



# EV Fleet Accelerator

Findings & Recommendations

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**JULY 2021**

## About the EV Fleet Accelerator

Formed by the CEOs of bp, BT, Direct Line Group, Royal Mail, Scottish Power, Severn Trent and Tesco, the EV Fleet Accelerator (EVFA) aims to use electric fleets as a catalyst to accelerate the widespread conversion to EVs across Britain. This group constitutes the owners and operators of some of the biggest van fleets in the country, complemented by infrastructure, energy, retail and insurance and repair capability.

**Keith Anderson**  
Scottish Power



**Liv Garfield**  
Severn Trent



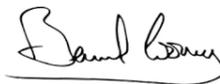
**Penny James**  
Direct Line Group



**Philip Jansen**  
BT



**Bernard Looney**  
bp



**Ken Murphy**  
Tesco



**Simon Thompson**  
Royal Mail



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# Executive summary

The UK is in a race to go electric, and electrifying major van fleets can be an important catalyst to accelerate the mass adoption of EVs in Britain. There is a huge economic prize at stake, with £50bn of private investment ready to be unlocked with the right incentives and the right action plan. This would place the UK at the forefront of low emission vehicle technology, increase business and public rollout of EVs, and create substantial export opportunities.

As things stand, however, we look set to fall short. Van manufacturers point to a lack of charging infrastructure, the Charge Point Operators (CPOs) cite a lack of demand, and the fleet operators point to a lack of van availability and high connection costs at their depots. There is no large-scale UK manufacturer of electric vans, and so companies like ours who want to buy British today, can't and are instead sourcing from France and Germany driving investment and green jobs overseas.

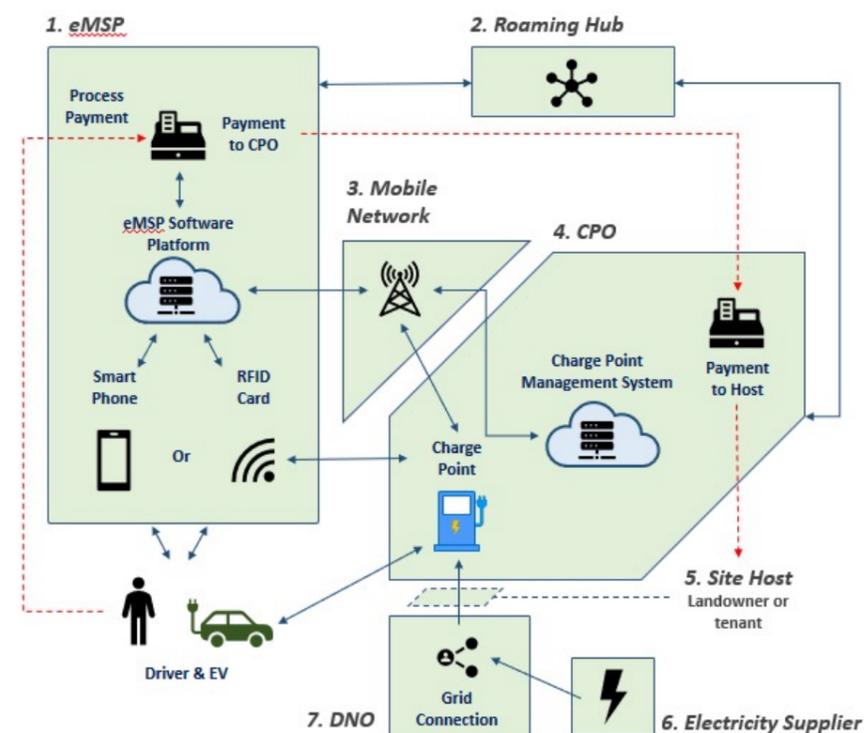
We have a window of opportunity, in 2021, to break this cycle and scale our ambition. Like other aspects of net zero, that will require detailed delivery plans. Every part of the chain will require **key pieces of Government policy putting in place**. From network infrastructure, to charging points, to manufacturing plants and their supply chains including batteries, private sector investment can be delivered at pace with the policy recommendations in this report.

The member companies of the EV Fleet Accelerator want to play our part. We are therefore committing to 'buy British' and to accelerate that spend: provided the necessary policies are in place to unlock UK manufacturing. It is going to require strong leadership to bring about the change required. If you agree with the key points in this report, then we want to work with you to lead this game-changing opportunity and deliver this profound change to our transport system: 'a green plan led by the white van.'

## Overview

Formed by the CEOs of bp, BT, Direct Line Group, Royal Mail, Scottish Power, Severn Trent and Tesco, the EV Fleet Accelerator (EVFA) aims to use electric fleets as a catalyst to accelerate the widespread conversion to EVs across Britain. This group constitutes the owners and operators of some of the biggest van fleets in the country, complemented by infrastructure, energy, retail and insurance and repair capability. This is a complex ecosystem as described in Fig 1.

**Figure 1 - The ecosystem covers a range of industries and Government departments<sup>1</sup>**



Given over 60% of new car and van registrations in the UK are fleet and business, switching them to electric, alongside the rollout of a national charging network, will allow faster public adoption in the mass market. This will drive the second hand market which is the main market for most consumers and essential to getting more EVs on UK roads. It is a case of green fleets for clean streets.

There are, however, substantial barriers that need to be overcome to enable this transformation of road transport, and it is only with business and government working in partnership that the jobs, skills and infrastructure can be created and developed to overcome the challenges.

**There are four focus areas where collaboration is required:**

1. Ramp up demand signals
2. Strengthen electricity distribution network infrastructure
3. Expand UK supply chains
4. Ensure a fair distribution of charging points on consumer-friendly platforms

This model could be the leading approach to EV rollout in Europe, with the potential to export it to the rest of the world. We propose showcasing this at COP26 as a tangible step for countries in the Energy transition. **This is a green plan for the white van.**

## Building back better

We strongly agree with comments from the Prime Minister and Chancellor that the post-Covid economic recovery enables us all to build back better, stronger and greener. Applying this to EVs, our analysis of the demand side suggests that existing fleet commitments already set by UK companies will create demand for nearly 700,000 electric vehicles between now and 2030, and could be much greater.

This demand is a powerful signal and will be a stimulus to EV van manufacturing which can contribute to Original Equipment Manufacturer (OEM) allocation decisions in the UK along with the associated supply chain. We would like to create a virtuous circle where the demand helps to stimulate British van production which reduces manufacturing costs which in turn enables further demand to make the switch to EVs. This also accelerates the removal of government subsidies currently in place. By using the collective strength of the EVFA we can also shape electric vehicle car demand, particularly as infrastructure issues are resolved, feeding the second hand market and thereby increasing consumer take-up.

**The EVFA companies are willing to commit to buy 70,000 British EV vans by the end of the decade or sooner if availability allows. This represents 10% of the estimated total vehicle demand to kick-start this process.**

We believe this is an achievable target if government acts on the points set out in this report. There are additional measures that industry could take to augment these demand signals. For example, how to provide meaningful aggregate data to UK Government and manufacturers on what types of vehicles will be needed and on what time frames; and how to identify those locations where charge points are most urgently needed, including in those areas identified as most in need of levelling up.

With this level of commitment from major fleet operators, substantial momentum will exist on the demand side; but additional action is still needed from Government to support delivery, including:

- Working with Ofgem and UK network operators to **strengthen the network infrastructure**, to ensure that all areas and major routes support universal, ubiquitous and affordable charging. As things stand today, a significant portion of the UK does not have the necessary infrastructure to support the decarbonisation of transport and we estimate this could cost over £10bn by 2030 to improve.
- **Expanding the supply of UK-made vehicles:** by incentivising van manufacturers to re-fit their plant for EVs; and by supporting wider supply chain investments and R&D, including in battery gigafactories.
- **Planning reforms that can promote a truly national charging point infrastructure:** including a network of ultra-fast charging sites that are within easy reach for all drivers in all communities, from our cities to our rural villages.
- **Setting standards and regulation for charging services to ensure a seamless experience**, where systems are inter-connected, and consumers never have to think twice about how or where to find the nearest available charging point and be readily able to use it when they do.

To achieve this wholesale change, there will need to be notable investments and commitments from all stakeholders. This report recognises the important work that Office for Zero Emission Vehicles (OZEV) is doing on developing an EV Charging Infrastructure Strategy and Delivery Plan, the EV Energy Taskforce collaboration with the automotive sector, and the campaigns and initiatives being run by the UK Electric Fleets Coalition. A holistic approach is essential to success.

From an industry perspective, we estimate<sup>2</sup> the level of investment required over the next 5 years as £50bn:

Activity	Investment
Fleet businesses investment in charging/ electrical upgrades	<b>£11bn</b>
CPOs Investment	<b>£9bn</b>
Distribution Network Operators (DNOs) Electrical infrastructure investment	<b>£10bn</b>
700,000 EV Fleet Vehicles (of which EVFA Buy British Commitment for 70,000 Vans) = £2bn	<b>£20bn</b>
<b>Total</b>	<b>£50bn</b>

<sup>2</sup> EVFA internal analysis

This investment in turn, could unlock EV manufacturing in the UK and the associated supply chain investments required.

Businesses though need the confidence and the framework to invest over the medium to long-term. This report identifies a series of policy measures that, if introduced, could fire the starting pistol on the £50bn+ investment – all in the UK – outlined above.

### In the next 12 months:

- Department for Transport (DfT) to set out a clear funding framework to leverage private investment in charging infrastructure, ensuring public funding targets areas less attractive to private investment.
- DfT and Ofgem execute the already announced rapid charging funds of £950m and £300m.
- Commission analysis reviewing potential direct investment in UK gigafactories and in the re-fitting of existing manufacturing plants.
- HM Treasury to provide longer-term certainty on duration of existing Government subsidy programs for EV vans, to account for a slower taper in prices than is likely for cars.
- Clarity on the support that Government will provide to existing manufacturers as they transition sites over to EVs.
- Ofgem to consult on their policy for DNOs to be ‘providers of last resort’ for EV charging infrastructure.

### In the next two - three years:

- Ofgem’s new price control framework, RIIO-ED2 to allow DNOs to invest in the electricity network ahead of EV demand.
- Government Ministry of Housing, Communities and Local Government (MHCLG) and Local Authorities working with key stakeholders such as DNOs and CPOs to ‘fast track’ EV charging infrastructure to support the rapid development of ultrafast charging sites.
- DfT/Department for Business, Energy, & Industrial Strategy (BEIS) to introduce a Zero Emission Vehicle (ZEV) mandate requiring a rising percentage of Vans sold by auto manufacturers to be zero emission.
- Local Authorities required to support the growth of charging hubs, alongside on-street charging infrastructure.
- MHCLG guidance to Local Authorities on how to set low emissions zones standards (to ensure a degree of compatibility) and for there to be a link between the establishment of zones and the level of public charging available within the area.

- Progress on existing barrier-busting initiatives such as multi-street permitting for streetworks (DfT) and the implementation of building regulations that require new buildings to install charge points (MHCLG).
- The setting of standards for interoperability of charging platforms, ensuring a seamless experience for consumers when they want to locate, use and pay for charging points.

### Between 2024 and 2030:

- Treasury addressing VAT disparity between home (5%) vs public (20%) charging.
- Treasury providing VAT exemption on sale of second-hand EVs.

**These are big challenges, but they are surmountable. If implemented, these initiatives will enable the development of jobs and skills of the future, while speeding up business and public adoption of electric cars throughout the country, in turn helping the UK to meet its Net Zero commitments.**



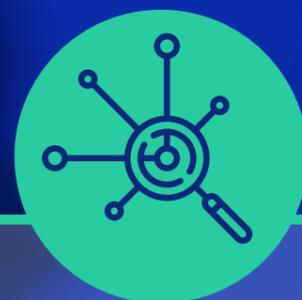
## Next steps

We want to do everything we can to support the Government in getting this right. We believe that this needs a clear, public, integrated plan to bring together all the initiatives we describe here with a timetable to make it all happen. If we are all ambitious, we believe this can be worked up and costed ready for publication at COP26, as a showcase of Britain’s green industrial revolution.

# 1.

## Future-proofing the electricity network infrastructure

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### Summary of recommendations:

- Ensure that DNO price controls reflect the need to invest in the network ahead-of-need
- Review of funding measures to date against the scale of the challenge
- Fund some of the costs of the EV charging infrastructure, such as the connection costs
- Regulatory consultation around new DNO 'provider of last resort' provisions

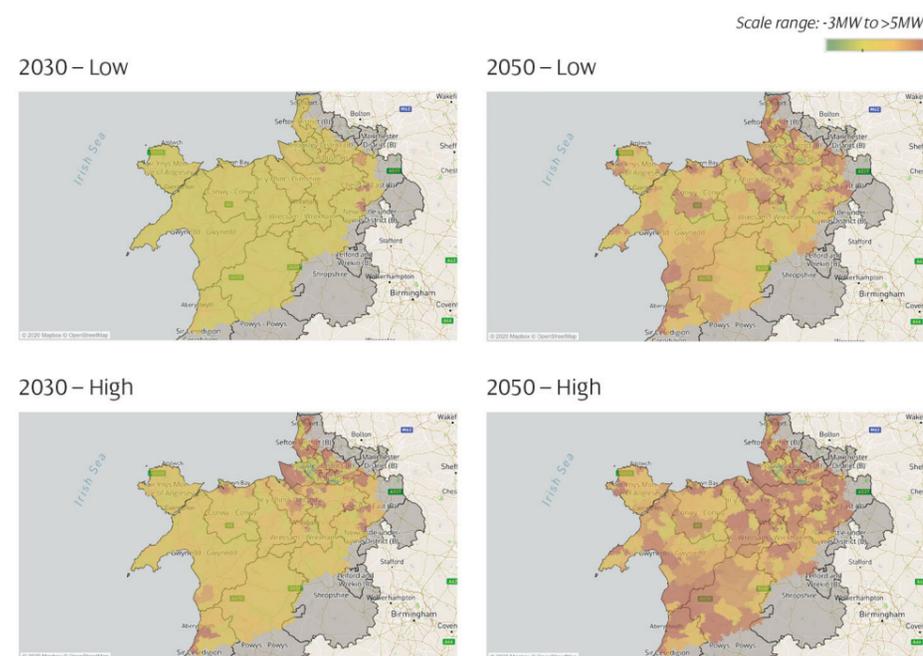
## Overview

By 2030, it is estimated that the number of EVs in the UK will be between 2.7 and 10.6 million and rising as high as 36 million by 2040<sup>3</sup>. Even the lower end of forecasts, if reached, will place substantial demands on the UK's electricity networks.

The widespread use of electric heat pumps as a low carbon alternative to gas boilers will impact peak demand on electricity networks even further. As a result, future electricity demand for domestic consumers could be two to seven times higher than at present<sup>4</sup>. Similarly, electricity demand as a result of charging fleets of EVs at depots, en route and at home (for those fleets that rely on home-start capacity), will increase significantly, though this will be highly dependent on how businesses choose to charge their vehicles.

These factors will impact generation and demand on both transmission and distribution networks. In turn this will require new skills and capabilities as the focus shifts to the dynamic management of local systems in order to meet changing needs. It is important to both anticipate these impacts and invest over the short to medium-term to ensure the grid is future-proofed i.e. dynamic and resilient to cope with the rising demand. The introduction of local plans for projected EV infrastructure requirements would help the regulator, Ofgem, to provide a clear and supportive framework for investment and delivery in every community.

**Figure 2 - Illustration of the need for distribution network reinforcement in North Wales due to the electrification of heat and transport in different scenarios**



<sup>3</sup> House of Commons Library Research Briefing - <https://researchbriefings.files.parliament.uk/documents/CBP7480-/CBP7480-.pdf>

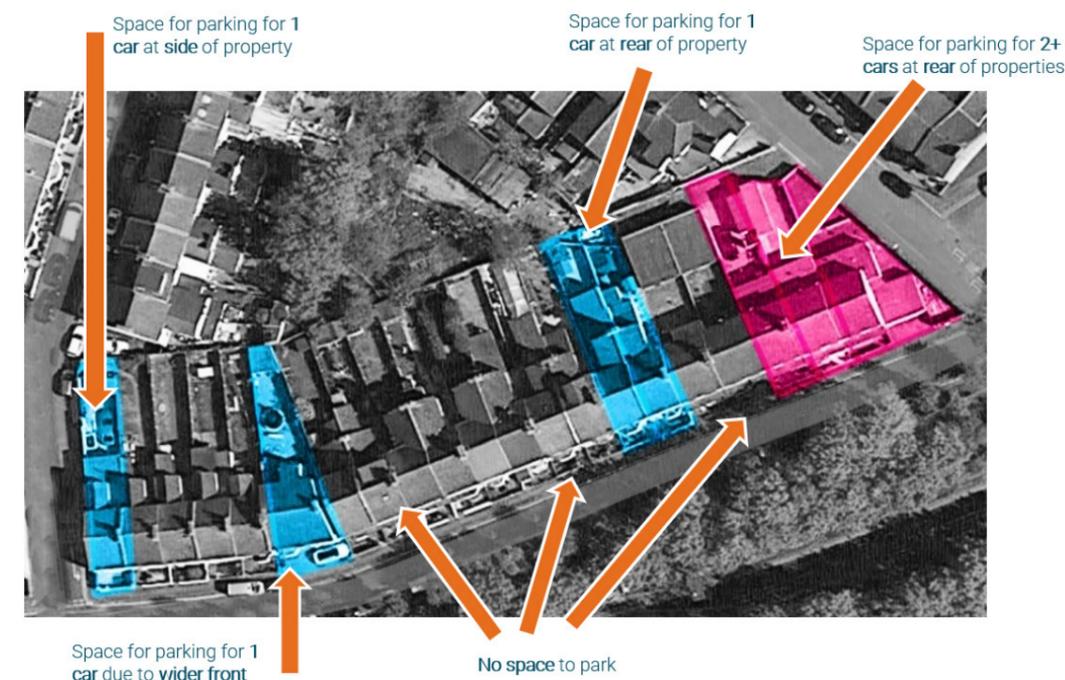
<sup>4</sup> Energy Systems Catapult, Innovating to Net Zero, Mar 2020 - <https://es.catapult.org.uk/reports/innovating-to-net-zero/>

## Scale of investment in networks to facilitate these chargepoints: connections and grid reinforcement

The majority of the investment required to ensure that the electricity networks can support these chargepoints will be in the distribution networks. The Climate Change Committee have estimated that rapid uptake of electric vehicles and hybrid heat pumps combined could increase total expenditure on distribution networks by up to £50 billion by 2035, or £1.8 billion per year.<sup>5</sup>

The UK Government's Rapid Charging Fund (£950m) and Ofgem's recent Green Recovery announcement of £300 million investment, both of which include funding for new network infrastructure to support the rollout of ultra-rapid chargepoints at motorway service areas and key trunk roads, are welcome steps, but do not go far enough to address the scale of the challenge.

**Figure 3 - Illustration of the challenge of charging EVs for fleets that need 'home-start' capability**



'Field Dynamics EVMap. © Crown Copyright 2021, OS Licence number 100061024. Background Image Google Maps, 2021

<sup>5</sup> Climate Change Committee, Accelerated electrification and the GB electricity system, April 2019

## The importance of flexibility

EV charging could have a significant impact on peak demand in distribution systems if left unmanaged. Smart charging and vehicle-to-grid (V2G) are two ways to add flexibility to EV demand:

- Smart charging can reduce peak demand by shifting EV charging to a different time of day.
- V2G technology enables EVs to release electricity back to the network.

These measures and others will significantly reduce the impact of EV charging on the network.<sup>6,7</sup> In turn, for the public, this will accelerate the adoption of EVs and deliver lower electricity bills. Government support of the forthcoming smart systems flexibility plan is therefore important, and the hope is that this will lead to the development of more flexible and interoperable energy services.

## ‘The Deal’ - The role of industry in meeting this challenge

DNOs are ready to invest ahead-of-need in the required grid infrastructure to support the roll-out of EVs. They have already undertaken analysis to understand the impacts of large numbers of EVs on the network and are developing tools to predict where ‘pinch-points’ are likely to occur.

At a more local level, DNOs can provide data on the local network and work together with CPOs to identify where charge points should be best located to ensure cost effective connections to facilitate EV charging infrastructure.

There is a clear opportunity for a broad range of stakeholder groups, including CPOs and DNOs to work closely with Local Authorities to:

- Integrate with local heat and industrial decarbonisation ambitions.
- Share best practice, local knowledge, and support the cost-effective roll-out of EV charging.
- Consider what the options are for EV charging infrastructure in specific areas, for example in areas where regeneration is being planned.
- Identify areas where there is a need for public intervention in the delivery of EV charging infrastructure (whilst deprioritising areas where the market is likely to deliver).

<sup>6</sup> Consumers, Vehicles and Energy Integration project, January 2020 – <https://es.catapult.org.uk/case-studies/consumers-vehicles-and-energy-integration/>

<sup>7</sup> Vehicle to Grid Britain project, June 2019 – <https://es.catapult.org.uk/reports/vehicle-to-grid-britain/>

## ‘The Deal’ – What’s required from Government/regulators

### Using existing mechanisms: importance of RII0-ED2

The principle of investing ‘ahead-of need’ is already in practice, as network companies are repaid for investing in upgrading and reinforcing the grid. As outlined above, this investment is critical to ensure resilient infrastructure is in place to support EV charging as demands on the grid increase.

Ofgem has recognised the importance of making allowances for investment in the grid ahead-of-need to facilitate EV uptake. However, it is now vital to make sure these aspirations are translated into action in the forthcoming distribution price controls (‘RIIO-ED2’). We recommend that Ofgem set DNOs milestones to meet in terms of penetration levels to ensure timely installation.

### Promoting EV charging options in areas where the market won’t reach

Under new regulations, DNOs are prohibited from owning, developing, managing or operating public EV charge points. However, they can act as a ‘provider of last resort’ where it can be clearly demonstrated that the market will not deliver. If a situation arises where a DNO has to act as the ‘provider of last resort’, it is allowed to own the charging infrastructure for five years before carrying out another market engagement exercise. By doing this, DNOs would prime the market and promote the timely development of a comprehensive EV charging network.

However, the policy or guidance which sets out how this licence condition will work in practice has not been provided. Ofgem should develop the necessary regulatory mechanism now to ensure that, where the DNO ‘provider of last resort’ provisions are required, DNOs are appropriately funded for taking on the role of provider and owner of public EV charging infrastructure.

Funding a proportion of the costs of the EV charging infrastructure, such as the connection costs, would also facilitate the delivery of a comprehensive network of EV chargepoints and would deliver a tangible boost to the EV industry.

We recognise that these ‘provider of last resort’ proposals may have less relevance for corporate fleets than private vehicles as, in most cases, there will be a clear commercial need for charging for fleets. It would, however, provide greater confidence in the coverage of the network for all EV drivers.



## Project PACE Key Role for DNOs in optimal and cost-effective site selection

As part of SP Energy Networks (SPEN) wider Strategic Partnership (with the Scottish Government and Scottish and Southern Electricity Networks), SPEN has led an innovative pilot project, Project PACE, which provides a strong framework for DNOs playing an active role in the planning and siting of cost effective EV charging infrastructure.

Funded by a grant from Transport Scotland, Project PACE is delivering around 180 EV chargers across more than 40 EV charging hubs in central Scotland (North and South Lanarkshire). This is targeting an increase in the number of public EV chargers for Lanarkshire communities by over 200% and increasing the number of public EV chargers in Scotland as a whole by around 14%. The additional ca.10MW of EV charging capacity, an increase of 360% in Lanarkshire, is expected to accommodate the charging of around 5000 more EVs.

By choosing charging locations that make effective use of the existing electricity network, Project PACE is expected to achieve between £30,000 and £60,000 average savings on electricity grid connection costs per new EV infrastructure location. This equates to a total of between £1.3 million to £2.6 million of taxpayer money saved across all of the current planned sites.

Scaling up this DNO-led site selection activity to the whole of Scotland would cost ca. £7.5 million and could save more than £26 million in estimated connections costs. Rolling out this DNO-led framework across the whole of the UK would cost ca. £94 million and could save more than £310million in estimated connections costs.



# 2.

## Enabling the UK-wide rollout of charging infrastructure

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### Summary of recommendations:

- DfT to set out a clear funding framework to leverage private investment in charging infrastructure
- DfT/Ofgem to expedite the deployment of existing funds and public investment in “below ground” infrastructure to accelerate the roll out of ultra-fast charge points
- ‘Fast track’ EV charging infrastructure in the planning system to support the rapid development of ultrafast charging sites
- Local Authorities required to support the growth of charging hubs, alongside on-street charging infrastructure
- Assess and prepare for the scale of the existing and future workforce skills base

### Overview

There are over 500,000 electric vehicles (pure electric and plug-in hybrid) on the road in the UK today, with more than 200,000 home charging points and 40,000 public charging points installed.<sup>8</sup>

Compared with the 30 million ICE cars and vans in the UK, charging infrastructure – home, workplace and public – will need to scale up significantly to meet the needs of the market. It is estimated that around 40% of UK households do not have access to dedicated off-street parking, which would allow them to charge at home<sup>9</sup>, so whilst estimates suggest that there will be more than 8 million home charging points by 2035<sup>10</sup>, millions of private motorists and fleet drivers will be reliant on out-of-home charging. Cambridge Econometrics forecast a need for 300,000 public charge points by 2030.<sup>11</sup>

To date, the EV charging infrastructure sector has kept pace with the EV market and arguably staying ahead. Current utilisation levels on public charge points are estimated to be less than 25% on average. However, analysis suggests a dramatic acceleration in roll out will be needed in the next five years – five times faster than the current rate.<sup>12</sup> To encourage continued private investment in more charging infrastructure, the supply of EVs – and particularly BEVs – to the UK market must increase to ensure the business case is clear. Accelerating the electrification of fleets is an ideal way to stimulate this further investment in infrastructure.

### The challenge

If a driver can charge at home, it is likely that they will do so, although there will be greater prospects of network constraints once a higher proportion of the population in specific local areas switch to electric vehicles. Flexible charging will help, as even now, only around 1 in 10 home charging points are used every day<sup>13</sup>, and smart charging of various degrees will further lessen the demand during peak periods<sup>14</sup>, although these won't solve all issues in relation to increased electricity demand and network reinforcement will also be required. A future challenge around home charging lies in having sufficient installation capacity to ensure all drivers who want one can get one installed expediently. This may result in a further reliance on the public charging infrastructure beyond those that currently do not have off street parking, in particular impacting cities.

<sup>8</sup> <https://www.zap-map.com/statistics/>

<sup>9</sup> EV Energy Taskforce, A Common Strategic Understanding of the Requirements of the Energy System to Support Mass EV Uptake, 2020 <https://evenergytaskforce.com/reports/work-package-one/>

<sup>10</sup> <https://www.smm.co.uk/09/2020/billions-invested-in-electric-vehicle-range-but-nearly-half-of-uk-buyers-still-think-2035-too-soon-to-switch/>

<sup>11</sup> The impact of a 2030 ICE phase-out in the UK (camecon.com)

<sup>12</sup> Charging Up | Policy Exchange

<sup>13</sup> bp pulse data

<sup>14</sup> EV Energy Taskforce, Energising Our Electric Vehicle Transition, November 2019 – <https://evenergytaskforce.com/>

For public charging, a key challenge for CPOs is ensuring that the right charging infrastructure is installed in the right places, at the right time. This ensures that it is useful to drivers and justifies the investment. Whilst existing developments such as forecourts, car parks and other locations will host a significant number of charge points, many new sites will be required.

The expansion of public charging is already happening at pace, with the investment being led by the private sector. Similar challenges to home charging may emerge in terms of having a sufficient and appropriately qualified workforce to meet the installation needs. There are potentially thousands of new 'green' jobs that would be created through building the charging infrastructure in the UK. This, combined with the changes required in maintaining the EV Fleet, will result in workforces having to adapt to encompass a wider range of skills and capabilities. In turn, this will require a comprehensive plan for apprenticeships and further learning.

The public sector also has a critical role to play, particularly in the rollout of on-street charge points. Local Authorities are working with CPOs to install kerbside charge points, mainly aimed at residential use and overnight charging, with the benefit of the UK Government's On-street Residential Chargepoint Scheme grant funding. While on-street charging is seen as a convenient solution for those who do not have off-street parking at home, there are challenges around the installations themselves – including the additional street furniture required – as well as how they are used, including accessibility issues, both for users and bystanders. Ultra-fast charging hubs, with the requirement of increased grid capacity may be logistically preferential and the best option for some consumers, including fleets, rather than slower on-street charging<sup>15</sup>, recognising that new solutions are being developed all the time.<sup>16</sup>

### The investment

CPOs are investing significant amounts of private capital in expanding the charging network in the UK. Chargers are generally simple to use, easy to find and increasingly utilising contactless payment terminals. We are also seeing the emergence of partnerships that provide 'cross-acceptance' or 'roaming' for customers of one charging network to use the charge points on another provider's network, and we expect to see further development in this area.

<sup>15</sup> <https://es.catapult.org.uk/reports/on-street-parking-and-electric-vehicles/>

<sup>16</sup> <https://www.gov.uk/government/publications/smart-meter-electric-vehicle-charging-competition-winning-projects/beyond-off-street-smart-meter-electric-vehicle-charging-competition-winning-projects>

Investments are also being made to improve reliability, including in upgrading legacy charging equipment. Businesses are estimated to be investing nearly £16 billion in EV charging at their own sites.<sup>17</sup> The Society of Motor Manufacturers and Traders, SMMT estimates that a similar amount will be needed to be spent on the rollout of the public charging network.<sup>18</sup>

A significant amount of the electrical infrastructure investments to enable this have already been committed. Ofgem has announced that £300m, coming from existing and future allowances, will be invested via DNOs to increase grid capacity at 39 motorway service areas. We welcome this as the first of what we hope will be many interventions by Ofgem. The Government announced the Rapid Charging Fund (initially £500m, but now £950m) in March 2020, to bring the necessary grid capacity to motorway and key A-road sites. Further clarity and timescales are needed on the deployment of this fund.

### The offer from industry

The private sector will deliver the vast majority of the public charging infrastructure that the country will need over the next 10 years and beyond. Where utilisation is expected to be sufficient, the business case for investment is already being made, and expansion is underway. Some CPOs have already invested in grid upgrades to provide ultra-fast charge points, where economical.

The private sector is committed to working with Local Authorities and the public sector bodies to offer best practice advice and guidance around EV charging installations, including providing the resourcing to cover charge point rollouts in specific areas. However, it is clear that many Local Authorities lack the in-house experience or overall resources needed to deliver effective charging schemes in their areas, and therefore the structured sharing of expertise is critical.

### The ask of Government and regulators

The Government should set out a clear funding framework to support the deployment of charge points across the country, leveraging private investment to ensure that all communities benefit from the move to clean transport. The funding framework needs to take a holistic review of the funding measures to date against the required spend to support a rapid deployment of charging across the country. The framework would assess gaps in DNO connection costs and Rapid Charging Fund to enable private investment to support future:

- 8 million on-street, mainly residential charging points
- 500,000 workplace and depot charge points

<sup>17</sup> Centrica Business Solutions found that companies are planning to invest 15.8E billion in EVs and on-site charging points over the twelve months to March 2022.

<sup>18</sup> <https://www.smmt.co.uk/09/2020/billions-invested-in-electric-vehicle-range-but-nearly-half-of-uk-buyers-still-think-2035too-soon-to-switch/>

- 300,000 destination charge points
- 27,000 forecourt/motorway ultra-fast/rapid chargers

The Rapid Connection Fund is a good start and much needed. Installation of chargepoints at fleet depots and businesses is proving to be another key area of market failure. We have already made the case that conversion of business fleets to ZEVs will be central to achieving the 2030 ambition. But the need for companies to install multiple chargepoints at individual sites in order to convert their fleets can trigger prohibitive connection costs. An additional fund that supports businesses in meeting these connection costs will help accelerate the EV transition.

### Quicker deployment of agreed enablement funding to meet future ultra-fast charge point targets

As noted previously, Ofgem has announced that £300m, coming from existing and future allowances, will be invested via DNOs to 'rewire Britain'. This work to unlock grid constraints needs to be carried out expediently so that the investment from CPOs can follow on quickly thereafter. The 39 sites identified for investment have the grid capacity to unlock the equivalent of 1,800 ultra-fast chargers along the strategic road network. However, it is not practical for so many chargers to be deployed at each site in the short term, particularly with existing logistical and contractual constraints. Further investment in grid capacity is needed to meet the government's target of 2,500 ultra-fast chargers by 2030. In addition, the £950m Rapid Charging Fund to deliver the required grid capacity at motorway and key A-road locations for ultra-fast charging needs to be available as soon as possible. The Rapid Charging Fund was initially announced in March 2020 and almost doubled in size towards the end of 2020 but is still not in market. Government should action the deployment of these funds with immediate effect.

### Unlock land and get charging sites developed more quickly

The private sector needs to be able to access a greater number of suitable and attractive locations for expanding the UK's public charging infrastructure. Central and local government can help deliver this, by working together to identify and offer sites for development. Any sites and locations for charging should be suitable for local residents' needs, whether that be on-street, rapid hubs or other charging solutions. The Government may also wish to consider the merits of a 'right to charge' duty on Local Authorities, to ensure residents, including those driving fleet vehicles, have sufficient infrastructure to meet their needs.

Government can also enable the quicker development of sites by giving EV charging installations – or at least those of a certain scale or significance – through the introduction of ‘fast-tracked’ planning processes to ensure the rapid development and commissioning of sites.<sup>19</sup>

While new charge points are being installed frequently, there are some constraints on the ability of CPOs to install in certain locations. For example, exclusive arrangements at motorway service areas mean that most EV charging networks are unable to expand the provision of charging at these sites. The Competition and Markets Authority (CMA) are currently carrying out a market study and have identified this issue as a barrier to growth. The recommendations should be implemented to unlock investment by CPOs and provide more choice for consumers.

### Ensure the right education and training opportunities are provided

Given that there will be a huge demand for sufficiently qualified electricians and electrical engineers, we need to support the education, training and retraining of our future workforce. To make the step change, consideration needs to be given to the promotion of STEM topics in schools, the role of apprenticeships, and identifying skills sets that could transition, with some training into these growth sectors.

There is also an immediate upskilling requirement to support the transition. Vehicle maintenance and repair for van fleet and the broader car parc is fundamentally changing meaning repair techniques associated with battery technology and Advanced Driver Assistance Systems (ADAS), using sophisticated sensors linked to the latest software, will be needed to ensure safe repair. The nature of the repair challenge means that an average job is now taking 20% longer due to the pace of technological change. To put this in context, certain car models now have up to 20 sensors that require calibration and will be reflected in van fleets we intend to purchase.

As ownership of electric vehicles increases, training future entrants and existing technicians in new repair methods is essential. This upskilling should go hand in hand with infrastructure upgrades and charging point installation to ensure the skills exist in the UK body shop industry, providing fleet owners and consumers with further confidence.

<sup>19</sup> Vehicle to Grid Britain project, June 2019 – <https://es.catapult.org.uk/reports/vehicle-to-grid-britain/>

### Introduce an EV Training Standard

To prepare for increased demand the UK Government should consider mandating a new ‘EV Training Standard’, encompassing all aspects of electric vehicle repair, including ADAS calibration. To achieve this, we believe reforming the existing Apprenticeship Levy by broadening the eligibility criteria would enable firms to draw down on the levy to upskill all technicians, whatever their age, incentivising companies to invest earlier than planned.

### VAT disparity between home and public charging costs

Whilst not directly related to fleets, public charging for EVs is rated at 20% VAT compared with 5% for home charging. The cost differential is exacerbated by those with home charging being able to access cheaper, dynamic overnight tariffs, that further reduce the price they pay. Whilst equalising VAT rates will not bring about parity in overall price, a standardised 5% rate would address some of the inequity that currently exists and provide some incentives for small business and independent traders to transition to electric vehicles and vans.



#### Direct Line Group case study

Direct Line Group provides 4 million in-force motor insurance policies where customers are supported by 22 Auto Services repair centres throughout the UK. It is one of the largest body shop businesses in the UK, employing over 1,400 with 700 hands-on technicians repairing vehicles. Direct Line Group also operates a partnership network with other body shop suppliers around the country.

Direct Line Group has already trained 19% of its technicians in electric vehicle repair. All technicians will need to undergo training, with 30% requiring in-depth EV education where the sophisticated nature of EV repair, ADAS calibration and diagnostics, and manufacturer accreditation is creating upskilling requirements.

# 3.

## Overcoming demand obstacles

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### Summary of recommendations:

- Increase capital support for grid reinforcement costs
- Increased coordination between DNOs and sharing of best practice
- Introduce secondary legislation ensuring charge points meet certain minimum standards
- Increase transparency on publicly available charge points for use across businesses and public domain

## Overview

As demonstrated in this report, there are extensive commitments from the private sector to increase the uptake of electric vans within their operations. However, as firms seek to plan and take forward their investments, there are a number of obstacles, including availability of infrastructure and supply of suitable vehicles, that are preventing UK fleet operators from making the switch.

As per the recommendations outlined below, we believe - through collaboration of businesses, government and other stakeholders - these can be overcome and at pace.

The nature of business van fleets mean that the needs and challenges differ between each fleet operator.<sup>20</sup> For example, Tesco's home delivery fleet includes refrigerated vans that are parked in-store overnight, while Openreach run fleets that are mostly based at-home, so are charged overnight by their drivers. Despite these differences, we have developed with OZEV the following recommendations that would benefit all fleets.

## Grid reinforcement costs

EVFA members are carrying out EV van trials at a variety of their depots. Prohibitively expensive grid reinforcement costs make projects at certain locations commercially unviable but could be unlocked via public funding. This is especially true for high-power EV charging infrastructure.

Ofgem have now started a consultation to seek views on proposals relating to distribution connection charging, definition and choice of access rights, and transmission charging for small distributed generation. We fully support this consultation as it is important to tackle this barrier to EV adoption whilst weighing up the efficiency and equity issues of who pays for these connection costs.

The Government funding framework reference earlier should consider support for grid reinforcement costs, excluding the cost of the charging installation.

## Better coordination between different capacity off-takers at local level

Businesses apply separately to the DNO for electrical capacity increase. The cost per off-taker could be reduced if multiple off-takers were to fund jointly a public infrastructure upgrade. The DNO would be well placed to play a coordinator role determining if joint investment was feasible.

## Ensuring minimum standards for reliability, safety and interoperability

OZEV is already consulting on secondary legislation to ensure that charge points meet certain minimum standards on reliability, safety and interoperability reducing the risk of technology obsolescence/stranded assets. This will provide confidence in the procurement process for larger firms seeking to make substantial investments in both EVs and supporting infrastructure.

## Improve access to public charging networks and ease of comparison among tariffs

Some corporate fleets (as well as SMEs) will have to rely on public infrastructure, and complications in using different networks and a lack of 'tariff transparency' is a concern and a cost.

OZEV is already in consultation in this area. We urge the implementation of policies which will improve accessibility and price transparency.

<sup>20</sup> Consumers, Vehicles and Energy Integration, Fleet Study, August 2017 - <https://es.catapult.org.uk/case-studies/consumers-vehicles-and-energy-integration/>

# 4.

## Expanding the supply of UK-made vehicles

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### Summary of recommendations:

- Strong demand signal required to give van manufacturers and the supply chain, the confidence to plan their investments
- Introduce a requirement for manufacturers to meet an annually increasing percentage of vehicle sales that are zero emissions
- Provide long-term certainty about how government subsidies for EVs will be provided and how they will be adjusted over time
- Introduce a VAT exemption on the purchase of second-hand EVs, to help incentivise sales
- Commission analysis reviewing potential direct investment in UK gigafactories and in the re-fitting of existing manufacturing plants

## Overview

The diversity of businesses that are making the transition to EV Fleets means a wide range of EV requirements and customisations will be required.

Currently there is only one mass produced UK electric van. Analysis undertaken by the UK Electric Fleets Coalition and EV100 group found:

- EV100 members have seen an 111% increase in EV vehicles in the past year, with nearly 170,000 EVs deployed by their membership.<sup>21</sup>
- However, in the most recent EV100 Progress and Insights Report, 64% of members noted the lack of correct vehicle type was a significant barrier to increasing their uptake of electric vehicles.<sup>22</sup> This is a particularly acute issue for the supply of more specialist electric vans.

Long lead times, lack of choice (or no option at all for some vehicle types) and lack of availability are all challenges companies face, in turn making it harder to deliver on the commitments made to the EV transition. Competition between companies that are bulk buying EVs could be a further barrier to a successful transition, if supply does not increase.

Government and industry need to work together to increase the supply and choice of commercial vehicles, promoting the most competitive market possible in both UK manufacturing and access to other markets. It is unlikely that every need can be competitively met by EV vehicle manufacturing in the UK so we need trade arrangements, as now, that support exporting UK production overseas and imports to meet the diversity of needs required. The potential benefits are huge, in terms of green jobs and the wider supply chain which is of strategic importance to the country.

## The offer from industry

UK businesses with large commercial fleets are leading the way. However, despite substantial fleet commitments already set by UK companies, there remains a ‘chicken and egg’ dilemma, where insufficient demand is preventing the ramp-up of EV van production, and the lack of EV van production is inhibiting the adoption by van fleets.

The EV Fleet Accelerator coalition, which includes some of the biggest van fleets in the UK, is able to send a substantial demand signal to the vehicle manufacturers and supply chain in order to break this cycle.

The EVFA companies are willing to commit to buying 70,000 British EV van before the end of the decade, i.e. 10% of the estimated total in order to kick-start this process – provided good progress can be made on the rest of the agenda set out in this report. The scale of this unprecedented demand can provide the confidence to vehicle manufacturers and the supply chain on the investment in necessary vehicle production and gigafactories supporting the >800,000<sup>23</sup> people currently employed in the UK automotive industry and new green jobs created by the transition.

The EVFA is also willing to consider developing the means to provide meaningful aggregate data to UK Government and manufacturers on what types of vehicles will be needed, and on what time frames, in a commercially sensitive way. However to deliver these measures, fleet operators need policy change and stronger and clearer commitments from UK manufacturers.

## The ask of Government and regulators

Government can make a significant difference to the effective functioning of the EV market. It can increase the investment grants and incentives that are available and provide greater certainty about how these will be adjusted over time (critical given the long-term investment decisions firms will take). It can also place new requirements on manufacturers to increase up front supply.

Although the funding announced to date is welcome, we believe that Government needs to go further, and should be considering what direct contributions it could make to the financing of:

- The re-design of existing plant by larger and more established manufacturers (which will be needed alongside the new sites being built by producers such as LEVC and Arrival). This can be complex and costly to transform from existing petrol/diesel production to EV supply.
- An expansion in the number of gigafactories in the UK that can produce sufficient batteries to allow local manufacturers to compete with rivals, for example in continental Europe. This will be critical after 2027, when a vehicle will require a battery sourced within the EU or UK if it is to qualify for zero tariff trade under the UK/EU Trade and Co-operation Agreement.

<sup>21</sup> <https://www.theclimategroup.org/sites/default/files/02-2021/EV20%100Progress20%and20%Insights20%Report.pdf>

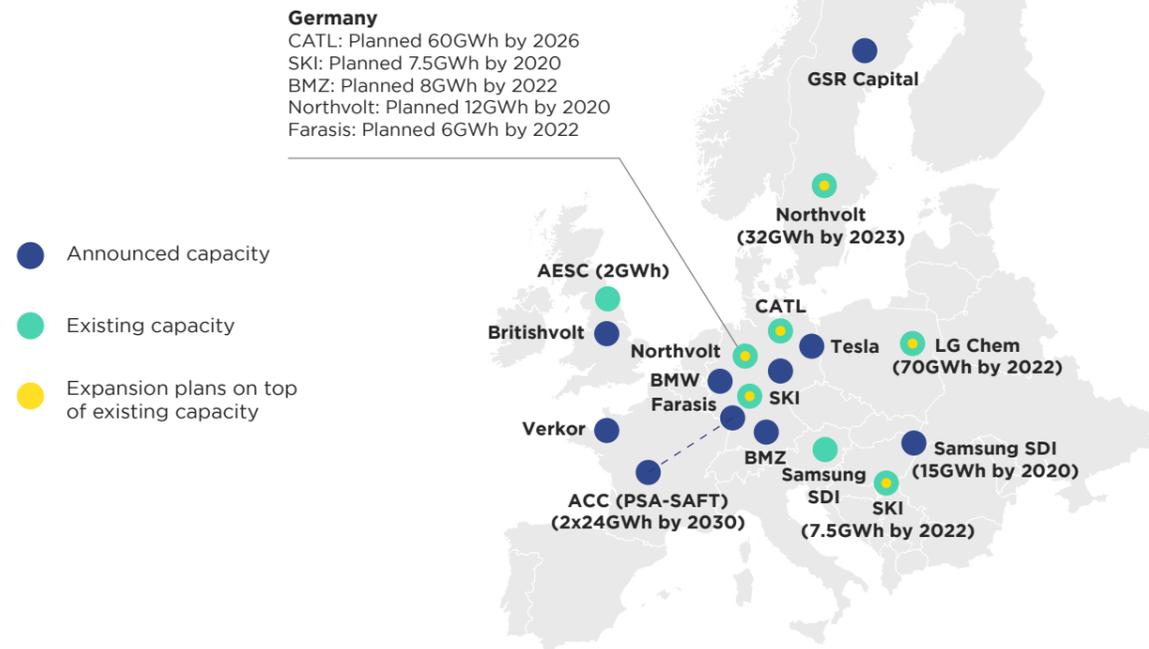
<sup>22</sup> <https://www.theclimategroup.org/sites/default/files/02-2021/EV20%100Progress20%and20%Insights20%Report.pdf>

<sup>23</sup> UK Research and Innovation – Advanced Propulsion Centre

Figure 4 – Post EU Exit and the UK/EU TCA, competition in battery production is increasing<sup>24</sup>

**EU public spending on established battery supply exceeded €3.2Bn in 2019 with regional governments taking significant steps to attract the right players in local markets**

Source: Company data, Morgan Stanley research, EY Parthenon analysis



- **European Battery Alliance** launched in 2017 to create a battery manufacturing value chain in Europe and **Strategic Action Plan on Batteries** 2018 to promote integrated European approach (from access to raw materials to skill development)
- **€3.2b in public funding** approved in 2019 to support the battery industry, with second funding package expected to be approved by the end of 2020
- **Battery 2030+ (R&D) program**, partnering research institutes and private companies, with €42m funding over 3 years and €10m to research next-generation lithium-ion batteries

<p><b>€1.25b</b> Announced total support for EV battery production via IPCEI</p>	<p><b>Of which €1.3b</b> Total funding to ACC (Saft-PSA JV) by German and French Govt. to construct 2 gigafactories (financial structure TBD)</p>	<p><b>Of which €300m</b> German Govt. (BMW) grant to Varta</p>		
<p><b>€960m</b> Announced support for battery cell production over next 5 years via IPCEI</p>				
<p><b>€250m</b> EBRD loan to LG Chem</p>	<p><b>€95m</b> Grant to LG Chem</p>	<p><b>€480m</b> EIB loan to LG Chem</p>	<p><b>€550m</b> SK Skate Bank loan</p>	<p><b>Up to 70%</b> Corporate tax breaks to LG Chem</p>
<p><b>€350m</b> EIB loan to Northvolt</p>	<p><b>€44.3m</b> Nordic investment bank loan</p>	<p><b>€52m</b> EIB loan for Northvolt Demo line</p>	<p><b>€625m</b> German Govt. Loan Guarantee for NV</p>	
<p><b>€108m</b> State aid to Samsung</p>	<p><b>Special economic zones</b> With tax relief for EV producers</p>			

## New requirements on manufacturers

We support the introduction of a ZEV van mandate: a supply-focused policy that requires a gradually rising percentage of vehicles sold by manufacturers to be zero emission.

A ZEV van mandate would underpin the accelerated ICE phase-out, with a clear trajectory to increase the supply of ZEVs. This would give van manufacturers clarity and an incentive, as well as giving fleets owners and other buyers confidence to commit to ambitious ZEV targets.

## Long-term certainty about vehicle grants

The UK's plug-in vehicle grant has been a hugely successful scheme, enabling the purchase of 100,000 ZEVs since its introduction.<sup>25</sup> However, the unpredictable nature of reductions has caused significant disruption for fleet operators, both in terms of future planning as well as purchasing. Grant reductions announced without forewarning or consultation can halt sales already in process, which has both a direct impact on that buyer and reduces trust in the scheme.

An alternative model would be for grants to accurately reflect the cost-gap between Internal ICE vehicles and ZEVs ensuring that there is a continuing financial incentive to transition to electric until price parity is reached. More transparency and consultation about the methodology that will be used to adjust or amend grants over time is also important: this would increase companies' confidence and readiness to commit to more ambitious EV targets, especially in the case of vans and specialist vehicles that are further away from price-parity than cars.

## 0% VAT on second-hand EVs

Fleets are a significant driver of the second-hand market, with many second-hand cars coming from ex-fleet models. However, the majority of current incentives are aimed at the new car market, meaning the second-hand market remains a barrier, not an enabler, for sole-traders and small businesses who would want to make the transition to EVs.

We recommend a VAT exemption for second-hand EVs, which could incentivise sales and broaden access, faster, to EV technology.

<sup>24</sup> UK Research and Innovation – Advanced Propulsion Centre

<sup>25</sup> <https://www.gov.uk/government/news/plug-in-vehicle-grants-update-following-todays-budget>

