



With eight of Fuso's 7.5-tonne Canter E-Cell now being trialled in Portugal, is the writing on the wall for electric trucks? Oliver Dixon reports

Electric motor

Several Portuguese organisations have commenced a one-year trial of Fuso's electrically-powered Canter light truck, launched in prototype guise back at IAA 2010. Eight of the Canter E-Cell trucks are being put through their paces by municipal authorities in Lisbon Porto and Abrantes, as well as the Portuguese postal service, logistics firm Transporta and energy supplier REN.

Based on the 3.4m-wheelbase standard Canter, each of the vehicles has been bodied with a 4.3m platform or 4.4m box body, and has the wide 'comfort' Canter single cab. Power is derived from a 110kW (150bhp) electric motor unit delivering 650 Nm maximum torque (available immediately) via a single speed transmission. Rear axle and drive shaft are carryovers from the conventional Canter.

Four lithium-ion battery packs (two either side of the frame), with an impressive nominal capacity of 48.4kWh, provide a vehicle range of 100km. Fuso says charging time at 230V is seven hours, while rapid charging replenishes power in just one hour. Thus equipped, Fuso claims a payload of 3,000kg.

Do the maths

Jorges Rosa, plant director at Fuso's Tramagal, Portugal, assembly operation, agrees that E-Cell represents a significant technological and financial investment for the company. "It's a big investment for us, supported by the Portuguese government," he says, adding that the electric truck is "still at the experimental stage" under joint development between Tramagal and Daimler Trucks' light duty competence centre in Japan.

What do the trial operators think? "Electric mobility is not a new thing for us," comments Luis Paulo, of Portuguese postal service operator CTT. "We were the first to use an electric vehicle operationally and that was 15 years ago."

But for him, the future for electric trucks is not just about green credentials, but getting the maths right. "We are conducting this experiment for two reasons: environment and cost," he explains. "The

fact that Daimler is underwriting this project is a significant enabler for us. It's very important that manufacturers are [finally] investing in this technology and providing commercially and economically viable solutions."

And he continues: "We are still at the test phase with this electric truck so the commercial and economic parameters are not the same as they are for the rest of our electric fleet. [Nevertheless], we are very focused on the economic case: if the cost benefit analysis doesn't offer the right return on investment, we do not make that investment."

Paulo's comments are interesting, particularly given the recent deal between Volvo Buses and ABB. This could provide additional impetus for electric commercial vehicles in the future.

The agreement – which sees Volvo supplying hybrid-electric and full electric buses while ABB delivers charging stations – seeks to develop a standardised fast-charging system (including communications between charging points and vehicles), the electrical interface itself and an automatic connection system. The Volvo ABB deal will first be seen in a joint project involving 12 hybrid electric buses in Luxembourg.

While a traditional view of commercial vehicles has tended to differentiate between those designed for freight and those for people, the implications of the Volvo-ABB deal are clear for projects such as Fuso's E-Cell. At their simplest, buses and trucks use the same fuelling infrastructure. So if there is – as the

Luxembourg exercise suggests – the political will to develop electric vehicles for urban mass transit, then there's no reason why freight vehicles designed for urban operations shouldn't take advantage.

Perhaps it is now more appropriate to differentiate not between passenger and freight vehicles, but urban and extra-urban. That there is much work to be done before a truly sustainable electric commercial truck becomes available remains beyond question. But that much of the enabling work has now been completed now seems apparent. **TE**

