

# THE BUSINESS OF... **ELECTRIC VANS**

The switch to electric vans is no longer a case of if, but when – on deadline or before 2030?  
Here we examine the business case for flicking the switch sooner rather than later



STOCK.COM/SIMONSKAFAR

Sponsored by



Published by

**FleetNews**



The shift to electrified van fleets is now a certainty rather than a possibility after the Government announced a ban of the sale of new, conventionally-powered petrol and diesel models from 2030.

However, the sector is still in its relative infancy and an electric van cannot currently always be considered a straight replacement. Here we look at:

3

FACTORS IN DECIDING  
THE RIGHT TIME TO  
SWITCH TO...

**ELECTRIC  
VANS**

## 1 Financial

New research from the Department for Transport has shown that the price of electric vans is the biggest barrier to their adoption.

More than one-third (38%) of van operators identified it as the number one roadblock, ahead of 30% saying the size, range and capacity of electric vans was not suitable for their needs.

There is no getting away from the fact that the sticker price on electric vans is often significantly higher than that of a comparative petrol or diesel model. And, as van purchases are more business-led than cars, they are more sensitive to the vehicle capital cost.

Organisations can have help towards the cost of acquiring an electric van through the Government's Plug-in Van Grant, which will pay for 35% of the purchase price of a new van, up to a maximum of £3,500 for small vans and £6,000 for large vans.

There are also significant savings to be made in running costs, which is why it is critical to adopt a wholelife cost model when considering the introduction of electric light commercial vehicles (LCVs).

"Total cost of ownership (TCO) modelling is critical for electric vans at the moment and there are some surprising wins in there," says Steve Winter, head of fleet at Centrica-owned British Gas, which has pledged to electrify its 9,500-strong van fleet by 2025 and has already ordered more than 3,000.

"We all know fuel will be cheaper on electric vans, that's a given," he adds. "We also know that service, maintenance and repair (SMR) costs will be less and we are seeing that electric vans do not need as much maintenance as a traditional internal combustion engine (ICE) vehicle. No longer will you have to change your oil or worry about clutches and injectors and all sorts of things like that."

The reduced SMR can be demonstrated by Fruit 4 London, which specialises in sustainably delivering fresh fruit, vegetables and other produce to offices and homes in the city.

It has used electric vans since 2012 and one of its EVs did not change a brake pad in the six years it spent on the Fruit 4 London fleet.

The company has also benefited from another cost saving not available to ICE vans – exemption to the London congestion charge.

It estimates it has been saving more than £2,500 a year on this, based on entering the zone five days a week on autopay.

Ultra-low emission zones (ULEZs) and clean air zones (CAZs) are likely to be a key future

“WE’VE MESSED  
AROUND WITH THE  
LEASE LENGTHS TO  
HELP US MAKE THE  
TCO MODEL WORK

STEVE WINTER, BRITISH GAS

consideration as these are either being expanded, such as London's ULEZ, or new ones introduced, such as Oxford's zero emission zone, which will be piloted in August.

These are likely to have significant impacts on a fleet's operational costs and represent a huge savings opportunity for the operation of EVs, which will be exempt from the charges.

However, at the moment, electric vans will not necessarily cost a fleet less to run than an ICE equivalent.

An example of this is the TCO comparison Energy Saving Trust carried out for the Department for Environment, Food and Rural Affairs

(Defra) for the 2020/2021 financial year. It found that an electric small van would cost £113 per annum more to run than a diesel equivalent in the example considered.

However, it is anticipated electric van costs will reduce as supply increases and greater numbers of vans are acquired.

Fleets can spread the impact of adopting EVs by procuring them on leases instead of outright purchase, as this splits the cost through monthly rentals over a fixed term.

"Lease length is also worth looking into in detail," says Winter. "It might you need to extend the lease on EVs to make them more cost-effective in a TCO model, it may be that you want to run your ICE vehicles over a shorter lease to enable you to take advantage of the new technology when it comes around."

"All of our diesel vans are now on three- or four-year leases and our electric vans are on six-year agreements."

"We've messed around with the lease lengths to help us make the TCO model work for our business."

Flexible rental can also be used, says Aaron Cawrey, vehicle purchasing manager at Reflex Vehicle Hire. "This offers the chance for a customer to dip their toe in the water without the kind of uncertainty that what they invest in for the next three years will not be suitable for their needs in a couple of years' time," he says.

## 2 Environmental

Department for Business, Energy and Industrial Strategy (BEIS) road figures say transport accounts for 28% of the UK's CO<sub>2</sub> emissions, with vans accounting for 15% of this.

This means switching from petrol or diesel vans to electric alternatives can reduce an organisation's contribution to this.

Electric vans are also seen as a key weapon in the fight to improve local air quality. Diesel vans are a major source of NO<sub>x</sub> emissions and particulate matter which are recognised as a serious public health issue.

"NO<sub>x</sub> and particulate matter is leading to around 40,000 premature deaths a year with a cost to society of £20 billion a year," says Ian Featherstone, knowledge manager at Energy Saving Trust.

"These are figures that local authorities just cannot ignore."

Critics of electric vehicles point to the pollution created by the power stations which generate the electricity for the national grid, but this, too, is reducing.

Figures from BEIS show that in last year, the share of generation from renewables (42.9%) exceeded the share of generation from fossil fuels (38.5%) for the first time.

Organisations can also switch to renewable energy tariffs to further counter this argument if the EVs are charged at the workplace.



## 3 Corporate social responsibility

Organisations should also consider the corporate social responsibility (CRS) element of electric vans, especially the staff well-being and broader social benefits elements.

"The majority of electric van drivers will tell you it's a nicer place to be," says Matt Dale, EV business owner at ALD Automotive.

"A better environment is a more relaxed environment, and that means a fleet is more likely to reduce its accident rate and drive down stress levels."

This is also due to electric vans not having a conventional gearbox, so there are no gears to shift or clutch to operate. Instead they use a single gear and a reverse, which makes them simpler to drive and can help reduce stress for drivers, particularly when stuck in traffic.

The vans are quiet in operation, which is less stressful for the driver and, if the work involves driving at night, then an electric van is ideal for quiet night-time operation.

Organisations can also boost their reputation by being seen to be an environmentally-conscious business working to lower their overall carbon footprint, while a company's green credentials can also help win new business.



# EVs COMING WITHIN RANGE – TARGET THE EASY WINS FIRST

The transition from ICE vehicles to EVs requires careful consideration of all the data

**W**hile the capabilities and availability of electric vans has come on considerably – even in the past six months – they cannot yet be considered as straight replacements for all diesel or petrol vans. This could be for a variety of reasons, such as cost, range, payload or lack of local charging infrastructure.

But it is no longer a question of if, but when, an organisation electrifies its van fleet, following the Government's announced ban on the sale of new conventional petrol and diesel vans from 2030.

And if a fleet does its homework now then it should be able to identify vans it already uses which can be switched for electric models without any negative impact on its operations.

"It's not as easy as replacing like-with-like as each vehicle will have its own operational conditions that need to be met to make sure they work properly within their fleet," says Rob Anderson, senior fleet specialist at Cenex.

"We'd recommend identifying the easy wins first as this will allow the fleet manager to gain confidence and traction within the business."

A fleet assessment will give an organisation a detailed understanding of its vehicles and how they are used.

This should include looking at vehicles and duty cycles, including journey lengths, dwell time and where they are parked overnight.

This data can be collected by analysing existing fleet data which has been collated manually or – more conveniently and potentially more accurately – through telematics.

"We have analysed our telematics data for every

**EACH VEHICLE  
WILL HAVE ITS  
OWN OPERATIONAL  
CONDITIONS THAT  
NEED TO BE MET**

**ROB ANDERSON, CENEX**

one of our two-wheel drive vans across the course of a year, and we worked out from that the maximum daily mileage anybody does any point in the year," says David Collins, senior project manager – reducing fleet emission at the Department for Environment, Food and Rural Affairs (Defra), which has committed to transition its two-wheel drive van fleet to ultra-low vehicles by 2025.

"We've applied a threshold on to that data, which is the sort of real-world maximum range of an electric van. And those vehicles that rarely, if ever, exceed that threshold are those that, essentially, can become electric with little or no operational impact."

Collins says vans that exceed that journey threshold three to five times each year can still be switched for EVs as the drivers can either rent other vehicles or borrow other vans for those exception trips.

It is widely recommended that any calculations should be based on around 70% of a battery electric vehicle's (BEV's) official range as this better reflects real-world driving conditions.

Research by Arval has also found a full payload will reduce an electric van's range by 8% to 10%.

Fleets should also consider where the vans will be charged – whether it is overnight at a depot, at an employee's home or on the public charging infrastructure – and if this provision will be suitable.

After the fleet assessment is carried out, some organisations carry out targeted trials to assess the potential impact of EVs on their operations.

The use of the EV should mirror that of the ICE vehicle as closely as possible to allow an accurate comparison to be made.

Data collected should include battery usage and mileages travelled, using telematics if possible. This should be reviewed on an ongoing basis to see how BEVs compare with ICE models in different situations and duty cycles.

Some fleets take a partnership approach with either a vehicle manufacturer or charge point supplier to reduce the cost of running a trial.

Flexible rental is also suitable to use in EV trials, says Aaron Cawrey, vehicle purchasing manager at Reflex Vehicle Hire.

"It's a perfect introduction tool for people to try the technology and see how it works before they make a full investment," he adds.



## Fleets plug-in to electric future with Reflex Vehicle Hire

First-hand experience behind the wheel of electric vehicles is vital for fleet managers as they drive choice list changes

**F**leet managers will be the driving force of change as the UK prepares to ban new petrol and diesel vans and cars from showrooms in the next decade.

In this new transport landscape, expert knowledge will prove vital, so Reflex Vehicle Hire is empowering fleet managers with first-hand experience of plug-in vehicles and other alternative fuels to prepare them for the future strategic changes that are to come.

Our Reflex Renewable Drive Programme gets fleet managers behind the wheel of new electric vehicles to give them essential exposure to a different driving experience, including recharging.

From this solid foundation, managers can then hold discussions with board members and drivers about the road ahead and provide valuable insights on the pros and cons of the change to zero emission transport.

The trials allow managers to consider key issues including range, changes in driving style, recharging requirements, carrying capacity and towing capability.

Lisa Spong, Reflex Vehicle Hire Sales Director, said: "We are working closely with fleet operators to ensure they are able to take the first steps towards a zero-emission future."

To request a road test as part of the Reflex Renewable Drive Programme, email [sales@reflexvehiclehire.com](mailto:sales@reflexvehiclehire.com)

### Reflex road test

## Maxus delivers a fresh face in the EV race

Fleet operators need to start with a blank sheet of paper when building their plug-in choice lists to ensure they do not overlook strong new contenders that have embraced the zero-emission challenge.

For example, Maxus is delivering a fully electric future for commercial vehicle fleets with two zero-emission models.

Maxus, which will be distributed in the UK, Ireland, Channel Islands, and Isle of Man by Harris Group, is quickly gaining recognition, having picked up LCV Manufacturer of the Year at the Green Fleet Awards last year.

The e Deliver 9 is comparable to a full-sized Ford Transit, while the alternative e Deliver 3 is a compact van providing maximum space in a smaller footprint.

We tried the Maxus e Deliver 3, which has two battery options available, 35kWh and 52.5kWh, giving a range of up to 98 miles and 151 miles, respectively.

If you are using a wallbox to charge, then it typically takes six hours from empty for the smaller battery and eight hours for the larger one, while a fast charge to 80% is 45 minutes for both.



Two wheelbase options provide cargo volumes from 4.8-6.3 cubic metres and a payload of 865-1,020kgs (1,202kgs for the chassis cab). Top speed is 75mph and 0-62mph takes around 12 seconds, if you make full use of the 122PS/255Nm electric motor that drives the rear wheels through an automatic gearbox.

The Maxus e Deliver 3 offers a sturdy interior, well-placed loading eyes and counter-sunk lashing rings, with doors that have a 180-degree opening angle.

Value-added touches include parking sensors, a camera at the rear, electric mirrors and windows, power steering, air conditioning, electronic stability control and an eight-inch touchscreen infotainment system, which supports Apple CarPlay and Android Auto.

Aaron Cawrey, Fleet Purchasing Manager for Reflex Vehicle Hire, said: "Maxus has developed the e Deliver 3 with UK drivers in mind and, in addition to high levels of standard equipment and robust design, it also has a good range that will suit a variety of fleet uses."

Fleets agree, with one customer saying: "This is a great little van. It takes a little while to get used to electric power, so drivers would need a familiarisation session, but I found it comfortable and suitable for a fleet role."

Visit [www.reflexvehiclehire.com](http://www.reflexvehiclehire.com) for more information about our flexible fleet service and green vehicle programmes

**Reflex**  
Vehicle Hire





# HOW TO ADDRESS CHARGING ISSUES

Subsidies are available to help determine the best place for vehicles to be charged

**B**eing able to access the right charging infrastructure is critical to the successful operation of electric vans. Dependent on the nature of a company's operations, the charging choices include:

- At a depot if vehicles return to base overnight
- At employees' homes if drivers take them home at the end of the working day and they have off-street parking,
- Or on the public charging network if either of the two options above is not feasible.

### WORKPLACE CHARGING

Charging vehicles at depots may be the simplest solution, as companies can control the energy costs and do not have to reimburse employees for electricity as they would if they charge at home or on the public network.

However, there are a number of questions which need to be answered before a solution can be installed.

These include how many chargers are needed, what speed they need to be to ensure the vehicles are ready for use at the start of their working day, and also whether the electricity supply to the site can cope with the level of energy needed to charge multiple vehicles at the same time.

If the level of demand exceeds the capacity, then this may mean a business faces a costly upgrade to the local electricity network. But smart charging systems, which manage the charging of multiple vehicles within the energy constraints,

may provide a much more cost-effective solution.

Smart charging technology can also help keep energy costs low by scheduling the charging for times when the price of electricity is at its lowest.

The Government does offer financial support towards the upfront cost of the purchase and installation of charge points under its Workplace Charging Scheme. This contribution is limited to 75% – or £350 per socket – of these costs, up to a maximum of 40 sockets per company, which can be on different sites.

### HOME CHARGING

Many organisations have business models where drivers take their vans home overnight, including giant fleets such as Centrica and DPD.

The Government's Electric Vehicle Homecharge Scheme provides a grant of up to £350 towards the cost of buying a home charging point.

As the van is a work tool, both Centrica and DPD pay the remaining cost of the charger. "That's part of our initiative to get buy-in for electrifying our fleet," says Olly Craughan, CSR general manager at DPD Group UK.

"Our owner-drivers are self-employed and we see it as an incentive to have a home charger paid for: it is theirs to keep."

### PUBLIC CHARGING

There will be many instances when a driver whose employer does not offer workplace charging will not be able to have a home charger

installed: they may live in a flat or not have off-street parking, for example.

These employees will need to rely on the public charging network which, although under fire for being inadequate for current and future needs, is rapidly improving.

Huge investment is being made to improve the infrastructure, with the Government, for example, providing £500 million over the next five years, while private sector companies are also spending significant amounts.

Department for Transport statistics show that in January, there were 20,755 public EV charging devices available in the UK, 3,880 of which were rapid devices.

Since 2015, the number of public charging devices has grown rapidly, with devices increasing by one-quarter in 2020 alone.

Rapid charging devices have also grown quickly, increasing 37% in the past year.

"Fleets will have come across issues with needing a different card or app for different charging companies, but roaming is starting to emerge now," says Ian Featherstone, knowledge manager at Energy Saving Trust.

"Products like the All Star electric fuel card are also becoming available and, when I last checked, this had seven charge point operators on its network, while all new and most existing rapid chargers will take contactless payment.

"Roaming is here now and I'm sure it will develop very quickly over the next few years."

# SPOILT FOR CHOICE? NOT YET, BUT VANS ARE CATCHING CARS

Electric van availability has been limited in comparison with cars. But the balance is shifting

**T**he availability of electric vans has lagged behind that of electric cars, but a number of recent major launches are changing that.

"There is now quite a choice of vehicles," says Ian Featherstone, knowledge manager at Energy Saving Trust.

The table below shows the electric vans on the market which qualify for the Government's plug-in van grant.

Vans which are less than 2,500kg gross vehicle weight, have CO<sub>2</sub> emissions of less than 50g/km and can travel at least 60 miles zero tailpipe emissions are eligible for a grant of 35% of

the purchase price, up to maximum of £3,000.

Vans between 2,500kg and 3,500kg which share the same credentials qualify for a grant of 35% of the purchase price, up to a maximum of £6,000.

The list includes small van stalwarts such as the Nissan e-NV200 and Renault Kangoo ZE, as well as new arrivals such as the Citroën e-Dispatch, Fiat e-Ducato and Vauxhall Vivaro-e.

There will also be a number of electric vans launched before the end of the year.

For example, Peugeot will add a second electric van to its model range with the introduction of the new e-Partner in November.

This will offer a 171-mile range from a 50kWh



Potential disrupter – the Arrival van

battery pack, a maximum load capacity or 4.4cu m – the same as the diesel variants – and a maximum payload of up to 800kg.

Another launch will be Nissan's new small electric van built of a shared platform with Renault, which means the e-NV200 will be replaced with a new model that will likely be based on the new Renault Kangoo ZE.

Renault announced its next-generation small van at the end of last year, with the range including a fully-electric ZE.

While most of the electric vans on the market come from established commercial vehicle manufacturers, one potential disruptor is Arrival.

The UK manufacturer unveiled its new fully-electric van in March and it will be starting public road trials with key fleet customers this summer.

At the moment, the focus on zero-emission vans is squarely on battery electric vehicles (BEVs), but a growing number of manufacturers are investing in hydrogen fuel cell technology.

In theory, this offers the convenience of the fast refuelling of petrol and diesel vehicles – around 300 miles in four minutes – with the zero tailpipe emissions of BEVs.

But there are currently just 14 hydrogen fuelling stations in the UK. Hydrogen is also set to play a big part in heating and industry as the UK moves to a zero carbon economy, and some experts believe transport may be able to capitalise on this.

Stellantis (the new parent name for the merged PSA and FCA groups) is one of the companies looking into the gas's potential and will launch three hydrogen plug-in hybrid, zero-emission vans based on the existing Citroën Dispatch, Peugeot Expert Partner and Vauxhall Vivaro.

Vauxhall says it is already in talks with UK fleets ahead of the launch of the Vivaro-e Hydrogen, which is expected to happen in 2023.

This will have the same 6.1cu m cargo volume as the diesel and BEV versions, with its hydrogen tanks giving a range of 249 miles

Groupe Renault has also announced plans to develop hydrogen-powered vans.

It has entered a joint venture with hydrogen fuel cell specialist Plug Power. The companies intend to establish an innovation centre for the development of hydrogen fuel cell LCV vehicles based on existing and future Groupe Renault platforms.

### LOW EMISSION VANS ELIGIBLE FOR A PLUG-IN GRANT (correct on June 21)

Small vans				
Model	Range (miles)	Payload (kg)	Cargo capacity (cu m)	Price (ex-VAT)
Maxus eDeliver 3 (short wheelbase variants)	99-151	865-905	4.8	£30,000-£33,000
Nissan e-NV200	124	705kg	4.2	£26,305-£29,805
Nissan e-NV200 XL (Voltia)	124	580kg	8	£36,255-£39,755
Renault Kangoo ZE	143	605-640kg	3.5-4.6	£26,085-£28,185
Renault Zoe Van	245	457kg	1	£26,535-£28,660

Large vans				
BD Auto eDucato (3.5 tonnes)	125	800-1,500	11.0-17.0	N/A
Citroën e-Dispatch	148-211	1,001-1266	4.6-6.1	£33,450-£42,380
Fiat e-Ducato	91-148	720-1,855	10.0-17.0	£47,675-£56,175
LEVVC VN5 (range-extender)	61 (electric-only range)	830	5.5	£46,500-£42,000
MAN eTGE	68-71	950	10.7	N/A
Maxus eDeliver 3	95-141	990-1,202	6.3	£33,000-£36,000
Maxus eDeliver 9	112-184	1,040-2,460	9.7-11	£58,000-£71,000
Mercedes-Benz eVito	92	665-906	6.0-6.9	£40,895-£54,550
Mercedes-Benz eSprinter	96	1,285	11	£53,510-£54,050
Peugeot e-Expert	148-211	1,000-1,004	3.2-6.1	£33,265-£42,070
Renault Master ZE	124	925-1,078	8.0-13.0	£54,900-£61,800
Toyota Proace Electric	143-205	1,000	4.6-6.1	£33,970-£38,803
Vauxhall Vivaro-e	143-205	1,226	5.3-6.1	£35,028-£46,528
Volkswagen ABT e-Transporter	82	996	6.7	£42,060-£49,985



# REFLEX RENEWABLE DRIVE PROGRAMME



Sustainable vehicles



Find the right fit



Make the switch

**Powering businesses across Britain by  
putting them in the driving seat to  
trial the latest vehicle technology**