8 steps to electrifying your business fleet

drax | Electric Vehicles

Electric dreams but blind spots in the road ahead?

Fleet electrification can be a complicated business. But these eight steps will help guide you through the transition – taking you from assessing the potential to optimising the benefits.

Who's this guide for?

If you've been tasked with electrifying your business fleet, or you're simply curious about what it takes to switch to electric vehicles (EVs), this guide's for you.

It's also a handy reference for anyone responsible for reporting on sustainability and carbon in their business.

The guide orders a complicated process into manageable steps; helping your business save time, create a cost-effective EV infrastructure and avoid potentially costly wrong turns.

Who are we?

We're Drax. As experts in energy and EV markets, we're perfectly positioned to help organisations build on their sustainability ambitions through fleet electrification.

We partner with businesses to do everything EV: from small trials, and charge point installation, to full-fleet conversion.

And we're also the biggest supplier of renewable power (by consumption) to businesses, with a commitment to being carbon negative by 2030. But enough about us.

There's a lot to consider, but mapping out the route will make for a smoother journey and unlock the door to electrification benefits.

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Why EVolve your fleet?

With a ban on new fossil fuel and hybrid vehicles set for 2030, and mounting ambitions to protect our natural environment, the end of the internal combustion engine (ICE) is in sight. Considering that 2030 is just a couple of replacement cycles away, it's no surprise that many organisations are challenging themselves now to take greater steps towards positive change.

The good news is that if you're reading this guide, you're moving in the right direction. Electrification actually poses a real opportunity for organisations with significant transportation needs.

The British Vehicle Rental and Leasing Association (BVRLA) states that the rental, leasing and fleet sector will be responsible for 80% of the UK's new battery electric vehicle (BEV) sales, and 75% of BEVs on UK roads by 2025.

Five reasons to electrify your fleet

1. Zero tailpipe emissions

EVs and plug-in hybrids driven in electric mode produce no harmful exhaust pipe emissions. That means no carbon dioxide (CO_2), no nitrogen oxide (NO_x), and no tailpipe particulates (atmospheric aerosol particles).

2. Low maintenance costs

With no engine, no transmission and no gearbox, there are far fewer working parts in an EV than in ICE or even hybrid vehicles. With less to maintain, less can go wrong – so lower running costs. And with the right approach, you can quickly repay your initial investment.

3. Renewable energy advantages

EVs are part of your business's sustainability plan. On-site energy generation assets such as solar panel installations can charge your fleet at no additional fuel cost. Additionally, EV batteries provide opportunities for optimising your electricity use. Simple ones include charging at cheaper times of the day, but there's even more potential for savings via Demand Side Response schemes.

4. Unbeatable insight

EV fleets can leverage state-of-the-art telematics, helping build an accurate and real-time overview of your fleet operation.

5. Future-proofed business

The government has mandated the end of new petrol and diesel car sales by 2030 – putting the UK on course to be the fastest G7 country to decarbonise cars and vans.

While the move to electric vehicles (EVs) is inevitable, electrification isn't something you can achieve overnight. It involves migrating your fleet and adapting your site(s) at a pace that makes financial sense for your business. There are many moving parts to consider before you start reaping the benefits.

But this process doesn't need to be problematic. This guide provides pointers for the 8 steps we've identified on the road to electrification, whether you're embarking on the journey solo or looking to engage a specialist partner.

Whichever route you choose, planning upfront will help you implement, manage, and optimise an EV fleet plan that has success and sustainability at its heart.

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1

EV suitability assessment

Will electrification work for your business?

Before you can introduce EVs into your fleet or plan for charge point installation, you'll need to know (and prove!) how electrification can deliver benefits without upsetting business as usual. This is the most in-depth step of this guide, but it's the most valuable in terms of insight for directing your electrification journey.

Before you make any plans or invest in hardware, it pays to have a detailed understanding of your fleet's operational requirements. By starting here, you can determine the potential to convert some, or all, of your diesel- or petrol-powered fleet.

We'd recommend starting with a full review of your current fleet usage. An accurate understanding of how your business uses the vehicles in its fleet is crucial for understanding how EVs would fare under the same conditions.

It's important that you look at information relating to your vehicles' mileage (both per trip and per day), load requirements, areas of operation and resting locations. This is a starter for ten, but there may be other metrics unique to your business that give detail about how you use your fleet. Try to think about how your fleet helps your business achieve its goals and focus on metrics that influence that success.

Once you've done this homework, you'll be halfway towards working out the total cost-impact of electrification – sometimes referred to as Total Cost of Ownership (TCO) or Total Lifetime Cost. It's important to make sure that EVs aren't going to be prohibitively expensive to run – and ideally that they're going to provide cost savings in the future. Forecasting costs against that of your existing ICE fleet will – if the figures stack up – provide evidence to present to senior stakeholders and decision-makers in your business case for electrification.

If you're going solo, you'll want to be aware of the latest developments in both energy and EVs to understand the regulations and incentives to deliver a comparable 'total cost of ownership' (TCO). To start researching some of the grants and subsidies you might be eligible for, read our guide here.

It's true that, in many cases, EVs cost more in the initial purchase than traditional vehicles. However, your rationale needs to be more holistic. Your team needs to consider the operational expenditure of electrification for your business, in tandem with any capital investment.

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Whether leasing or buying a vehicle, influential factors to remember are:

- The cost difference of 'refuelling' with electricity versus petrol or diesel
- Ongoing maintenance requirements (which tend to be lower, due to fewer engine components)
- Any tax benefits and toll, levy, or congestion-charge exemptions

The final part of your TCO calculation will be identifying any infrastructure costs and requirements. You'll require space to install charge points, power supply for the increased electricity demand, and you may already have generation assets (such as solar panels) that you want to investigate as a fuel source. There's more information on each of these aspects further on in this guide, but all are initial investment considerations before determining whether electrification is financially viable for your business.

All this insight comes together to create your business case.

No business decision is made in insolation. Your suitability assessment will provide the data to show whether electrifying your fleet is commercially viable, but you may also need to get supporting stakeholders on board.

As with most transformation projects, it's likely that you'll need to involve your company's finance, procurement and HR functions. But it's important to also engage energy or sustainability colleagues, if your business has them, when planning for fleet electrification.

You may find there's more to your business case than a simple ROI calculation. Is becoming more environmentally responsible important to your senior leaders or customers, for example? Do you have employees driving EVs who'd be enthusiastic about on-site charging? Is your Energy Manager considering on-site renewable generation?

Engage with colleagues to see if there's any vested interest in your project, and present their objectives alongside your suitability assessment results to form your business case.

The business case checklist

Audit your current fleet's workload
- ☐ Mileage per trip
- ☐ Mileage per day
- ☐ Load requirements
- ☐ Areas of operation
- ☐ Resting locations

Consider your operational needs and expenses
- ☐ Fuel requirements
- ☐ Maintenance costs
- ☐ Purchase and installation
- ☐ Tax benefits
- ☐ Toll, levy, and congestion exemptions

Work out total positive sustainability impact
- ☐ Carbon emission savings

Combine above to calculate TCO (total cost of ownership) and any additional benefits/savings .

If suitability assessment proves that EVs are viable:
- ☐ Involve relevant stakeholders and identify their objectives:
  - ◇ Finance
  - ◇ Procurement
  - ◇ Energy and/or sustainability
  - ◇ Facilities and/or site management
  - ◇ HR (if investigating charge points as an employee benefit)
  - ◇ Senior leaders and/or business strategy teams (if sustainability is part of your business strategy)
  - ◇ Marketing and/or customer relations (if sustainability is part of your brand positioning)

Share your suitability assessment results with your stakeholders, matching your viability findings with their objectives.

2

Vehicle recommendation

Success! Your business case has been approved. The next step is selecting the most suitable vehicles.

Below are the main factors you'll need to consider when choosing the right EV replacements for your existing ICE fleet vehicles:

- **Function.** Are these vehicles to get your salespeople from A to B, or are they for transporting goods? If the latter, there's an increasing number of electric vans on offer that can satisfy your operational requirements. Large-scale electric trucks are up-and-coming – while not so easy to come by, the biggest of the automobiles are becoming a reality for many manufacturers (watch this space).

- **Drivability.** Much like your ICE model, different EVs will be best suited to different driving environments; from cross-country cruising to city-zipping.

- **Form.** Looks aren't everything, but if promoting your sustainability credentials to customers and partners, consider your fleet the 'shop window' for your operation. Some businesses capitalise on marketing potential with branded car wraps, which are easy to do post-purchase.

How do you choose the right EVs for your business?

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- **Range.** How many miles can your EV go before the next charge? Typical ranges can span from 150-350 miles per charge, depending on the size of your EV's battery (measured in units of energy, kWh). Check in on your fleet requirements and average distance per drive to help inform your choice. Your vehicles' battery sizes will also affect the cost-per-charge - see below for a quick charge-calculation guide.

- **Charging.** Just like mobile phones, some cars and chargers have rapid charge capability. These can cut charge times from several hours to just one hour or less. Many businesses will find their charge requirements easy to manage – they'll just plug in the vehicles at the end of the business day. For others, rapid charge points might be the only suitable solution. If you fall into the latter category, make sure the EVs you choose support rapid charge technology.

If engaging a specialist electrification partner, check whether they're able to arrange EV demonstration days for you. Some do, allowing drivers and decision-makers to try recommended vehicles before committing to purchase. If you're planning to lease your EVs, your electrification partner will be able to recommend a suitable leasing company based on their knowledge of the market and their understanding of your requirements.

How much does it cost to charge an electric vehicle?

Electricity cost	x	Battery size	=	Cost of one charge
£0.10		64 kWh		£6.40
Based on hypothetical off-peak energy rate of £0.10 per kWh		Based on Hyundai Kona Electric (245 miles per charge)		

How does driving an EV compare to driving a traditional vehicle?

	Cost	÷	Range	=	Cost per mile	C02 emissions per mile
EV	£6.40		245 miles		£0.02	0 grams
Diesel ICE	£4.69		49 miles		£0.10	84 grams
	Typical cost per gallon in early 2021		Average MPG of 1.0 Volkswagon T-Roc S in test conditions			Based on typical C02e of 136 g per km

3

Charging infrastructure assessment

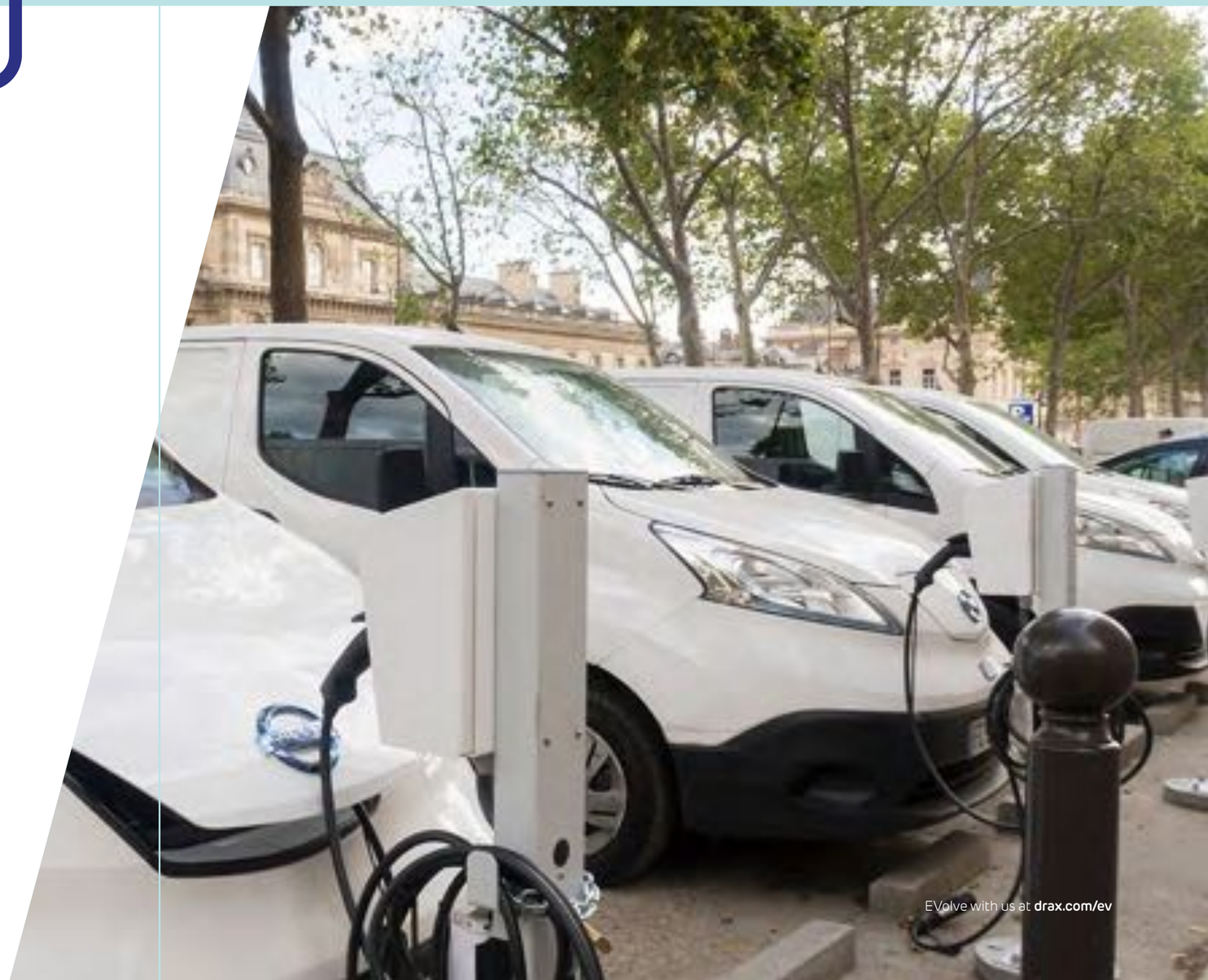
Which charge points, how many, and where?

You've got your business case and you've decided upon your vehicles – now you need to plan how you'll be fuelling them.

While EVs are gaining popularity, one of the biggest concerns remains their charging time. A 2020 Deloitte survey found that over half of consumers would consider an EV for their next car, but that charging time is still the biggest perceived challenge.

Fleet electrification requires a mindset change. The driving range of an EV will, in most cases, be less than a petrol or diesel-based vehicle, but you can now top it up every time it returns to an office or pit stop with a compatible charge point.

When it comes to designing charging infrastructure, the important thing is to remember your business needs (another reason why that detailed audit is so helpful when it comes to decision-making).



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Revisit all the information you have about where your vehicles travel, where they're likely to stop, and for how long. Decide if it's just your fleet drivers who'll be using the charge points. You may want to make them accessible to other employees, site visitors, or even the general public. When using a partner, this is where they'll ask you to hand all the data over so they can analyse and make a recommendation for you.

In this stage of the journey, you'll decide two things: location of charge points, and type of charge points.

Location of charge points

You may have dozens of sites across the country and be considering charge points at each. But unless your fleet vehicles regularly travel over 100 miles per day, you may be surprised at how few charge points you actually need.

The data might reveal that only half of your sites see vehicle idle times of more than an hour or two. Or you may uncover that your average fleet vehicle only needs to be charged once or twice a week. In which case, you can reduce costs by only installing charge points where vehicles retire for the night or weekend.

In addition, home-based charge points are an option for vehicles that stay at an employee's residence overnight (something you can't do with a petrol pump...).

With the right application of your insight, you can make your charging infrastructure – and your budget – work smarter, not harder.

Type of charge points

Charge points fall into one of three categories: slow, fast, and rapid (measured in output of power, kW). Rapid charge points are the ones you're most likely to see at public pit stops like motorway services, and they also tend to be the most expensive.

As with choosing how many charge points you need, worries about charging times can lead to overestimating charge requirements. Your audit will reveal whether it's necessary for you to invest in rapid charging, or whether you can save money by choosing fast charging in a smart location based on your fleet's operational patterns.

A good electrification partner will help make sure you're not missing any "smart charging" opportunities, where charging can be shifted based on grid loads and in accordance to the vehicle owner's needs. But as long as you have the right data, the means to interpret it, and have thought about future usage, you'll be well-positioned to set up your fleet's EVs for success.

How long does it take to charge an electric vehicle?

Battery size	÷	Charge point speed	=	Empty to full charge time
64		7		10 hours
Based on hypothetical car with 64 kWh battery		Based on 7 kWh 'fast' charge point		

Charger types	Slow	Fast	Fast	Rapid	Ultra-rapid
Typical charging rate	3 kW	7 kW	22 kW	43 kW	150 kW

4

What (if any) site infrastructure changes do you need to make?

Electrical site survey

When you've chosen your charging locations, an electrical site survey will help you plan your charge point installation. This will be a time to engage your energy or facilities stakeholders, so you can prepare your site for plugging in.

You might have aesthetic and operational preferences for your charge point locations, but the survey will make sure your installation is practical and efficient. Taking advantage of existing electricity infrastructure, for example, can reduce the costs and risks associated with groundworks and future connections.

A survey can also help you to plan for the future: understanding what's under the ground at your sites means you're prepared if further works are necessary.

It's good to know what impact any site changes would have on your operations and bottom line. Groundworks are inconvenient, so managing them effectively will help to minimise disruption, downtime and expense.

Installation works can be disruptive, complicated and costly, and you'll need some form of expert help. An effective electrification partner will coordinate requirements and offer a single point of contact with everything from placing orders to managing third-party specialists.

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Hardware implementation

The exciting point of no return: the theoretical work is done and now you'll be putting your charge points in the ground. This is the stage at which you'll need to buy the hardware, schedule the site works and project manage the installation..

You might even need to engage specialist contractors – including charge point programming experts – during the installation of your hardware. It could be valuable here to have a site manager to take overall responsibility and simplify communications between contactors and in-house teams.

Consider that installation day might be a good moment to raise awareness with colleagues. This will be the first time they see your EV project coming to life. This is a great opportunity to raise the profile of EVs within the business. It's a chance to communicate why you've spearheaded the change, and further drive home the business and environmental benefits to stakeholders.

How do you smoothly execute your installation plan?

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How do you programme and operate the installed hardware?

Charge point management

Charge points are user-friendly but sophisticated pieces of tech. Just like when you get a new phone, before you start using your charge points, you'll need to set them up. However, operating charging infrastructure is a technical and complex job that requires training and experience, so a partner for this step will be valuable.

Some charge points will let you programme different tariffs for different types of users – handy if you're making your charging locations available to site guests as well as employees, for example. Once your tariffs are set-up, in theory you're ready to go.

However, real optimisation comes when you make use of your charge point data. Some partners or charge point manufacturers will provide software that gives you real-time visibility of the usage and status of your charging network – when they're being used, how long for, and how often. Certain products will even let you remotely lock, unlock and reset your charge points. This means you can self-manage your fleet and resolve issues much more promptly.

Whether your goal is cutting carbon emissions or saving costs, with the right data at your fingertips, you'll be able to prove the efficiencies and savings to a precise degree.

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Maintenance and servicing

Regular software updates will help your charging infrastructure to stay efficient, effective and bug-free. No products are immune to faults, though.

Potential issues to be aware of include outages and failures. But the good thing about using smart technology is that manufacturers or specialists can often detect (and correct) faults before the end-user is even aware that anything's wrong.

If you choose a partner for ongoing support, some can coordinate charge point programming specialists who'll be equipped to deal with any issues quickly and effectively. It's like having a remote support team that keeps an eye on your technology. And if the worst happens, this'll be the team that manages the replacement of charge points.

What happens if your charge points need updates or develop faults?

8

How do you track data for real EV insights?

Enabling the power of telematics

With EVs, you don't just get real-time data for your charge points. Your entire fleet is just a click away.

Telematics (technology that enables information to be sent from devices installed in vehicles) can help you optimise the benefits of your electrification investment. EV-specific telematics devices give you data on everything from vehicle location and battery charge, to mileage and driving efficiencies, all from one central reporting hub. Some partners will be able to create a dashboard that puts all this insight straight into your hands. Think powering up your laptop and seeing where each vehicle in your fleet is travelling at that precise moment in time.

And if you already have telematics for your ICE fleet, you might not need need to start afresh – in many cases, EV telematics can be integrated and viewed in the context of your non-EV fleet reporting.

Setting up telematics will give you the insight that proves your return on investment and helps to provide the data for justifying sustainability claims. It allows you to make further efficiencies.

What next?

These eight steps will take you from ICE to electric. If you've taken your business this far, congratulations! You're well on your way to a brighter future. With your fleet – or at least part of your fleet – electrified, you'll start to see the environmental benefits and cost savings you'd projected. And you'll be able to make bolder sustainability claims based on the evidence your telematics systems will provide.

Once this evidence is in place, you'll have the start of a great business case for expanding your EV commitment and optimising the benefits. Read on for how to invest, expand and innovate once you've embraced electrification.

Use data to optimise the value of your investment

You've got access to the data – so what will you do with it?

Once your EVs have been running for some time, you'll be able to take your telematics data and turn insight into action.

For example: you could train your drivers to save you money. With EV-specific telematics data, Fleet Managers will be able to assess how efficiently their drivers are operating. Even relatively minor tweaks to driving styles could reduce the number of breaks required for vehicle charging – and therefore increase operational efficiencies.

Some EV partners will go the extra step in this stage, taking this insight and using it to run workshops on optimised driving styles. This is one way of introducing optimal driving incentives for those in the driving seat, which turns into operational savings for your business and environmental benefits in the long-term.

Expand your initial EV investment to boost the benefits

Whether you've invested in one or 20 electric vehicles, by embracing EVs your business will be at the front of a global transport evolution.

As your electrification ambitions grow, so does the accessibility and affordability of advanced EV solutions.

Staying on top of technological advancements and market launches will mean you'll know when the time's right to expand your EV commitment.

This could mean targeting more vehicles for conversion across operational, maintenance, delivery or executive fleets.

It could also mean installing additional charge points at existing EV sites or planning to expand your charging network across new locations as you seek to optimise operational efficiencies. If you don't have the time to stay on top of developments, make sure you have a partner who can keep you up to speed on relevant advances that could benefit your business.

Innovate to stay ahead

When it comes to electrification, there's exponential room for innovation and growth. Keep one eye on the future and your business can take advantage of imminent advances such as:

- Vehicle developments, particularly within the LCV / HGV market, which will allow you to convert more ICE vehicles in your fleet.
- Home-based vehicle charging – which offers further operational opportunities and can be tied in via the same software as your fleet arrangement.
- Vehicle-to-Grid charging – which will turn your fleet into an electric asset that offers revenue streams through dispatch opportunities, plus energy storage.

Revved up and ready to go?

There's no denying that electrifying your fleet can be complex. But by following the steps we've outlined, you can make sure you're on the right track.

Electrifying a fleet can go a long way towards helping your business fulfil its renewable goals and reduce its carbon footprint. With the right approach, you can quickly repay your initial investment and begin to generate a return through savings on fuel and maintenance costs. Are you ready to EVolve?

Your partner on the road

To put yourself on the best path to success, find an EV and energy expert who can help ease the burden and partner with you for the setup, management and optimisation.

We're Drax. We offer a unique end-to-end partnership approach to electrification that supports businesses every step of the way. As experts in energy and EV markets, we're perfectly positioned to help organisations build on their sustainability ambitions through fleet electrification.

We're here if you have any questions about electrification.

Find out more at drax.com/ev

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