

# Current

The first Renault electric vehicle to go on sale in the UK happens to be a van. Steve Banner gets behind the wheel (and under the skin) of the Kangoo ZE

**S**pearheading Renault's campaign to make light commercial vehicle fleets cleaner and greener is the electric Kangoo Van ZE (Zero Emission) that went on sale in the UK in mid November. Unveiled at the Hannover Commercial Vehicle Show in 2010, and introduced in long-wheelbase Maxi guise at the Geneva Motor Show earlier this year, it is powered by a 44kW electric motor, generating 226Nm of torque and relying on a 400V lithium-ion battery.

Mounted beneath the floor, the battery offers a range of up to 100 miles between recharges and can be replenished fully in six to eight hours. The unit itself is sourced from Automotive Electric Supply Corporation, a joint venture set up by Nissan and NEC, and consists of 48 four-cell 8.3V modules, weighing in at a total of 250kg. As a result, Kangoo Van ZE's maximum payload is 650kg, while cargo capacity ranges from 2.4m<sup>3</sup> to 4.6m<sup>3</sup>, depending on the model chosen.

The Maxi can also be ordered as a five-seater, as well as a van, and Renault has been cute about packaging. Front-end prices start at a surprisingly modest £16,990 (ex VAT), with the battery leased separately through Renault subsidiary RCI Financial Services. Monthly leasing charges start at £60

**Renault's electric Kangoo offers a range of 100 miles from a six-to-eight hour charge**



(assuming 36 months and 6,000 miles per annum), accompanied by a guarantee that battery charging capacity will always be at least 75% of the as-new value and in good operating condition. If these conditions are not fulfilled, then the battery, which should last for eight years, is simply replaced.

Built on the same French production line as its petrol- and diesel-powered stable mates, Kangoo Van ZE is one of the fruits of an approaching £4bn investment in the development of electric cars and vans being made by the Renault-Nissan Alliance. It aims to have 1.5m of them on the highway by 2016, including Renault's Twizy, ZOE and Fluence ZE cars – all of which are due to go on sale in the UK in 2012 – as well as the Kangoo.

Incidentally, a roadside rescue and recovery package is provided, too, which triggers, if the battery runs out of juice, leaving the driver stranded. Further, Renault is setting up arrangements to collect damaged and end-of-life batteries, so that they can be recycled by lithium-ion battery recycling specialist Umicore.

## Driving experience

Almost eerily quiet – aside from the occasional muted whine from the electric motor – maximum torque is on tap immediately, allowing the electric van to accelerate rapidly from rest. Progress is also seamless, thanks to the absence of gear changes.



# affairs

Unlike the Fluence ZE electric car, however, it does not creep forwards when stationary on an incline. Instead, it rolls gently backwards, necessitating a hill start.

Not surprisingly, it pays to keep a close eye on the big gauge in the dashboard, which shows how much charge is left in the battery. An onboard computer translates that to remaining range. A

separate display also lets you know how efficiently the available energy is being used, showing dark blue, if the vehicle is being driven optimally, light blue when running normally and red, if the rate of energy consumption will cut range.

Hit the Eco Mode button and you extend your range by up to 10%, but the vehicle's performance is then restricted. Kangoo Van ZE can then be recharged from an ordinary domestic supply. In fact, British Gas can already supply a Chargemaster wall-mounted charging point for £799.

One handy feature is the availability of a programmed

pre-start system while the van is plugged in, which either heats or cools the cab prior to the driver climbing aboard. A diesel-powered 5kW onboard heater can also be fitted to keep the cab warm when really cold weather strikes without impacting battery life – although this rather dents Kangoo Van ZE's zero-emission credentials.

## A helping hand

Renault UK has appointed 20 of its dealers as ZE specialists, virtually all of which have also been designated Pro + centres, set up to meet the needs of light commercial customers.

Is Kangoo Van ZE for you? If you can live with the range restrictions, then very likely. Fleets eager to acquire electric vehicles, but worried about their range limitations between recharges, will have to wait some time. "It will be five to 10 years before we see an electric vehicle with a 200 mile range," states Nicolas Remise, Fluence ZE project director.

In the meantime, Kangoo ZE is a convincing and affordable package, ideally suited to local short-haul delivery work. Carriers dropping off packages around the City of London; urban councils looking for a van to provide an internal courier service between offices; and contractors needing something to transport cleaners and their mops and buckets from one city centre location to the next: all of these need look no further. **TE**

Anybody who has ever driven an electric vehicle will be aware that pedestrians and cyclists use their ears as much as their eyes – assuming, of course, that they are not wearing headphones – and may not hear you coming. As a consequence, Renault is making an audible warning system optionally available, but it only functions at low speeds.

That said, with many battery-powered light commercials, the absence of engine noise usually means that all the other decibel sources – squeaking and creaking from the cargo body, for example – are immediately highlighted. Not in this case, however: all there is to hear is the rhythmic slapping of the tyres, accompanied by a modest amount of wind noise.

When the vehicle decelerates, energy is recovered and used to top up the battery. On early Kangoo Van ZEs, this meant that lifting your foot off the accelerator pedal almost stopped them dead in their tracks, such was the degree of retardation. Happily, that is no longer the case. Retardation could certainly be felt, but not to the degree experienced previously. Also, it is only necessary to use the service brakes sparingly: good news for brake lining life.

Meanwhile, with all the torque available, the electric Kangoo surges effortlessly up hills, easily shrugging off the weight of a 200kg test load.

