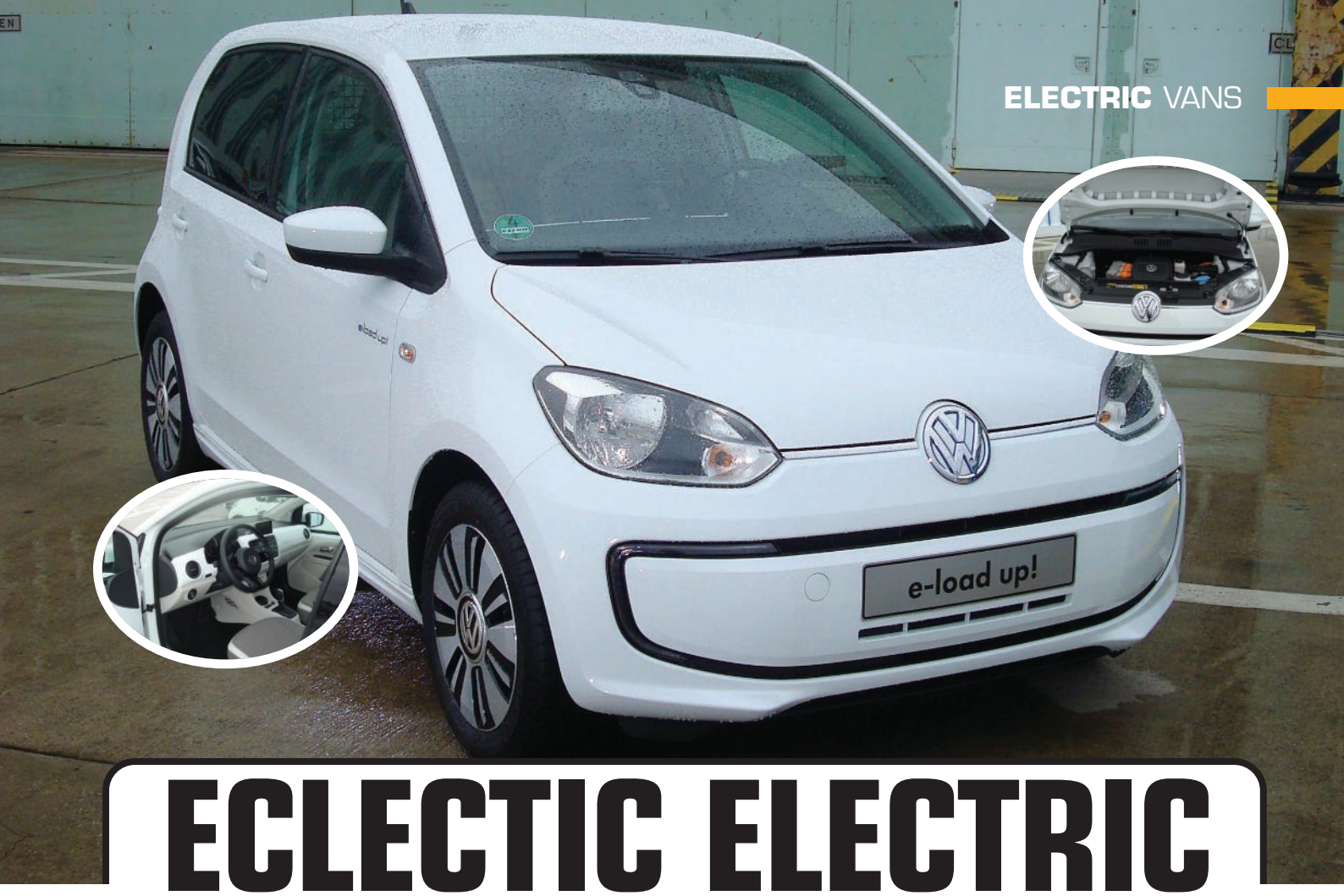


# ECLECTIC ELECTRIC

**Electric vans remain a hard sell, but VW has invested in concept vehicles that are ready to roll when the economics finally work out, as Steve Banner discovers**

Zero-emissions electric vans offer obvious benefits, but fleet managers remain overwhelmingly sceptical. While they cost as little as 2.7p per mile in 'fuel' and are exempt from the London congestion charge and VED (Vehicle Excise Duty), operators fret about their limited range between recharges, a shortage of public charging points, long-term battery life, residual values and the price tag.

Yes, these issues are being addressed: charging points are coming on; at least one manufacturer is offering the battery pack under a separate lease; and the government's Plug-in Van Grant knocks 20% off list prices up to £8,000. But prospective purchasers remain cautious. So Volkswagen's answer is a range of concept electric that won't go into production until there is a major market. The German group has developed three, ranging from the e-Load Up (based on the five-door e-Up car) to the e-Co-Motion delivery vehicle, launched at last year's Geneva show.

## Smallest electric

The e-Load Up is just 3.54m long, and comes with a modest 1.4m$^3$ cargo area and 306kg payload capacity. It is fitted with a timber floor, and the load bay is divided from the cab by a full-height mesh grille. This vehicle's 40kW (60kW maximum) electric motor is almost silent and delivers 210Nm of instantly available torque. Its 18.7kWh lithium-ion battery pack, mounted under the floor, gives the van a range of 100 miles (on the NEDC – New European Driving Cycle), while acceleration is 0–62 mph in 12.4 seconds and top speed 81 mph.

Time taken to recharge the battery depends on where you plug the charger in. Use a standard wall socket and you're looking at 10–12 hours. Plug it into a CHAdeMO fast-charging station and you're up to 80% of capacity in 30 minutes. Regenerative braking helps to limit battery discharge rate.

VW makes the electric motor and puts the entire electric drivetrain together in-house, while sourcing the battery cells from Panasonic. The firm believes e-Load Up could transform some logistics operations, not least parcel deliveries. "Conventional delivery vehicles are not dispatched from the logistics centre until they are full," explains a spokesman. "This means that the first 10 parcels have to wait for the next 100." Deploy an e-Load Up fleet, he says, and those packages could be delivered to metropolitan customers almost as they are ordered. VW concedes that bigger vehicles would still be needed. And there's the small matter of more drivers and lots of electric vans impacting congestion.

Operators dubious about such an approach may find VW's e-Caddy prototype – designed to handle a 550kg payload – more to their taste. The van, which has been on trial with Deutsche Post DHL, harnesses an 85kW electric motor, which delivers a limiter-regulated top speed of 75mph, while the Li-ion batteries provide for a range of 68 miles. The muted growl e-Caddy utters when in motion is generated to alert pedestrians and cyclists.

Both e-Load Up and e-Caddy look as though they could be put into production fairly rapidly, although the larger 800kg-payload e-Co-Motion prototype would take rather longer. However, VW executives say there are no immediate plans to bring any of them to market. The designs are ready should the need arise.