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# HOW TO FUTURE-PROOF EV INVESTMENTS

A long-term plan is vital for a smooth and cost-effective electrification programme



**T**

he decisions made by fleet managers and leaders today regarding electric vehicle (EV) charging infrastructure will significantly impact the next decade or more. Some will make prudent investments, ensuring business continuity and cost control. Conversely, others may regret costly investments in charging stations that prove inadequate for operational needs, leading to replacements and disruptions.

The adage “a stitch in time saves nine” aptly applies to the planning of charging infrastructure. These decisions involve coordination across various departments such as fleet management, facilities, finance, HR, operations, and sales.

Well-informed choices, supported by thorough research and advice, are essential for successful implementation. Rushed, short-term fixes risk compromising business efficiency and undermining confidence in the broader decarbonisation effort.

Mark Pymm, founder and managing director of ChargedEV, emphasises the critical need for a clear, comprehensive, and effective charging solution before widespread EV adoption. Establishing a network of charging points at workplaces, depots, homes and public spaces is the foundational step to ensure driver satisfaction, business continuity, and cost management.

Pymm notes the diversity of fleet requirements, highlighting the absence of a one-size-fits-all approach in the industry’s current state of maturity. Each fleet possesses unique needs, emphasising the importance of tailored solutions.

# How to solve the electric van conundrum

Transitioning from diesel to battery power needs meticulous planning and lateral thinking

**E**lectrifying light commercial vehicles (LCVs) demands an open mind. A like-for-like swap with diesel LCVs may simply not be possible, dependent on range, payload and charging requirements. So, fleets have to think laterally.

Modelling can identify the percentage of diesel vans that can be electrified today without compromise, as well as potentially setting a timeline for others when performance and cost allow, says Mark Pymm, founder and managing director of ChargedEV.

Businesses may need to consider adjusting their operating model in order to get the most from an electric fleet, for example by allowing drivers to take vehicles home rather than returning to base at the end of the day.

This enables ChargedEV to deliver a phased approach that avoids the costly initial impact of grid upgrades, while fleets wrestle with the higher costs of EVs, but still future-proofs investments.

Load-balancing technologies, for example, can postpone the requirement

to upgrade connections in order to increase the power capacity of a site.

Combining telematics and charge point management software, for example, can read the state of charge in batteries and prioritise vehicles in need of a longer charge or a more rapid charge, rather than a first come, first served approach, regardless of need.

"Long-term planning is vital to avoid expensive mistakes. In many cases the most cost-effective approach is to install the infrastructure early and then add charge points in two, three or four phases as the fleet moves through their electrification journey," says Pymm.

"That's why it's really, really important that we're brought in at a stage early enough where we can have those conversations."

Alternatively, new charging-as-a-service models are emerging that convert the capital cost of infrastructure into an operating cost. Rather than an upfront cost to the customer, ChargedEV instead installs both the hardware and software, and then adds a premium to every kilowatt of electricity drawn.

"We recover the cost of the infrastructure over a 10- or 15-year period, so customers can remove the upfront cost of these projects," says Pymm.



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Mark Pymm (right), founder and managing director

# Rent a home charger for van drivers

The cost of a wallbox and a fair and efficient way to reimburse electric miles are major considerations for fleets

**E**xpecting drivers to charge electric company vehicles at their homes is a cost-effective and convenient solution, but needs careful pre-planning.

Employers have to decide whether to subsidise the installation of a home charger and establish a fair system for reimbursing electricity costs.

Almost all fleets will pay for the installation of a wallbox for van drivers, although this can be costly for businesses with a relatively rapid turnover of staff.

"We now have a partnership where we can offer a full charging-at-home solution for vans, but it's more of a rental approach," says Mark Pymm.

"So, if the employee moves on after a period of time, we can take away the charge point and move it to the next employee."

The solution also includes energy reimbursement, whereby the fleet pays the driver's electricity company directly for the power used to recharge a van. This avoids the risk of a 'bill shock' that occurs when a driver is reimbursed via a pay-and-reclaim method, but spends the money prior to their higher-than-expected electricity bill arriving.

The issue is more challenging for company car drivers due to the mix of business and private mileage, and the fact that HMRC's Advisory Fuel Rate is widely considered to underestimate the true electricity cost per mile.

A fairer system is to monitor the cost of electricity used to charge a company car at home and allocate this proportionally, according to the split between business and private miles.

Importantly, the emissions from electricity generated for home charging can be combined with emissions from workplace and public charging, so companies can make accurate greenhouse gas emission reports.



## Consider sharing your workplace chargers

There is money to be made by allowing other fleets to access depot chargers

The opportunity for fleets to share charging infrastructure is rising up corporate agendas as businesses seek lower costs than public stations and guaranteed access to a charger when required.

"It's easier to schedule charging, which is really beneficial for fleets concerned about their driver being stuck in a queue at a public charger and missing their last job of the day," says Mark Pymm.

"Plus, it's possible to reduce costs compared with public charging, while still paying a small premium to the fleet that is opening up its infrastructure."

There are advantages for the wider environment, too, with more clean hours of transport delivered by less infrastructure.

ChargedEV is also developing a proposition where a fleet with a large car park or depot that "only needs, say, 20 charge points but has capacity for more, would let us install an additional 10 that we could open to other fleet customers who would pre-book their charging," adds Pymm.

A construction firm, for example, that knew it would have a certain number of EVs at a site for a few weeks or months could pre-arrange its charging for the duration of the project.



# Set a workplace charging policy before installation

Firms need to establish a set of rules over who can use chargers in company car parks

**E**mployers need to resolve access priorities and how much they will bill drivers for plugging in at work, before opening charge points to staff.

Offering free and universal access to chargers may seem like a generous HR benefit, but can swiftly become a nightmare if no formal policy is in place, cautions Mark Pymm, founder and managing director of ChargedEV.

Organisations have to decide whether company car drivers take priority in their need to charge at work, and potentially have a cascade of entitlements dependent on employee circumstances. Should first call on a charge point be for salary sacrifice car drivers, or for employees who cannot charge at home, or for staff commuting longer distances who need to top up their EV's batteries before returning home?

Apps and online queuing systems may claim to solve these access dilemmas, nudging drivers to move their cars at the end of their allotted charging session, but human nature swiftly conspires against obedient use, says Pymm.

"You set yourself up to fail when you give away free charging without setting the right boundaries. Unless you have the right policies in place, it can become a real challenge to unpick free charging later on, and you just end up upsetting everybody," he adds.

"Relying on a queuing system for EV charging is not the way to manage this. It's a tool that can be used in the right place at the right time, but companies have to back it up with relevant processes and policies. So, if employee X constantly breaks the rule, employers need to have the option in place that he or she loses access."

Pymm fully supports well-intentioned businesses that are trying to incentivise zero emission commuting, but warns that companies which have offered free charging to all staff are now suffering the most.

EV drivers who could charge at home have naturally taken advantage of free power at the office, blocking chargers for staff who rely on the workplace plugs.

What's more, any subsequent introduction of fees undermines the financial calculations that employees used before switching to battery power, with the risk of creating an army of EV detractors.

Instead, Pymm advises organisations to monetise charging from day one, setting the tariff above domestic electricity prices, but below public charging fees. That way, drivers who can charge at home have an incentive to do so, whereas those who rely on workplace charging can access it at lower cost than at public charging hubs. Plus, any surplus above the site's energy tariff can be used to repay the cost of the charging infrastructure.

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Mark Pymm



# Choosing charging infrastructure is not a one-off decision

Charge points can have varying reliability and all need to be maintained regularly

**T**he selection of charging hardware and service and maintenance support to keep it operational are important decisions for fleets to take. When daily business continuity depends on charger uptime, choosing robust, reliable equipment is vital, says Mark Pymm.

With the largest UK-wide employed team of charge point installers, his company may be agnostic towards different chargers, but this does not mean it is without preferences.

"There's definitely some hardware that's extremely cost-effective in terms of initial upfront installation costs, but you'll have three or four occasions per year when it's broken down, you can't repair it, and the manufacturer is slow to support you with replacement parts," he says.

Reliability is largely improving across the board, he adds, "but there's definitely hardware out there that is just very robust, works well, is not overly complicated to commission, and is easy to use, which is very, very important".

Frequently the issue is not so much with the charger but with the connection signal, leaving fleets without vital charging data and meter readings.

ChargedEV automatically covers installations with a three-year warranty, but fleets are still advised to budget for scheduled inspections and maintenance in order to secure more support and quicker solutions.

"Charge points need an annual check as a minimum, and if they are in constant use, more frequent checks," says Pymm.

"Rapid DC chargers, in particular, need a much more robust maintenance cycle."

His company offers three different service and maintenance packages – Standard, Enhanced and Critical – calibrated to meet the urgency with which fleets need out-of-action chargers to be up and running again.

Faults can frequently be identified, diagnosed and fixed remotely.

## Offering a white label solution

Leasing companies and dealers can offer a one-stop-shop for car and home chargers

Leasing companies and car dealers can now bundle the accurately calculated cost of installing a home charger within a lease or car purchase.

Delivering a complete solution for customers removes one of the perceived barriers to EV uptake, but home charger offers previously came with the asterisk that prices applied only to a 'standard' installation.

A final quotation is only possible after a site inspection – a longer cable run, for example, might require more work – with true costs ranging from about £900 to £1,500.

"After performing 55,000 installations over 10 years, we're able to boil down the questions to be simple enough that we can assess with about 90% accuracy the complexity of an installation," says Mark Pymm. "When a customer is buying a vehicle you only need to ask four questions and then you know the price that the customer is going to pay for their installation."

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