
ELECTRIC VEHICLE CHARGING INFRASTRUCTURE AND THE INTRODUCTION OF A TARIFF STRUCTURE

Report by Director Infrastructure & Environment

SCOTTISH BORDERS COUNCIL

27 January 2022

1 PURPOSE AND SUMMARY

- 1.1 This report provides details of progress to date with the installation of public facing electric charging points within the Scottish Borders. The report provides information around the introduction of a pricing structure for new and existing SBC maintained electric vehicle charging points throughout the region.**
- 1.2 A feasibility study has been commissioned, successfully funded through the Community Renewal Fund to look to undertake a region wide, cross sector assessment of supply, demand and commercial opportunities to create a strategic delivery model for EV charging infrastructure. This will provide direct strategic support to all sectors across the region, which will lead on maximising the commercial opportunities for the region and minimising the expenditure for the public sector, business and residents. This project is expected to conclude later in 2022.

2 RECOMMENDATIONS

2.1 I recommend that Scottish Borders Council:-

- (a) Notes the progress made with the introduction of charging points as part of the Transport Scotland initiative to establish a county wide charging network;**
- (b) Notes that the charging infrastructure is currently free at the point of use and the financial implications of continuing with the current arrangement;**
- (c) Endorses the recommendation to apply a tariff for the use of electric vehicle charging points;**
- (d) Delegates the authority to vary the tariff rate associated with the electric vehicle charging network to Officers to allow for any variation in future transaction or energy costs; and**

- (e) Notes that a further report will be forthcoming on the CRF funded EV feasibility study later in 2022/23.**

3 BACKGROUND

National Context

- 3.1 In 2013 the Scottish Government outlined its vision for Scotland in Transport Scotland's 'Switched on Scotland: A Roadmap to Widespread Adoption, of Plug-in Vehicles', September 2013.
- 3.2 The Roadmap sets out a vision that 'by 2050 Scottish towns, cities and communities will be free from the damaging effects of petrol and diesel fuelled vehicles'. The strategy document outlines a series of goals and measures including the need for policy frameworks to have plug-in vehicles embedded in all relevant areas of policy.
- 3.3 To sustain the EV charging network, some Local Authorities throughout Scotland, including neighbouring East Lothian and Dumfries & Galloway, have implemented a charging tariff. This allows Councils to support and maintain the service, making them more accessible and financially sustainable as part of a commitment to reducing use of fossil fuels and contributing in achieving Net Zero by 2045.

Local Context

- 3.4 Scottish Borders Council's promotion of Electric Vehicles sits firmly within the Scottish Borders Climate Change Route Map agreed on 17 June 2021. The following milestones are relevant:
 - TU2 Enhance modal shifts for passenger transport services, including new transport modes, alternative energy sources including electric and potentially hydrogen powered vehicles, through programmes such as the Switched-on Towns and Cities Programme.
 - TU3 Help decarbonise how we get our goods by infrastructural improvements including a wider electric vehicle charging network and 'last mile' delivery for the South of Scotland

Specifically, TU3 commits the Council to 'Increase number of EV Charging Stations and to explore opportunities around Hydrogen Fuel Cell Charging'.

- 3.5 SBC currently follow Government and Transport Scotland guidelines. The funding from Transport Scotland is determined and allocated by population size of the local authority. The level of funding for and proposed locations of our EV infrastructure are agreed through negotiation based upon the authority's proposed activity for the financial year and the resources available to them.
- 3.6 The installations undertaken by SBC on behalf of Transport Scotland are linked to the National ChargePlace Scotland network through wireless communication. This back office function provides a website, a 24 hour customer service helpdesk, can fix minor faults remotely and also allows drivers to charge their vehicles using a CPS card. Other connections are installed in the region for private/business use, with a small proportion of these also connected to the national network.

- 3.7 Scottish Borders Council's EV charger network was installed to aid onward travel through the installation of predominantly rapid chargers in larger towns and villages in the region. Through continued communication with Transport Scotland and their EV host ChargePlace Scotland, insights are shared on a broad number of themes relating to the network including investment, installation and commissioning, operations and maintenance that will allow the Council to continue to allocate future investment in line with demand.
- 3.8 The implementation of an EV charger network throughout the region aligns with the principles laid out in the SBC Climate Change Route Map helping the Scottish Borders progress towards net-zero.
- 3.9 Initial discussions have taken place with partners in the South of Scotland with a view to providing a co-ordinated EV charging offering. These discussions are currently ongoing.
- 3.10 A feasibility study has been commissioned, successfully funded through the Community Renewal Fund to look to undertake a region wide, cross sector assessment of supply, demand and commercial opportunities to create a strategic delivery model for EV charging infrastructure. This will provide direct strategic support to all sectors across the region, which will lead on maximising the commercial opportunities for the region and minimising the expenditure for the public sector, business and residents. This project is expected to conclude later in 2022.

SBC Charge Point Network

- 3.11 SBC's current public facing EV Infrastructure consists of 22 chargers across 16 different towns and villages; of which the majority are rapid chargers. The charging network is varied to include different types of charging infrastructure, operating to provide for a range of charging needs.
- 3.12 There is currently no dedicated SBC revenue or capital budget allocated to EV infrastructure and any repairs that need to be carried out require to be assessed and funded along with other competing priorities from the Street Lighting budget. Over the last 2 years £9,509.28 has been spent repairing chargers that were faulty. This is projected to increase as chargers progress further into their service life.
- 3.13 A recent switch over of the back office management at Chargeplace Scotland, from BP Chargemaster to Swarco, has resulted in some existing chargers no longer being compatible with the public facing web site. Some units no longer function with the operating system which oversees the public network. Therefore, these units will be removed from the public network and will no longer appear on the website or be able to communicate with Chargeplace Scotland. As these chargers begin to fail, they are being decommissioned and removed from site.
- 3.14 In addition to public facing EV charging infrastructure, work to electrify fleet and provide workplace charge points have been implemented by Fleet Management.

4 TARIFF INTRODUCTION

- 4.1 A condition of earlier Transport Scotland grant funding for EV charge points was that they were free at the point of use to encourage the uptake of electric vehicles. This condition has now been removed and SBC, like other Local Authorities, should consider introducing a charging regime.
- 4.2 Whilst free at the point of use did encourage the uptake of electric vehicles, there is an equality concern that this model disadvantages members of the community with older vehicles who pay fuel costs directly whereas those EV users get access to free charging.
- 4.3 Taking into account the potential increases in costs to provide electricity, maintenance and back office services a review of infrastructure costs needs to be undertaken. Viable models and technological challenges should be explored in order to provide a robust business case for the introduction of charging and tariff recommendations provided.
- 4.4 Charging infrastructure can be separated into one of two categories, Journey (Rapid) and Destination (Fast/Standard) chargers.
- 4.5 Journey chargers can supply up to 43kW AC and up to 50kW DC, can provide a full charge in around 30mins and are typically used to aid onward travel.
- 4.6 Destination chargers vary in charging time depending on the size of the charger, 3.7kW units are used for overnight charging and 7.4kW units typically take 6-8 hours to fully charge a vehicle. This type of infrastructure is typically used once drivers arrive at their destination and plan to remain in one place for a prolonged period of time.
- 4.7 Journey chargers are significantly more expensive to purchase and install therefore alternative charging rates should be considered depending on which type of charge point is being used with a premium rate being implemented for Journey charging.
- 4.8 Destination charging tariffs should be kept comparable to domestic tariffs to encourage people who do not have access to private parking to regularly charge their EV.
- 4.9 Care must also be taken to create an environment where commercial operators are encouraged to invest and the commercial price structures are not undercut.
- 4.10 Tariffs should be structured to encourage drivers to charge their vehicles at home, where they have the means to do so. This will also help further private sector investment in EV infrastructure across the region limiting future investment needed by local authorities.
- 4.11 Demand on the national grid and the impact of large scale charging at peak times may potentially affect the future installation of EV charging infrastructure. Early consultation with the Distribution Network Operator regarding grid capacity and potential expansion or modernisation of their infrastructure will allow for capacity issues to be addressed. In order to

spread the load a surcharge for each connection to EV chargers could be implemented at peak times.

4.12 The minimum costs that would need to be covered are:

- Electricity
- Metering and Administration (Chargeplace Scotland) Fees
- Ongoing Maintenance of charge points (Including bollards, signage and road markings)

All SBC maintained chargers are still covered by a maintenance warranty. Some are still within the first 5 years of installation and the others have had the maintenance warranty extended through Transport Scotland grant funding.

4.13 Costs associated with the ongoing running of SBC owned EV chargers once current warranty and maintenance agreements expire:

- £20,000 - £35,000 per year in electricity costs (depending on usage)
- £140 yearly ChargePlace Scotland access cost per charger, £3080 total for all chargers.
- £565 yearly Warranty/Maintenance costs per charger, £12,430 total for all current chargers
- £39 yearly electricity meter standing charge per charger, £858 total for all sites

As all chargers are currently free to charge all electricity; costs are currently paid by SBC, as are all electricity meter standing charges. ChargePlace Scotland access and warranty/maintenance costs are currently paid through initial grant funding

4.14 Neighbouring Local Authorities in Scotland have already introduced tariffs for EV charging:

East Lothian: 30p per kWh for Journey charging, 16p per kWh for Destination charging with a £1 minimum Charge

Midlothian: 30p per kWh for Journey charging, 16p per kWh for Destination charging with a £1 minimum Charge

Dumfries & Galloway: 25p per kWh for all chargers with a £1.50 minimum charge

4.15 Accordingly, it is proposed to apply the following tariff:

- 30p per kWh for Journey (Rapid) charge points (over 43kW)
- 16p per kWh for all other (Destination) Charge points
- An overstay charge to discourage overstaying
- A minimum charge of £1 per session, which would be waived if the session is interrupted through no fault of the vehicle owner
- 50p connection surcharge between 4 – 7pm to ease demand on the electricity grid at peak times

The proposal differentiates between Journey and Destination chargers due to Journey chargers being significantly more expensive to purchase and

maintain while also aligning closely with neighbouring authorities to provide a level of continuity.

The proposed pricing structure will encourage people who have the ability to charge at home to do so while also helping to ease pressure on the public charging network. It will also help to create an environment that encourages commercial operators to invest in the installation of charging infrastructure within the Scottish Borders.

Based on usage figures for 2020 this gives a potential income in the region of £75,000 a year, creating a surplus of around £22,000 a year to contribute towards maintaining the current infrastructure. This excludes overstay charges which would also generate additional surplus and would also allow scope to absorb any small increases in energy prices without the need to constantly alter the tariff.

5 PARKING RESTRICTIONS

- 5.1 SBC owned charging places on the public road or in SBC car parks should be subject to parking restrictions through the introduction of a Traffic Regulation Order restricting parking in charging bays to plugged-in EVs only.
- 5.2 The parking policy should differentiate between Journey (Rapid) and all other (Destination) charge points, Journey charge points should not be treated as parking spaces due to the high turnover of users. Drives will be expected to stay for 20 minutes or less (80% charge), until they have enough charge to complete the next stage of their journey.
- 5.3 Journey charge points should have a maximum stay time of 45 minutes with a 90 minute no-return period. A £1 per minute overstay charge (after a 10 minute grace period) should be administered alongside the charging tariff. The maximum overstay charge should be set to be equal to the local Penalty Charge Notice.
- 5.4 Destination charge points differ as they can complement a driver's daily business with stays of up to 4 hours or more and in some instances overnight stays. Therefore, they should be treated as parking spaces.
- 5.5 Destination charge points should have a maximum 4 hour stay between 8.30am – 5.30pm with a 90 minute no-return period. There should be no restrictions for overnight charging.
- 5.6 Consideration should also be given to the implementation of over stay charges and penalty charges for drivers who park in electric vehicle bays without charging a vehicle.
- 5.7 Clarification on the steps and timescales involved in the implementation of a tariff to the chargers on site is currently being discussed with ChargePlace Scotland and SWARCO.
- 5.8 As EV charging provision expands this needs to reflect the differing needs of the community and visitors to the Scottish Borders, specifically with regard

to accessibility, this will be a key consideration in upgrading and the siting of new EV charging points.

6 IMPLICATIONS

6.1 Financial

Usage figures for 2020 show that charging sessions were predominantly carried out via Rapid Chargers with relatively small numbers of Fast and Slow charging sessions taking place. Consumption figures show electricity used at public facing SBC chargers in 2020 cost SBC in the region of £33,296; as all SBC chargers are free to charge.

6.2 Risk and Mitigations

(a) As future levels of grant funding are unknown, the responsibility for maintaining and replacing infrastructure will fall to the relevant local authority. In light of this, priority should be given to considering a mechanism for the use of electric charge points to ensure continuation of future service. Without introducing a means to recover costs, electricity charges will continue to increase resulting in an ongoing financial pressure for SBC.

(b) Until tariffs are implemented, it is difficult to determine to what extent usage figures will be affected, making it difficult to gauge whether current supply will meet future demand.

6.3 Integrated Impact Assessment

An Integrated Impact Assessment has been undertaken in regards to the content of this report and no adverse findings have been observed requiring a fuller IIA to be undertaken.

6.4 Sustainable Development Goals

It is not envisaged that the introduction of a tariff for EV charging will impact on any of the UN Sustainable Development Goals.

6.5 Climate Change

There are no significant impacts on the Council's carbon emissions or climate change contribution that are additional to current operation.

6.6 Rural Proofing

There are no rural proofing issues arising from this report.

6.7 Data Protection Impact Statement

There are no personal data implications arising from the proposals contained in this report.

6.8 Changes to Scheme of Administration or Scheme of Delegation

There are no changes which are required to either the Scheme of Administration or the Scheme of Delegation as a result of the proposals in this report.

7 CONSULTATION

- 7.1 The Executive Director (Finance & Regulatory), the Monitoring Officer/Chief Legal Officer, the Chief Officer Audit and Risk, the Service Director HR & Communications, the Clerk to the Council and Corporate Communications have been consulted and any comments received incorporated into the final report.

Approved by

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Title

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