X', a new business line in which the company seeks to lead the transition to electrification of Spain's vehicle fleet, democratising electric mobility. Its first major commitment is the Recharge Infrastructure Plan, which will involve the deployment of more than 8,500 public charging points between 2019 and 2023, with an investment of 65 million euros.

The plan will have two phases:

1. During the first two years (2019-2020), a network of 2,000 charging points will be set up connecting major towns and cities (with more than 35,000 inhabitants) and highways, covering 15,000 kilometres of main roads and urban areas, ensuring that 75% of the population has access to public transport charging infrastructure in their municipality. This means there will always be a charging point in less than 100 kilometres.

2. In the second phase (2021-2023), more than 6,500 new public access charging points will be installed (in shopping centres, car parks, hotel chains, service stations, public roads, etc.) to accompany the growth in the electric vehicle market, providing greater infrastructure coverage in urban areas and the main strategic transport nodes. This includes the islands.

Barcelona supports electromobility

This ultra-fast charging system is a key part of Barcelona's commitment to electrifying its city transport network, as TMB expects to transition to zero emissions on other heavily-used bus lines, such as the V13 and H12, in the medium term.

TMB will continue to prioritise acquisition of the cleanest buses that the industry has to offer to build a fleet composed entirely of electric, hybrid or compressed natural gas vehicles by 2030.