

As the move toward electrification is most pronounced in passenger cars and light goods vehicles, operators of heavier fleets might learn what to expect in future by studying how those markets are adapting now, reports Dan Gilkes



LEARNING FROM LCVS

The electric revolution is well and truly underway. Having bumped along on minimal early adopter sales for more than a decade, the EV market has taken off, with more than 245,000 battery electric vehicles (BEV) on UK roads at the end of April 2021, along with 270,000 plug-in hybrids (PHEV).

It's been less rapid in the light commercial vehicle market, with BEV sales accounting for under 1% of overall registrations, but that is changing too, as new models are launched. Plenty of companies are keen to trial a BEV on their fleets, with several larger deals in recent months. Facilities management firm Mitie ordered 655 Vauxhall Vivaro-e vans this year (pictured, p34), while British Gas is set to run 1,000 Vivaro-e models.

Last-mile delivery companies have also been among the first adopters, with the likes of DPD now operating EV-only micro-depots in London. Indeed, DPD, which currently operates more than 700 BEVs in the UK, has announced plans to deliver to 25 of the UK's largest towns and cities using zero and low-emission vehicles by 2025.

As the number of electric vans increases, thanks in part to the availability of a wider range of body types and chassis cabs, so the level of interest is ramping up. The government's

decision to ban the sale of new petrol and diesel cars and vans in the UK by 2030, and similarly PHEVs by 2035, will also have concentrated the minds of fleet managers and company directors.

The growing number of Clean Air Zones and low emission areas within UK cities is also tipping the financial scales in favour of BEVs, as electric vans can avoid the likes of London's Congestion Charge and the ULEZ low-emission zone tariff.

With LCV demand expanding, the government will soon be turning its attention to the truck market. In its 10-point Plan for a Green Revolution, the government has already said that it will consult on a date for phasing out the sale of new diesel heavy goods vehicles. It has also promised to invest £20m in freight trials this year, to pioneer hydrogen and other zero emission trucks.

LCV LESSONS

So, what can truck fleet managers learn from their counterparts in the van



market? Can fleet management, routing and telematics systems provide BEV solutions, as electrification moves up to the heavy truck sector?

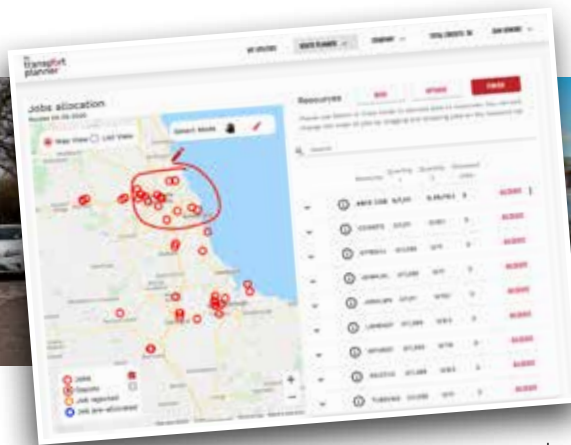
Before considering actual fleet change, it is perhaps worth taking a step backwards. Natalie Hughes, director of partners and corporate accounts at The Algorithm People has plenty of experience of transitioning companies to BEVs, having worked for electricity supplier EDF as a specialist in decarbonising assets. She says: "A common approach is that fleet managers look at their existing telematics data and say, 'I can do that, let's move to electric.' But we say, 'stop, let's optimise your existing fleet first. Can you do less miles, or work with less vehicles?'"

"Yorkshire Water is committed to achieving net zero carbon by 2030, which includes electrifying 1,400 vans [pictured, left]. Initially it thought it could possibly move 40% of the fleet to BEV. We analysed journey data from a sample of 100 vans in the fleet, where the drivers take their vehicles home, so the analysis was based on recharging overnight. Based on real-world range, 88% of the vehicles in the sample were suitable for electrification. Analysis is really the key to evidence-based methodology."

Once the decision has been made to move to BEVs, companies also need to take a holistic approach to adoption,

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Barney Goffer



looking at the depot infrastructure as well as the vehicles. Just because you are investing in 10 or 20 electric vehicles doesn't necessarily mean that you need 10-20 charging points. Depots and business premises may also require an upgrade to electricity supplies to cope with the demands of charging, which can be an extremely expensive option.

Even if you have the power supply and you know how many chargers to install, you will need to look at where the charging point is on each vehicle. If you want to be able to load and unload vans and trucks while they are charging, you will need to position the charging points to allow access to rear or side doors.

“For most commercial operators, entering the EV space is still largely uncharted territory,” said Barney Goffer, UK product manager at Teletrac Navman.

“There are a number of considerations at play, from knowing which vehicles to switch and when, to which chargers to install and where to install them. Some businesses in the UK have made the leap and started to introduce electric trucks into their fleets. It's these front-runners who will be looking at the next stage of their journey and wanting to use telematics to monitor the performance of their electric fleet.

“Data will be paramount in supporting operators to optimise their EV operations. Beyond the traditional data collection points like location, speed and idling time, operators will need to consider setting new variables, such as

energy usage, state of charge, battery health and mileage performance.” (An example of fleet planning from My Transport Planner is pictured above; see also www.is.gd/henode).

The majority of telematics and fleet management systems have already started to offer BEV-specific data streams. Companies such as Geotab offer a range of electric fleet tools, recognising the differences between BEV and ICE vans and trucks. But it is not just about when the vehicle is on the road.

Adds Goffer: “The industry will need to learn how to prepare an EV before travel. Drivers will be encouraged to boost their vehicle range by turning on a few minutes before departing, via mobile apps, warming or cooling the cab while using energy from the grid, instead of the vehicle battery.”

“Also, EVs can lose about 12% of their energy in cold weather, significantly impacting driving range, so planning charging times and journeys in winter will be vital to maximising range.”

As with a diesel-powered vehicle, the biggest variable in the equation remains the driver. Educating drivers and getting them on-board with the change, will be essential for a smooth transition to electric. “Driver engagement is really important,” said Hughes.

EXTRA ASPECTS

But this isn't just about driving range and energy use. “Electric vehicles demand a significant change in driving

behaviour,” agreed Goffer. “One key feature that will require a shift in style is regenerative braking. Likewise, EVs are renowned for achieving peak torque from standstill, which means there is no need for excessive acceleration.”

But the systems can help with this aspect. “There are important safety reports given by the software,” added SmartWitness managing director Fearghal MacGowan. “In many cases we have seen a sharp rise in harsh acceleration incidents when drivers move across to EVs, as there is no lag between putting your foot on the accelerator and the motor engaging with an EV. With our systems, fleet managers can see which drivers are having problems adapting to EVs and provide them with extra training to prevent incidents.”

Adds Goffer: “This all points towards a change in the way training and education is delivered through telematics and, going forwards, providers like Teletrac Navman will play an essential role in evaluating, establishing and applying a different set of measures for an EV to that of an ICE.”

Nobody said that moving from a diesel-powered structure to BEV, or indeed hydrogen, would be easy. However, technology is there to help. Fleet management and telematics software is available, both to help in the transition and to maximise productivity once the move has been made.

One final bit of advice from Natalie Hughes: “Do the planning up front, before investing in the assets.” 