Barriers to EV Adoption and Charging Infrastructure Rollout

The All-Party Parliamentary Group on Electric Vehicles

Introduction

Over the last 12 months the first year of the Zero Emissions Vehicle Mandate and Vehicle Emissions Trading Scheme came in to force, mandating that vehicle manufacturers would hit rising sales targets for zero emissions vehicles (ZEV) sold. The most popular ZEV is a battery electric vehicle (BEV). The Labour Government committed in their manifesto to restoring the end of sale of internal combustion engine (ICE) vehicles to 2030, resulting in a consultation published on December 24th 2024. This consultation also asks for evidence and ideas on what demand side levers Government could pull to increase demand for BEVs after a series of job losses and factory closures that manufacturers attributed to rising sales targets for EVs in the face of weak demand.

Over the last several years, much work has already been done to shine a light on barriers to Electric Vehicle (EV) adoption and chargepoint installation. This report will increase its focus on some of these, highlighting too where the Government have committed to progress, and what recommendations the Electric Vehicle APPG suggests to accelerate EV adoption and chargepoint rollout.

Section 1: Obtaining an Electric Vehicle

Support for consumers to incentivise adoption has been slowly falling. With the plug in home grant ending, and tax incentives like EVs being road tax exempt, or exempt from the London congestion charge ending in 2025.

The Labour Government consulted it its ZEV mandate consultation on what demand side levers the Government could pull to help increase demand for ZEVs. The SMMT in a letter to the Chancellor in October 2024, supported by 13 major vehicle companies, requested the UK Government to implement several measures to support the transition to ZEVs and ensure the success of the ZEV mandate. Specifically, they called for:

- **Fiscal Incentives for Private Consumers:** Halve VAT on new ZEV purchases for three years to increase adoption.
- **Amend Vehicle Excise Duty:** Adjust the treatment of ZEVs to avoid penalising buyers, especially regarding the Expensive Car Supplement.
- **Equalise VAT on Charging:** Match VAT on public charging with the 5% home charging rate and set infrastructure targets for those who cannot charge at home. *The National Franchised Dealers Association estimate this to cost the Government in the region of £71 million.
- **Maintain and Extend Business Incentives:** Continue and expand incentives like Benefit in Kind rates for fleets and company car buyers.
- **Extend Plug-in Van and Taxi Grants:** Continue these grants beyond March 2025 and ensure the availability of van-sized public chargers.

The Plug-in Car grant closed in 2022 which was very successful in attracting early adopters to EVs. The plug-in car grant helped increase the sales of EVs from less than 1,000 in 2011 to almost 100,000 in the first five months of 2022 alone. Government must therefore also consider **whether a return to the plug-in car grant is necessary** to increase demand of new EVs. This move would increase VAT revenue from the sale of electric cars and support not just manufacturers in hitting their ZEV mandate sales targets but also could be used to support dealerships in funding grid connection upgrades, which some cite to be in the region of £200,000-500,000 with wait times of up to 10 years despite reforms to the grid connections process.

In other countries market incentives have been very successful in driving EV adoption.

International case studies:

1. Until 2022 Cyprus had zero incentives until 2022, where they then granted drivers up to €20,000 to buy a EV (€80,000 or under) and to scrap their old car in the process.
2. While Romania over the period 2020-23 introduced a grant of €11,500 (up from €11,250) to purchase a new EV and scrap their old car, seeing a rise in EV sales of 79%.
3. In France, a three-year leasing scheme at a cost of €100-€150 a month for a vehicle worth €47,000 or under was announced in December 2023 originally for 25,000 European-built EVS, but this was doubled after massive demand. The Government said it received more than 90,000 applications by the end of January 2024 and was paused. Demonstrating the success of the scheme in increasing demand for EVS[1].

Owing to the financial context the UK finds itself in, the French example stands out as a key enabler for low income households to move to an EV. If the UK was to budget accordingly, anticipating high demand it could significantly boost EV adoption in parts of the UK that simply can't afford to replace their existing, less reliable, higher polluting vehicle.

Second-hand market

The majority of car purchases made in the UK are second-hand. In 2023 used car transactions grew 5.1% in 2023, with 7,242,692 changing hands[2]. Meanwhile only 817,613 cars were sold first hand in 2023[3].

Oxford Economics report in the BVRLA's 'Happy EV After' report that used EV car supply will double to over 100,000 in the next two years. Demand will need to keep pace with this, however at the moment there is no sign of this happening. Already the knock-on effect of

this is being seen with residual EV values falling by 50% in the last two years, and the BVRLA forecast that residual values will likely fall by a further 28% by 2030. For consumers this has already had a benefit of used EVs now being at price parity or better than their ICE equivalent. However, for fleet operators, particularly those running salary sacrifice schemes the Return on Investment (ROI) is severely damaged by the falling residual values.

To combat falling residual values there are a series of pragmatic suggestions included within the BVRLA report that Government could consider. They are:

- **Stimulate consumer demand by launching a targeted "Used EV Plug in Grant".**
- **Stimulate consumer demand by lowering the cost of used EVs through 50% reduction in VAT over 4 years.**
- **Stimulate consumer demand by deploying 0% benefit in kind on used EV's for four years.**

The report also looks at how to improve consumer confidence which will itself help improve demand. For the second-hand market Government could look to address uncertainty in the market through fulfilling its manifesto commitment to introduce standardised battery health checks. This would lower potential range anxiety and provide more confidence for insurance companies, resulting in lower insurance costs and improving the value of the vehicle as consumers will have confidence in the battery to perform over a longer period of time. Such a policy would also enable salary sacrifice businesses to then offer lower prices as a result meaning better outcomes for the consumer at different points in the market through price and certainty.

Furthermore, to combat misinformation, which also contributes to uncertainty and has unwelcome impacts on markets such as insurance where market uncertainty has stimulated higher premiums and some very large insurers pulling out of insuring salary sacrifice schemes and other large fleets, the Government must look at a proactive Public Information campaign. The Go Ultra Low campaign was hugely successful at engaging people up and down the country and a similar scheme, Go Ultra Low 2.0 should be considered by Government.

Salary Sacrifice

The most common way that consumers access an electric vehicle is through finance, in particular salary sacrifice where an employer will sign up to a scheme and give their employees access to a range of electric vehicles that suit their individual needs, with the monthly cost deducted from their wages before tax.

Over the last 24 months, used EV values have dropped by more than 50%, an unprecedented decline. Values are expected to fall another 28% by 2030, which has put more pressure on leasing and finance businesses. These businesses are now faced with a difficult decision of whether to increase the cost to the end consumer or take a financial hit. By 2027, the collapse of used EV values could result in over 290,000 fewer new EVs sold[4].

In the recent budget, Government extended its support for salary sacrifice through further benefit in kind intervention. Going forward Government must look to increase demand for and certainty in EVs.

Accessibility

Last year the APPG heard about the need for accessible charging infrastructure to encourage EV adoption. As many as one in four people in the UK are living with a disability and Motability estimate there will be 2.7 million disabled drivers in the UK by 2035. Up to 50% of these people will be wholly or partially reliant on public charging infrastructure. It is therefore critical Government work closely with industry and disabled drivers to build infrastructure that is accessible and easy to use.

One way demand could be increased through salary sacrifice could be to mandate EV salary sacrifice for medium and large businesses in the UK.

There are 44,900 medium and large businesses in the UK[5] as of the end of 2023 employing over 50% of those employed in the UK (14.2 million people)[6]. It is crucial that these businesses adopt salary sacrifice schemes to encourage the uptake of EVs in the most affordable way to do so, through salary sacrifice.

On average in the UK, a car will travel around 11,265km a year[7]. Around 78% of households have access to one vehicle[8]. This would therefore mean around 11 million employees of medium and large businesses will be able to move to an EV under this scheme. At the point of 100% adoption, it would achieve carbon savings of 18 $MtCO_2$. (Annex 1)

Section 2: Barriers to EV infrastructure Rollout

In the past it has been cited by the motoring sector that there is not enough charging infrastructure to support rollout. Although that is now fundamentally untrue, with over 70,000 public chargepoints across the UK and ample domestic and workplace charging opportunities, there are still concerns about the speed of infrastructure rollout.

The APPG sees this as a significant opportunity for this Government to fulfil its manifesto commitment to accelerate chargepoint rollout. The REA report 'Charging Forward to 2030' detailed a significant number of barriers to chargepoint rollout. Today some of those that remain include:

Traffic Regulation Orders (TROs) required for any change to the pavement. It is often the case that the ease of which objections can be raised make it too easy for charging infrastructure to be rejected, despite often making no material impact on the street. Experimental TROs could be explored as a form of best practice and reflected in Government guidance to highlight how experimental TROs can speed up the rollout of charging infrastructure. In 2022 Government consulted on changes to TRO's[9] including on creating a unified consent process to streamline obtaining planning permission and highways consent. The Government has yet to publish its decision on this and must urgently do so.

The variety of **tender documents** for schemes like LEVI which are sometimes based off out of date or inaccurate assumptions which discourage and sometimes prevent CPOs from bidding in to projects. The Government must urgently work with the LEVI support body to publish template tender documents in time for tranche 2 of the LEVI programme.

The APPG have also heard how obtaining a **grid connection** can be a highly costly issue that adds significant time to any installation. One industry representative reported some sites with a 10-year quote for a connection to the APPG.

It is the APPG's view that grid reform must be a high priority area of this Government. The APPG are aware of ongoing Government work to reduce the grid connections queue with the last Government's most recent attempt to reduce the queue by removing zombie projects had led to a notable reduction in the queue. However, with over 700GW still in the queue it is clear that more must be done to unlock capacity and also identify the grids weakest areas in need of the most investment.

A recent response to a government consultation on land rights, in particular **Wayleaves** took over 2 years for a government response to be published[10], concluding that another consultation would be required. Land rights are an increasingly important issue for rapid chargepoint operators in particular and a 4 or more year wait time for Government action once a second consultation is published, analysed and a decision made and then legislated for will have caused significant time and financial costs to chargepoint operators in the meantime.

We would urgently recommend Government prioritise Wayleave agreements in future work streams and fast track a conclusion to benefit all stakeholders reliant on them to progress the rollout of infrastructure.

The APPG also recently heard that one area of great concern for both energy suppliers and CPOs is the **connection point.** Currently at the point of connection there is limited data to help a CPO plan for installation. In France, the Consult the reception capacity of the grid (Caparéseau) system[11] allows those applying for a grid connection to understand available capacity, connection points, and technical requirements for each location.

Having such a system for the UK energy system would help speed up the net zero transition and enable CPOs to be able to make better informed decisions on where is viable to install charging infrastructure, as well as provide a stronger idea for DNOs and Government on where investment is required to resolve areas with the poorest connection. There are already existing studies such as the REA's 'Charging Forward to 2030' report which map out future demand for EV charging at a local level. Correlating that data with better grid data would also enable DNOs to understand where grid reinforcement is most needed to meet future demand from EV charging.

One crucial intervention in addition to the above may also be to as previously indicated in the previous Government's response to the Future of Transport Regulatory Review for Electric Vehicles to **mandate local authorities to have charging plans.** Almost 94% of respondents to the consultation supported this approach. Over 70% of respondents thought that that body should be local authorities. The government should be held to its published decisions and expected to follow through with them.

The published response stated that Government would take powers for the Secretary of State (SoS) through future legislation, to issue directions to Local Transport Authorities. This would mean that, if they do not show progress in producing local EV charging strategies or ensuring provision, SoS will have the power to instruct them to do so. Government committed to consult on the detail of supporting secondary legislation before enforcing any new powers but has so far failed to do so since October 2023. At the start of 2024 only 49% of local authorities[12] had a charging plan in place despite significant Government funding made available for local authorities to rollout charging infrastructure.

Such an intervention would result in local authorities increasing rollout of charging infrastructure, preventing a geographic inequality and also having a well thought out, detailed strategy that addresses problems in their community in a proactive method that would reduce the likelihood of charging inequality.

Lastly, the **rapid charging fund** originally announced in 2020 committed nearly £1 billion to rapid chargepoint rollout, however after 5 years, it has so far delivered zero chargepoints in the ground[13]. A number of industry bodies have publicly cast doubt on the viability of the scheme as it stands and several industry representatives have expressed doubt in the ability for DfT to administer the fund as it stands, with serious faults in it causing many stakeholders who had applied for the pilot fund to reportedly pull away in frustration.

Government must make a concerted effort to accelerate the rollout of rapid chargepoints with the National Audit Office[14] reporting that at the end of 2023 only 62% of motorway service areas had 6 rapid chargers, despite the Government target for the fund to have delivered 6 rapid chargers at every motorway service area by the end of 2023. It must reform the scope of the fund to include HGV charging or risk digging up large sections of the road network again in a few years' time to make further grid reinforcement to accommodate the 1MW HGV chargepoints expected. Government must also examine the possibility of extending the fund to wider parts of the strategic road network to boost charging in harder to reach rural areas where the cost of a grid connection may be higher.

Conclusions

This Government is at a crucial point on its journey to net zero road transport where it can scrutinise past decisions and call for accountability and progress in the adoption of electric vehicles and the rollout of charging infrastructure.

It is clear the Government has a number of options available to it to accelerate the adoption of EVs in the UK, to help manufacturers meet their targets in the ZEV mandate and boost the second-hand market. They include:

- **Considering the key asks of the SMMT letter to incentivise EV adoption.**
- **Implementing a low-cost leasing scheme, learning from France to boost demand for EVs in low-income households.**
- **Consider the key asks by the BVRLA to grow demand for EVs in the second-hand market.**
- **Boost confidence of consumers buying a second-hand EV through the introduction of battery health certificates.**

The Government also has a set of clearly well understood barriers to EV charging infrastructure rollout to remove. The Government must urgently act to address these to hit its target of 300,000 chargepoints by 2030. The Government must urgently:

- **Publish its response to the 2022 consultation on Traffic Regulations Orders.**
- **Move ahead with its decision to legislate for the SoS to issue directions to Local Transport Authorities, first consulted on in 2021.**
- **Urgently publish a second consultation on Wayleave reform, fast tracking a response. The first consultation was published in 2022, with a response in 2024.**
- **Investigate the possibility of establishing an equivalent to the French Caparéseau system for grid connection mapping.**
- **Share a tender template for local authorities to use.**
- **Progress the rapid charging fund to enable a greater distribution of rapid chargepoints across the strategic road network, with the inclusion of HGV charging infrastructure.**

Annex 1

Carbon savings calculation for the 74% of Medium - large business employees who have a vehicle.

- Total emissions=Number of drivers (11 000, 000) × Distance per year (11,265) × CO_2 per km (146)= =18,083,490,000,000 gCO_2.
- Convert grams to metric tons ($MtCO_2$):
  1 $MtCO_2$ = 1,000,000,000,000 gCO_2 (1 trillion grams)
- 18,083,490,000,000 /1,000,000,000,000 = 18.08 $MtCO_2$

References

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*Images courtesy of Freepik.com, Believ and Quello - thank you.

About the APPG on Electric Vehicles

The APPG on Electric Vehicles, chaired by Matt Western MP, seeks to educate and inform politicians about the issues faced by industry in increasing the rollout of electric vehicle infrastructure and increasing adoption of electric vehicles. Established in 2017, it meets regularly to scrutinise progress made by Government in these areas and encourages greater collaboration between the transport and energy sectors.

About the REA

The REA is the largest-not-for profit renewable energy and clean technology trade associaiton in the UK representing over 400 member companies.

The REA's EV dedicated industry Forum, REcharge UK, is compromised of around 100 member companies delivering and supporting the rollout of the critical infrastucuture needed to deliver a transition to a zero emission road vehicle future. The REA serves as the secretariat for the APPG on Electric Vehicles.

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All-Party Parliamentary Group on Electric Vehicles
c/o REA - GROWING THE RENEWABLE ENERGY AND CLEAN TECH ECONOMY

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