Briefing on the future of private & local authority EV infrastructure grants in the UK

Background reading for consideration ahead of the REA EV Forum general member meeting on the 10th September 2020

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With thanks to Stan Fielding, REA Transport Policy Intern, for his thorough work researching and drafting this briefing. You can view his LinkedIn here.

Key grants covered in this briefing: Workplace Charging Scheme (WCS), EV Homecharge Scheme (EVHS), Onstreet Residential Chargepoint Scheme (ORCS).

Background

- **A Comprehensive Spending Review (CSR) is ongoing in Government, the outcome of which will have a significant impact on departmental capital budgets.**
- **OLEV requesting REA views on the future of home and workplace grants to inform their input to Treasury. REA will also input directly to Treasury by 24th September 2020 (link here).**
- **Opportunity for REA members to have their voices heard as to whether to continue, amend, or replace the EV Homecharge Scheme (EVHS) and/or Workplace Charging Schemes (WCS) (see pages 9-10)**
- **Draft REA thinking on future role of Local Authorities & the Onstreet Residential Charging Fund (ORCS) also included in this briefing (page 11).**

Actions

- There is an upcoming virtual EV members forum meeting on September 10th 2020, from 10:00 to 12:00. Members can register to attend and find the agenda here.
- Members are invited to read this briefing ahead of discussion on the future of grants and incentives.

Introduction

In response to the Covid-19 pandemic and the ensuing economic downturn the UK government has promised to pursue a resilient and "green" economic recovery, in the wake of the legally binding commitment to reach Net Zero by 2050.

Key moments that will expose how serious the Government is about pursuing a Green Recovery include HM Treasury's Comprehensive Spending Review (CSR) (ongoing) which will set departmental spending budgets for 2021/22 to 2023/24 and capital budgets for the period 2021/22 to 2024/25.

In announcing the CSR, the Chancellor has promised to prioritise "the development of technologies that will support the government's ambition to reach net zero carbon emissions by 2050". The CSR will follow an interim report of the Net Zero Review in Autumn.

The likely net increase in capital budgets for government departments in the CSR and the renewed government attention on sustainable technology development presents a unique opportunity to review current spending schemes in place and, under the request for representations to the CSR, to propose recommendations for spending **over the next five years.**

What does this briefing cover?

This briefing considers the current grant schemes in place under the Office for Low-Emission Vehicles (OLEV) promoting home and workplace charging.

It also proposes draft language on the future role of Local Authorities & the Onstreet Residential Charging Fund.

At a high-level, the REA believes that the EV home and workplace charging grant schemes have been important interventions.

Any future policy / funding targeting home and workplace charging should deliver:

- Continued uptake and usage of EVs in the 2020's[1],
- The expansion of a qualified base of electrical installers and good quality installations,
- Value for money for both the taxpayer and the EV charging community,
- Adaptability to changes in how consumer purchase and use charge points, and
- Smart charging, in line with many of the proposals laid out in the 2019 Smart Charging consultation.

The following sections cover:

- the current grant schemes in place in the UK and their strengths and weaknesses,
- a brief overview and analysis of 8 markets in Europe and their incentive schemes for the development of EV infrastructure, and
- concludes with a list of recommendations drawing on the UK and international market analysis.

The UK market analysis outlines the development of the Electric Vehicle Homecharge Scheme (EVHS) and the Workplace Charging Scheme (WCS). Each is currently a grant for up to £350 per charge point for eligible charge points (which are subject to minimum technical specifications) and approved installers.

The analysis covers three main areas of interest in the two schemes: quality assurance, smart charging capabilities, and grant administration.

The conclusion of this paper proposes two ways to develop policy to decrease the costs of purchase and installation, through increasing the grant scheme and providing tax relief. In addition, there are 7 recommendations aimed at covering the weaknesses mentioned in the UK market overview and drawing on the strengths shown in the approach of other countries from the international market section.

[1] Hall & Lutsey (2017) have shown that increased charging infrastructure is linked with increased EV uptake: https://theicct.org/sites/default/files/publications/EV-charging-best-practices_ICCT-white-paper_04102017_vF.pdf

UK Market Overview

Introduction to the EVHS and WCS

The Department for Transport reports that as of 1st of April 2020, there were 17,947 public EV charge-points available in the UK. The number of public charge-points has grown by 402% between 2015 and 2019, and by 9% in the first quarter of 2020. While this public infrastructure is important in promoting travel distance and energy security for a driver, the vast majority (80%) of charging occurs at home. The Electric Vehicle Homecharge Scheme (EVHS) and Workplace Charging Scheme (WCS) are the two grant schemes in the UK which support EV private charging infrastructure for homes and companies, put in place by the Office for Low Emission Vehicles (OLEV). 75,254 private charge-points have been installed under the EVHS between September 2014 and June 2019, and for the same period 1,391 vouchers were received by companies under the WCS.

As of the 1st of April 2020, the EVHS is a grant for 75% of the cost of the purchase and installation of one charge-point per EV up to £350 available to households which have or will have an eligible EV. OLEV decreased the maximum grant from £500 to £350 in April 2020, stating that by decreasing the amount of the grant, the number of households able to benefit will increase from 30,000 to 57,000. In addition, the EVHS is only available for the installation of certain charge-points which must first satisfy minimum technical specifications and receive approval from OLEV. Since the 1st of July 2019, part of the technical specifications include being a "smart" charger, which includes the ability to receive, process, and react to information, adjust and record energy consumption, be accessed remotely through the Open Charge Point Protocol (OCPP) (or equivalent), and have appropriate cyber security measures.

The WCS covers 75% of the cost of the purchase and installation of a charge-point up to £350. It takes the form of a voucher which is applied for by the company receiving charge-points and passed on to the WCS-approved installer, who can then redeem the voucher with OLEV. Each voucher, from April 2020, covers up to 40 charge-points per premise. Like the EVHS, chargers must be approved and satisfy minimum technical specifications, but unlike the EVHS these do not include any smart capabilities beyond remote data collection.

Analysis of Strengths & Weaknesses[i] - EVHS and WCS:

The REA notes that it launched the EV Consumer Code for domestic charge point installers in Spring 2020 in order to address many of the concerns outlined below.

This section is derived from online research and in-person interviews conducted with industry stakeholders over the past 3 months.

It has been noted that consumers in the UK have a low responsiveness to price changes in EVs but are highly sensitive to the price of EV charge-points. While this would mean that a grant of any level should be successful, EV charge-points under these schemes are complicated as they face new competition from installers opting to forgo the EVHS (in particular) and associated paperwork to instead install lower-cost non smart chargers. In some cases this can result in a stronger return for them then navigating the EVHS.

This means that, in some instances, the grants are failing to adequately incentivise the purchase of eligible charge-points and use of approved installers, in favour of cheaper non-smart units. This gives both industry and Government less control over quality and standards in the charging market.

The three sections below focus on strengths and weaknesses of the schemes which do not entail adjustments with a direct increase in expenditure.

The EVHS's application process was amended in September 2020, which should make it easier for installers to progress applications but still does not address all industry concerns. Read about the scheme changes here.

Quality assurance: currently, both schemes in their minimum technical specifications require eligible charge-points to be accompanied by a three-year warranty and mandate a three-year operational life. While this is a strong clause to encourage accountability by the provider to the customer, concerns have been raised by the actual servicing of warrantees by installers. There is concern that the current scheme transfers much responsibility for the failure of the EV charge-point producer onto the installer rather than the manufacturer.

Smart Charging capabilities: The inclusion of the "smart" capability, described above for the EVHS, encourages an EV infrastructure which is prepared for future grid flexibility. The specifications also allow for variation and an uncapped level of "smart" capabilities in the charge-points. While it is a current limitation of the WCS that it does not include this minimum technical specification, there is legislation expected in 2021 to mandate that all private chargers have a "smart" capability. This will be linked to the draft BSI PAS 1878 standard (see REA comments on the draft standard here).

By setting this standard for the entire market, this could also help support the second weakness of both schemes: that by having a grant level which is too low, they are failing to incentivise the purchase of "smart" charge-points over cheaper "non-smart" charge-points.

Grant administration: The administrative process of the EVHS has been discouraging the use of the scheme for installers. Installers face long payment delays because of delays between installers providing proof of instalment and response and complicated forms which encourage mistakes. Particularly for small-scale installers, they are unable to continue to provide installation services without the ability to weather the risk of long waiting times and having their file denied.

This is not an issue for the WCS, where a voucher-based system means that the recipients of the charge-points have to go through the administrative process for bundles of charge-points, rather than individual ones, and the installers only provide the service once the installers have received the grant from the government.

However, both grants are seen as relatively immobile as they only apply to products which are fully purchased upfront or are leased for a period of at least 6 months. The market now is

shifting towards bundled products and leasing of cars, and these grant schemes are not supporting this direction of growth and accessible use of low-emission vehicles.

In addition, the WCS only permits the use of EV charge-points by employees of the business which receives the grant, limiting the potential of these charge-points to support public EV infrastructure outside of work hours, which could be of interest both to the government, to private individuals, and to the businesses who own the charge-points.

International Market Analysis

This section outlines the current state of national EV infrastructure markets and corresponding government policies in a number of European countries.

This information, along with brief considerations of the respective strengths and weaknesses of each approach, aims to inform recommendations for the UK market in the subsequent section.

The Netherlands:

The Netherlands is widely seen as a model for successful incentive policies in EV uptake and in EV infrastructure development, with the highest charger density worldwide and the highest ratio of slow EV charge points to cars worldwide. Generous public EV charge-point installation programmes are available; any member of the public can request free of charge the installation of a charge-point near their home throughout the country.

While there are no direct private EV charge-point incentive schemes, the Environmental Investment Allowance (MIA) and the Random Depreciation of Environmental Investments (VAMIL) provide the opportunity for businesses to receive investment deductions on, among other technologies, EV charge-points.

With low access to in-house parking and therefore charge-points in the Netherlands, coupled with their evenly distributed high population density, the focus on public charge-point programmes has worked well in supporting EV uptake.

Norway:

Norway has a similar experience to the Netherlands as an EV success story with heavy public investment and no current private EV charging incentives, either in grants or in tax cuts.

While there is a €2.1mill scheme helping housing associations installing charge-points, the key area for incentive programmes in Norway has been in benefits associated with EV ownership and use, such as large purchase tax cuts, VAT exemption, and half-price fees on toll roads and public parking.

Norway has seen significant uptake of EVs in recent years with battery-electric vehicles claiming a 42% market share in 2019.

France:

France has seen a more recent commitment to transport electrification and EV infrastructure development. France has not based its strategy solely on large-scale infrastructure projects though it does have, like in the Netherlands, an "on-request" public charge-points provision scheme for private individuals near to their residence (known to REA as the 'Milton Keynes Promise' – REA report on this from 2018 here).

Run as part of the ADVENIR programme, this is operated by municipalities which are given up to €2160 by the federal government per charge-point installed. In addition, the programme offers more simple grant schemes to incentivise the purchase and installation of EV charge-points for apartment blocks, and for the electrical pre-equipment of car parks (including those of companies). Finally, for the year 2020 there is a €300 tax deduction incentive for the purchase and installation of EV charge-points at the main residence of private individuals.

Italy:

Italy's EV infrastructure development has in the past lagged behind the uptake and technological development of EVs, acting as an obstacle to their increased uptake throughout the country.

The National Infrastructure Plan for the Recharging of Vehicles powered by Electricity (PNIRE) and the more recent Eco-Bonus programme have strengthened Italy's progress in infrastructure development. Like France, Italy offers incentive schemes in the form of tax deductions but has made them simpler and more generous. Private households and companies can claim a tax-deduction of 50% for the purchase and installation of EV charge-points, up to a total of €3000 from March 2019 to December 2021.

Germany:

Germany has made significant commitments to developing its EV charge-point infrastructure. In the Climate Action Programme 2030 it sets a target of one million charging points to be made available, mandates charging stations in all petrol stations, and has announced a "buyer's premium" for private and commercial charge-points (the details have yet to be announced).

Finally, Germany intends to simplify legislation around the installation of EV charge-points. Ongoing incentive programmes are run primarily at the municipal level. The exception is a 10-30% subsidy for the purchase and installation of a wall box charge-point from the state-owned development bank KfW-Bank.

Municipal incentive schemes provided by the government and municipal utility companies vary significantly between Lander, and increase in complexity by being influenced (for example in Nordrhein-Westfalen) by charge-point power, accompanying energy production plants, and source of electricity for the charge-point. As in Italy and France, there are short-term ongoing incentives on top of long-term ones, ending in November 2020 in Nordrhein-Westfalen.

Belgium:

Belgium has seen a slow growth in EV infrastructure, particularly compared to its neighbours Germany, France, and the Netherlands. Incentives are predominantly tax-exemptions to promote EV ownership, along with 75% of the cost of charging being deductible from individual income tax.

The only incentive for the purchase and installation of charge-points is for companies which work under the corporate tax system which can benefit from a 13.5% deduction on investments for the purchase and installation of charge-points, up to €14,375.

This lack of drive to develop the EV infrastructure in Belgium comes from a number of areas. Firstly, the political situation with three regional governments and a divided federal government halts the implementation of legislation. Secondly, the majority of traffic in the capital, Brussels, comes from the regions of Flanders and Wallonia, and while there is incoming legislation for only low-emission vehicles to be allowed into the Brussels region, investment has however been focused on promoting public transport, bikes, and carsharing schemes as a response to this legislation.

Finally, while there is also a commitment to at least one charge-point per square kilometre in the city centre, this is a public infrastructure commitment rather than an incentive scheme.

Sweden:

Sweden has notably lagged behind its exemplary neighbour, Norway, regarding EV uptake and EV infrastructure development. Under the Klimatklivet initiative agreed upon by the Swedish parliament in 2017 for the period 2018 – 2020, the purchase and installation of EV charge-point stations have been subsidised up to 50% or SEK 10,000 (€960).

This is accessible by municipalities, companies, and housing associations. In addition, Sweden's "Charge at Home" extends this same subsidy to charge-points for private individuals at home.

Ireland:

Ireland is an interesting case in EV infrastructure development because while it appears to be advancing well on paper, it is frequently considered to be falling behind other countries.

Since 2011, Ireland has had a grant of up to €5000 on privately purchased EVs, and a subsidy of €600 for EV home chargers since 2018. Both subsidies are supported by other forms of tax reliefs. Through the Electricity Supply Board (ESB), Ireland's state-owned electricity company, there has equally been heavy investment in a public infrastructure in addition to the incentives for private infrastructure.

The 2020 Budget pledged to double the number of home chargers installed. As of 2018, Ireland's share of the global EV market was approximately equal to its share of overall vehicles, and in addition has a ratio of one public charge point for every five EVs, which is far higher than the average ratio in Europe. Ireland offers generous subsidies on both EVs and

EV charging infrastructure, has invested heavily and successfully in creating a widespread public charging network, and is holding its own in EV uptake.

Key considerations

This briefing has covered the current state of the EVHS and WCS grant schemes in place in the UK, and looked at the incentives in place in other countries in Europe for the development of private EV infrastructure. Before drawing on these two sections to propose a list of recommendations to the two schemes and to the UK's approach to encouraging private EV infrastructure, we want to draw attention to two important points.

1. Regarding the possibility of using tax reliefs as an incentive, there is a consultation closing on the 18th of September in 2020 by HM Treasury as part of the Fundamental Review for Business Rates. Norway has seen success in incentivising consumers across the EV industry by focusing on tax relief incentives. In response to the call for evidence, the REA, along with other members, have called for the provision of business rates relief for clean energy technologies and the reinstatement of a 5% VAT discount for technologies including EV charging equipment. This would be a simple and effective method of reducing the cost of private EV charge-points without the complications of applying for a grant.
2. Secondly, recently there has been doubt cast from several public sources as to whether the scope of the CSR will in its final form include the years 2021-2024. Given the uncertainty facing the government and the country, and the ongoing additional expenditure during the period of the Covid-19 pandemic, a one-year CSR could commit the government to increased support for the economy, including green growth and EV technologies, while providing the flexibility to adjust to the significant economic transformations which are likely to come in the next year.

Possible REA recommendations to Government (for discussion and comment)

Below is a list of possible changes to the UK's approach to incentivising the growth of private EV infrastructure. It includes two previously mentioned approaches in terms of directly increasing the incentive to purchase "smart" EV charge-points, and draws on analysis of the weaknesses of the UK's current approach and on the strengths' of the systems of other countries in this paper.

1. **Increasing the budget allocated to EVHS/WCS** to increase the size of the grant to prevent some developers from circumnavigating the scheme. The argument for this is to increase the number of private charge-points and support EV uptake and ensure that charge-points satisfy a certain standard including "smart" capabilities. This could be pre-empted by the legislation to mandate "smart" capabilities for all private chargers in 2021. This would also ensure that installers remain compliant with OLEV's requirements for approved installers. A counter-argument to this point is that this may result in price inflation for relevant charge points.

2. **Phase out the budget for the EVHS and WCS, and instead provide business rate and VAT relief**, as is being pursued by the REA and others in response to the consultation on business rates by HM Treasury. This would decrease the cost of charge-points but would likely apply to all charge-points regardless of quality and capabilities. Legislation requiring new private UK chargers being aligned to PAS 1878 would alleviate concerns about 'non-smart' chargers being installed, but without the EVHS and WCS both government and industry would have less control over the installer base.

3. **Mandate collection of failure rate data** from EV charge-point manufacturers and begin the **annual revision of the list of eligible EV charge-points** for the EVHS/WCS grant schemes. This would make the grant schemes flexible and responsive to performance of EV charge-points, encouraging higher standards in the industry by encouraging the market demand for high-quality charge-points.

4. **Promoting awareness of the potential consumer benefits for "smart" capabilities in EV charge-points**, as defined by the minimum technical standards of the EVHS. These benefits include potential decreased charging costs by using a charge-point which charges at off-peak times. It should be noted that the benefit for grid flexibility of having a responsive charging network is considerable, and is another argument for increasing the size of these grants which should capture both the environmental and grid-flexibility benefits which are not directly seen by the individual consumer.

5. **Streamline the process of administering the EVHS** to reduce the burden on the installer. While setting up a voucher-based system where households apply instead of installers would not resolve this problem, and would still encounter the problem of proof of installation, these provision and approval of the EVHS grant scheme could be devolved to municipal government to decrease response times. This could be developed by applying incentives for municipal governments, like in France, to benefit from encouraging the development of private EV charging infrastructure.

6. To encourage the growth of the service-based markets, **decrease the minimum period that an EV must be leased** to gain access to the EVHS grant scheme from 6 months to 2 months. This will raise awareness of the benefits of having an EV, develop private EV infrastructure, and encourage the market for the leasing of EVs.

7. Allow businesses to **apply for the WCS while also allowing non-employees to use said charge-points**. This is a simple clause of the current WCS grant scheme which can be removed, opening up the possibility of this scheme to contribute to public EV infrastructure development and reducing waste of EV charge-points outside working hours.

8. **Amend the WCS and EVHS to allow for the leasing of charging infrastructure**, rather than up-front purchase. As we move more into the mass market and as more EVs are leased, this could be bundled into an offer from an auto OEM. Alternatively, the lease could be offered by an energy supplier (or other party) who could bundle the lease with the provision of solar PV, a heat pump, and/or battery storage device.

Possible REA recommendations to Government regarding Local Authorities and Funding

The REA has received comments about the relevance, uptake, and value-for-money of the Onstreet Residential Charge Point Scheme (ORCS), which covers 75% of the cost of an onstreet charge point, paid by Government to a local authority. The scheme's processes were amended in Summer 2020 to encourage greater uptake.

The REA knows some members use the scheme. However, we would like to propose (for discussion) an alternative use of the money:

1. **Government phases out the Onstreet Residential Chargepoint Scheme and replaces it with an expanded pot of funding for Local Authority tenders.** The REA understands LA's to be chronically underfunded and many unable to develop comprehensive electric vehicle strategies and tenders for charging infrastructure on their land. One possible call to government is to focus funding for training local authorities in developing transport decarbonisation strategies (which could also cover technologies like hydrogen refuelling and onsite renewable power generation) and then rolling out subsequent 10-15 year tenders.

*****Briefing ends.**

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- Monaca & Ryan, 2018 (UCD Energy Institute)

[i] This section must be preceded with a notice on the data available around private chargers. To the best of this author's knowledge, there is no public data available on the number of private chargers sold in the UK. While there is data on the usage of the two schemes, this is not enough to prove whether the schemes have had a positive causal effect on private EV infrastructure development in the UK. In addition, details on the failure rates and smart capabilities of individual or collective EV charge-points are equally scarce. This section on the effectiveness of these schemes, their strengths, and their weaknesses therefore relies in part on available inputs, particularly interviews with various leading industry experts with experience in policy, manufacturing, provision, and consultation.