

REPORT TO: Cabinet

MEETING DATE: 10 September 2019

BY: Depute Chief Executive (Partnerships and Community Services)

SUBJECT: Update on Electric Vehicle Charging Point Infrastructure and the Introduction of Tariff Structure

1 PURPOSE

- 1.1 To advise members of progress made to date on the installation of electric vehicle charging points, within East Lothian. To describe the longer-term vision and funding opportunities available. To highlight the initiatives and projects in development and how the infrastructure is being managed. To introduce a pricing structure for the use of electric vehicle charging points.

2 RECOMMENDATIONS

- 2.1 That Members note the introduction of 43 public charging points as part of the Transport Scotland initiative to establish a countrywide charging infrastructure network to enable electric vehicles to be driven throughout Scotland. Additional funding has been received from the UK Department for Transport's Office of Low Emission Vehicles (OLEV).
- 2.2 That Members note that the charging units are currently free at the point of use, and endorse the recommendation to apply a tariff for the use of the electric vehicle chargepoints.

3 BACKGROUND

- 3.1 In December 2013, Transport Scotland published 'Switched On Scotland: A Roadmap to Widespread Adoption of Plug-in Vehicles', the government's ambition to decarbonise transport by 2050.
- 3.2 In 2016, the Scottish Government's programme for Scotland announced as part of its growing a productive, sustainable economy to increase the use of low carbon transport in line with the Climate Change Plan.
- 3.3 In 2017, the First Minister announced the ambition to phase out the need for new petrol and diesel cars and vans by 2032.
- 3.4 A key target of the vision is to influence the early market sales by

increasing the availability of electric vehicle charging points across strategic and local road networks up until 2020.

- 3.5 To deliver these ambitious targets several objectives are being promoted:
- To develop a mature market for low carbon cars achieving an average efficiency for new cars of less than 95g CO₂/km;
 - To deliver a complete electric vehicle (EV) charging infrastructure in Scottish cities and towns.
- 3.6 The growth in ownership of electric vehicles has increased 17 fold in the last 6 years, and is predicted to continue to accelerate. However, public perception and concerns remain over the range of the vehicles and ability to charge in all areas.
- 3.7 On the 30th October, East Lothian Council adopted the Local Transport Strategy (LTS), which provides for the support and implementation of infrastructure to encourage sustainable travel and the use of electric vehicles and to assist Transport Scotland in the delivery of public charging points.
- 3.8 Accompanying the LTS, the Parking Management Strategy (PMS) daughter document introduced Parking Policy 17: The Council will review the 'free at point of use' Electric vehicle charging point policy, at regular intervals.
- 3.9 On 09 July 18 East Lothian Council received £532,000 funding from Transport Scotland through the Local Authority Investment Programme (LAIP), and on 25 September 18 an additional award of £45,000 from the OLEV On-street Residential Chargepoint Scheme (ORCS) was made to cover the costs of chargepoint installation. See Appendix 1: East Lothian Chargepoints for locations. Through further discussions and agreement with Transport Scotland, Road Services have drawn down total investment of £861,575 split as follows:
- £811,575 from LAIP
 - £45,000 from OLEV ORCS as match funding for LAIP
 - £5,000 from OLEV Workplace Chargepoint Scheme (WCS)
- 3.10 Additionally, under Round 1 of Transport Scotland's Switched on Towns and Cities Fund (SOTC), East Lothian Council was awarded funding (worth around £40k) for a feasibility study to explore opportunities to provide enhanced facilities in Musselburgh to support widespread adoption of EVs, particularly by businesses including taxi companies.
- 3.11 This study was conducted by the Energy Saving Trust, and provides recommendations on how to incentivise, encourage, promote a step change in the use of EVs, and encourages ELC to use this information to support its application to Round 2 of SOTC for a grant. SOTC 2 bids are expected to be in the region of £1.5m to £2.5m.
- 3.12 Taking on board the report's recommendations and applying a practical extrapolation of their findings, it is estimated the level of infrastructure for resident and visitor charging units required for the whole of East

Lothian by 2023 in order to encourage 15% of vehicles to be EVs, will require this level of investment. This will be the first reasonable step towards the Scottish Government's target to phase out the need for new petrol and diesel car and van sales by 2032.

- 3.13 The feasibility study will be lodged in the Members' library for information.
- 3.14 A detailed description of Electric Vehicle charge point proposals are made in Appendix 5.
- 3.15 A detailed position on current progress, site selection considerations, development of initiatives, and EV terminology is supplied in Appendix 1: East Lothian Chargepoints.
- 3.16 A full list of other sources of funding available to both local authorities, individuals and businesses, and these are tabled in Appendix 2: Funding Sources.
- 3.17 In addition to those funding opportunities, incentives to electrify fleet and pool vehicles, as well as provide workplace chargepoints for staff bringing their own EVs to work are available. ELC's progress in this area is explored in Appendix 3: ELC EV Fleet.
- 3.18 To ensure appropriate levels of use and access to the chargepoints, the charging spaces will be controlled by a Traffic regulation Order. Appendix 4 – Parking restrictions at Chargepoints describes this policy. To start the statutory procedure necessary to make an Order, a report to cabinet will be prepared describing the restriction per site per chargepoint.
- 3.19 Electric vehicle charge point infrastructure is a further street furniture asset added to the suite of road assets maintained at public expense. Current asset valuation estimates a gross replacement cost (GRC) of £816,000 at present rates. The depreciation cost (GDC) has not been calculated but will be included in the asset status option Report (ASOR). Further details are contained in Appendix 8: Electric vehicle chargepoint asset status.
- 3.20 To meet the anticipated growth in electric vehicles, it is recognised that this cannot be accomplished solely by national and local government. It will therefore be appropriate and necessary to seek modification to local development plans and technical guidance. Appendix 6: Planning policy and EVs provides guidance to this requirement.
- 3.21 In 2017, the Council had seven operational public chargepoints that over a 12-month period incurred electrical charges of £9,850. An increase to 43 chargepoints suggests a potential bill of £60,507 per year, if usage remains proportional.
- 3.22 Taking into account this significant increase in cost to provide electricity, maintenance and back office services a review of the infrastructure costs and services was undertaken.
- 3.23 In the development of a robust business case for the introduction for charging, Road Services took in to account the views of the wider electric vehicle owner's community, benchmarked with other Local Authorities and explore viable models and technological challenges with

Transport Scotland and Department for Transport before making the following recommendations.

- 3.24 Accordingly, it is recommended that the following tariffs be applied:
- 30p per kWh for Journey (Rapid) chargepoints (over 43kW)
 - 16p per kWh for all other (Destination) chargepoints
 - An overstay charge to discourage abuse of the charging spaces
 - A minimum charge of £1 per session, which would be waived if the session is interrupted
- 3.25 Taking into consideration the review, the preparation and technical work necessary to recover tariffs it is anticipated a charging regime could be introduced in winter 2019-20.

4 POLICY IMPLICATIONS

- 4.1 These proposals will contribute towards The East Lothian Plan – 2017-27 focusing on the safety, sustainability and economic growth agenda.
- 4.2 This proposal will contribute towards East Lothian’s SOA Outcome 7 – East Lothian is an even safer place.

5 INTEGRATED IMPACT ASSESSMENT

- 5.1 The subject of this report does not affect the wellbeing of the community or have a significant impact on equality, the environment or economy.

6 RESOURCE IMPLICATIONS

- 6.1 Financial – A charge of £9,850 was made to the Road Service Revenue account in 2017-18 for electricity costs. Without introducing a means to recover costs, electricity costs may increase to £60,507. Financial pricing models predict a surplus of £7k to £32k on the recommended tariff for usage per kWh.

The provision of all new electric vehicle chargepoint infrastructure is fully funded through Transport Scotland and the Office of Low Emission Vehicles with additional funding opportunities available. As the service does not have a dedicated resource or have the capacity to develop the appropriate expertise and skills necessary to manage these assets, arrange maintenance, administer operations and manage the facilities associated with the technology an additional post will be created.

- 6.2 Personnel – The delivery of the technical challenge implementing the Electric Vehicle Chargepoint infrastructure will require an additional substantive post to be created within the Road Service establishment

This post is essential in the delivery of the Local Transport Strategy and growth agenda, so will be included in the service review currently ongoing necessary to re-align staff and resources to deliver the ambitions of the Council.

6.3 Other - None

7 BACKGROUND PAPERS

7.1 Report to Members' library Electric Vehicle Charging Infrastructure
Update 21st November 2014

AUTHOR'S NAME	Peter Forsyth
DESIGNATION	Asset and regulatory Team Manager
CONTACT INFO	Morag Haddow/ Ryan Robertson
DATE	September 2019

Electric Vehicle Chargepoint Infrastructure and Supporting Electric Vehicles in East Lothian

Appendix 1: East Lothian Chargepoints

The figure below shows the East Lothian EV chargepoint network as of summer 2019; we are actively pursuing other funding opportunities via, for example, the Switched On Towns and Cities Fund.

All locations have been selected for suitability based on as many as possible of the following criteria

- Location – close to population centre, accessibility
- Technical – suitable grid connection, ground conditions
- Facilities – lit, overlooked, toilets and shops nearby
- Requested – a request for an on-street public chargepoint from an individual EV owner

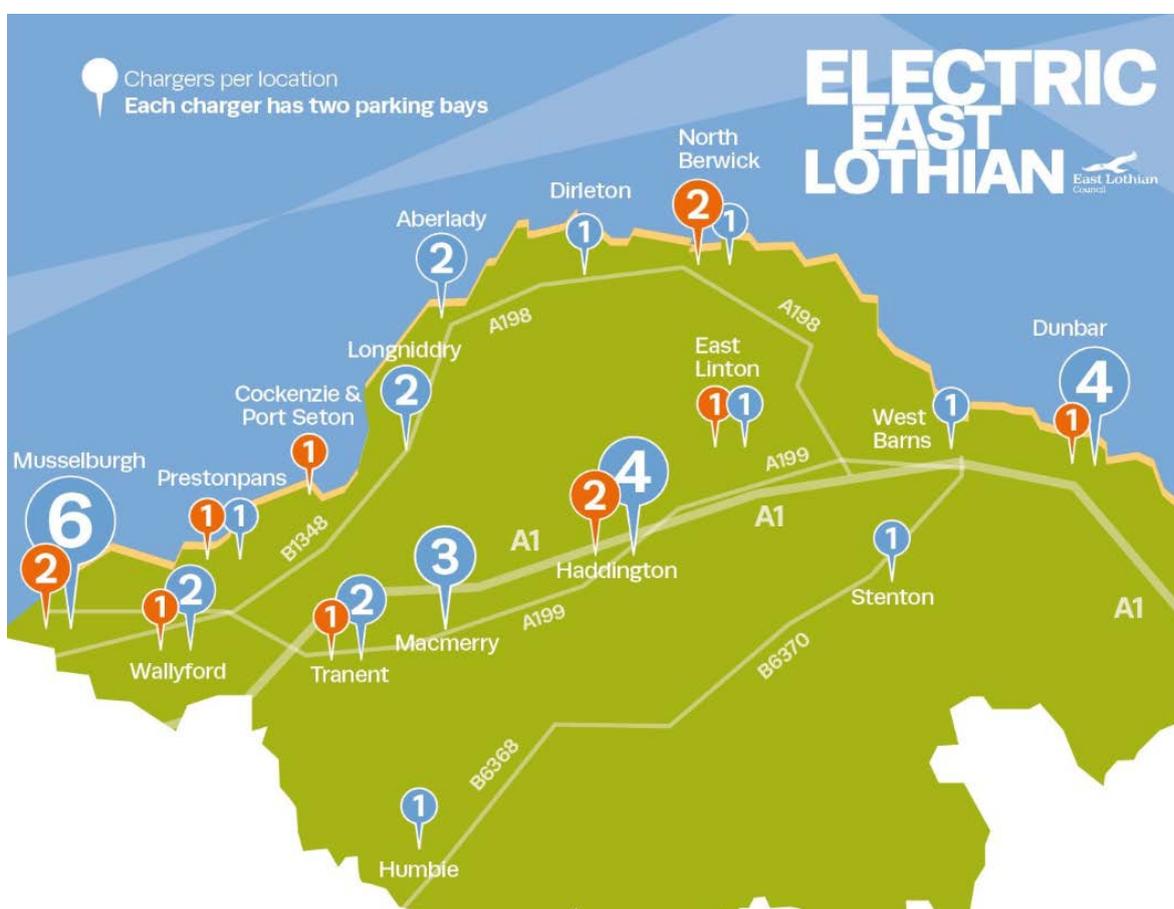


Figure 1: Chargepoint network in East Lothian as of summer 2019

In addition, there is an ever-growing number of 'public' chargepoints being installed on private land at e.g. filling station forecourts, super market car parks, pubs and restaurants, visitor attractions, hotels and railway stations. These are out with ELC's control, and an up-to-date map can be viewed on <https://chargeplacescotland.org/> (if government funded) or via various EV apps, including:

- Zap Map
- Plugshare
- Watts-Up

Terminology

There are 4 main types of chargepoint:

Slow/Domestic



These tend to be 3.7kW units for overnight charging, or may be suitable for long-stay car parks and workplaces. They are installed at the John Muir House car park for charging our pool cars.

Figure 2: Example domestic chargepoint

Destination (Standard)



These (7.4kW) units take 6-8 hours to fully charge a vehicle, and are therefore less suitable for areas where high turnover is required and the parking time is restricted. However, they are useful for workplaces and long-stay car parks. In 2018, ELC replaced all of our dated Standard public chargepoints with Destination (Fast) or Journey (Rapid) chargepoints. ScotRail, and other private hosts still install new and operate existing Standard chargepoints.

Figure 3: Example Destination (Standard) chargepoint

Destination (Fast)



These 22.5kW chargepoints usually have two sockets on a single unit. They are installed between 2 parking bays so that 2 vehicles can charge at once. They tend to be fairly unobtrusive compact units. Where a Destination chargepoint is referred to in this document this will be a double-outlet unit with two designated parking bays.

Figure 4: Example Destination (Fast) chargepoint



Journey (Rapid)

Rapid chargepoints can supply up to 43kW AC and up to 50kW DC and tend to have 3 tethered cables but only two can be in use at any one time, due to the amount of power being drawn.

Figure 5: Example Journey (Rapid) chargepoint

Appendix 2: Sources of Funding

To assist policy implementation, Transport Scotland and Office for Low Emissions (OLEV) provide financial support to local authorities, workplaces, individuals and businesses to stimulate installation of charge points and incentivise uptake of ULEVs. List of available support is provided here. For most up to date information on support available from Transport Scotland, please visit [Energy Saving Trust](#).

Support provided by Transport Scotland

Local Authority Funding	
Programme	Description
Switched on Towns & Cities Feasibility Studies	Fully funded feasibility support providing 10 local authorities with forecasts for EV uptake and recommendations for the location, quantity, specification and investment case for charging infrastructure.
Switched on Towns & Cities Challenge Fund	Annual competition for up to 100% capital infrastructure projects for up to 5 Local Authorities - with a funding value of £1.5 to £2.5 million per project. Match funding may be used as a weighing consideration.
Switched on Fleets	Full grant for 3 years lease of a new ULEV, or the difference in price between ULEV and an ICE comparison - available for replacement vehicles only where ULEV replaces current ICE vehicle in council owned fleet.
ChargePlace Scotland	Grant funding available for workplaces to install EV charging infrastructure. This support could form part of council's sustainable transport strategy where council fleets consist of ULEVs. Workplace charge points are available to for use by employees only and do not form part of public charging infrastructure.
eBike Grant Fund (including ebikes, ecargo and accessible ebikes)	Up to £100,000 available for any public sector body. Up to £15,000 for 3 rd sector (i.e. community groups, charities). Match funding required for both.
Sustainable Transport Review	A free analysis of an organisations transport arrangements with a report detailing how cost and CO ₂ savings could be achieved.

Other Public Sector Organisations Funding	
Programme	Description
Switched on Fleets	Full grant for 3 years lease of a new ULEV, or the difference in price between ULEV and an ICE comparison - available for replacement vehicles only where ULEV replaces current ICE vehicles in the organisation's own fleet.
Switched on @ Work	Free of charge employee engagement support providing information to employees on the benefits of switching to ULEVs and ebikes. ULEV test drives and driver training and ebike test rides are also offered as part of these events.
ChargePlace Scotland	Grant funding towards installation of charge points.
FuelGood Driver Training	Subsidised fuel efficient driver training for employees in ULEV, petrol and diesel cars and light vans.
eBike Grant Fund (including ebikes, ecargo and accessible ebikes)	Up to £100,000 available for any public sector body. Up to £15,000 for 3 rd sector (i.e community groups, charities). Match funding required for both.
Switched on Communities	Free of charge community engagement workshops providing information to individuals on the benefits of switching to ULEVs and ebikes. ULEV test drives and ebike test rides are also offered as part of these events.
Sustainable Transport Review	A free analysis of an organisations transport arrangements with a report detailing how cost and CO ₂ savings could be achieved.

Consumer Funding	
Programme	Description
ChargePlace Scotland	Up to £300 grant funding available to install a domestic charge point.
Low Carbon Transport Loan Fund	Six-year interest free loan of up to £35,000 towards purchase of a new ULEV.
eBike Loan	Four-year interest free loan of up to £3,000 per ebike (maximum of two bikes per household) or up to £6,000 per ecargo bike or per adaptive ebike.
FuelGood Driver Training	Free of charge fuel efficient driver training for individuals in ULEV, petrol and diesel cars and light vans.
Consumer Advice	Free, impartial advice from Home Energy Scotland on sustainable transport focusing on cost and carbon savings.

Business Funding	
Programme	Description

Low Carbon Transport Business Loan	Interest free loan of up to £120,000 with a 6-year repayment period. Funding is capped at: £35,000 per electric car/van; £50,000 per electric HGV; and £10,000 per electric motorbike/scooter and other sustainable transport measures or mechanisms that would support switch to low carbon or active travel
Switched on @ Work	Free of charge employee engagement workshops providing information to employees on the benefits of switching to ULEVs and ebikes. ULEV test drives and ebike test rides are also offered as part of these events.
ChargePlace Scotland	Grant funding towards installation of charge points.
eBike Business Loan	Interest free loan of up to £30,000 towards purchase of ebikes, ecargo bikes and adaptive ebikes.
FuelGood Driver Training	Subsidised fuel efficient driver training for employees in ULEV, petrol and diesel cars and light vans.
Scottish Bus Emissions Retrofit Programme	Grant funding available of up to £350,000 per applicant (£25,000 per vehicle) to companies operating local bus services within proposed LEZs (i.e. Aberdeen, Dundee, Edinburgh and Glasgow) and current Air Quality Management Areas, to retrofit existing buses so they emit less NOx and PM.
Sustainable Transport Review	A free analysis of an organisations transport arrangements with a report detailing how cost and CO ₂ savings could be achieved.

Taxi and Private Hire Funding

Programme	Description
Low Carbon Transport Loan Fund	Interest free loan of up to £35,000 towards purchase of ULEV for taxi and private hire drivers.
Low Carbon Hackney Cab Loan	Interest free loan of up to £120,000 with a 6-year repayment period. Funding is capped at: £35,000 per electric car/van. Private hire taxi operators are eligible to apply.

Housing Association Funding	
Programme	Description
Plugged in Households	Grant funding for not-for-profit housing associations and cooperatives to procure the services of a zero emission car club, for use by their tenants and the wider local community.

Support Provided by Department for Transport's Office of Low Emission Vehicles

On-street Residential Chargepoint Scheme ¹	Grant support for local authorities towards the cost of installing on-street residential charge points. The funding available is for 75% of the capital costs of procuring and installing of a charge point and an associated dedicated parking bay.
Ultra Low Emission Taxi Infrastructure Scheme ²	Grant funding for local authorities towards installation charging infrastructure for use by taxi and private hire
Workplace Charging Scheme ³	Voucher-based scheme that provides support towards the up-front costs of the purchase and installation of electric vehicle charge-points, for eligible businesses, charities and public sector organisations.
Electric Vehicle Homecharge Scheme ⁴	Grant funding of up to 75% towards the cost of installing electric vehicle chargepoints at domestic properties across the UK.
Plug-in Car Grant	Individuals, businesses and TPH drivers are eligible to receive grant funding from OLEV towards purchase of a plug-in car, van or motorbike - a grant of up to £3,500 is available when purchased cars have CO ₂ emissions of less than 50g/km and can travel at least 112km (70 miles) without any emissions at all. Vans with CO ₂ emissions of less than 75g/km and can travel at least 16km (10 miles) without any emissions at all are eligible to receive a grant of up to £8,000. Taxi drivers are eligible to receive grant from OLEV of up to £7,500 when replacing their existing Hackney carriages with a plug-in alternative.

¹ <https://www.gov.uk/government/publications/grants-for-local-authorities-to-provide-residential-on-street-chargepoints>

² <https://www.gov.uk/government/publications/ultra-low-emission-taxi-infrastructure-scheme-round-2>

³ <https://www.gov.uk/government/collections/government-grants-for-low-emission-vehicles>

⁴ <https://www.gov.uk/government/collections/government-grants-for-low-emission-vehicles>

Appendix 3: ELC EV Fleet

Fleet vehicles

The East Lothian Council fleet includes buses and other service vehicles. The Transport and Waste Services Manager is very keen to trial electric vehicle technology for their larger vehicles. There is an option to provide vehicle charging from the solar panels already installed at the Kinwegar Recycling Centre in Wallyford. The practicalities and cost of the following are being actively considered:

- Electric bus – may be leased or purchased
- Electric sweeper – a fully electric sweeper has just come to market, which the Operations Team are keen to be the first in utilising. We are in a strong position to make it a success.
- Refuse Collection Vehicle - operationally we are confident of making this deliver. This would be based at Kinwegar and operate in Musselburgh and its environs – including our Air Quality Management Area.

Property Maintenance Fleet

In addition to the specialised fleet vehicles such as bin lorries, ELC runs a fleet of around 130 property maintenance vans which are allocated to individual members of staff and taken home at night. Electrifying this fleet poses particular challenges around locations for charging and current working practices, and further work will be commissioned to look at the options available.

Pool vehicles

As the pool car fleet is expanded and promoted, there is need to ensure that it is available to officials at all times. Dedicated pool car EV chargepoints at council offices would mean that employees using pool cars would be assured of a parking space on return to the crowded office car park which would be a considerable benefit over using a personal vehicle, and help to promote the use of EV pool cars.

A proposal for dedicated chargepoints for the pool fleet is being drafted by the Transport Services Manager, making use of funding available through the Workplace Charging Scheme administered by the Energy Saving Trust. This is over and above the chargepoints that will be available in council car parks for staff to charge their own cars and for the public to use out-of-hours, and which are included in this project.

Car club

Since early 2018, ELC has been a corporate member of Enterprise Car Club with vehicles based at Randall House and John Muir House for the exclusive use of staff as pool vehicles. There is the option of opening out membership to the general public out-of-hours, making use of existing assets to provide additional sustainable transport options to the community.

Charging infrastructure for employees at workplaces

In the longer term we are looking to provide charging opportunities for staff at all council premises e.g. schools. This would be connected to the building's electricity supply (rather than Road Services). Grants are available from the Energy Saving Trust: <http://www.energysavingtrust.org.uk/scotland/businesses-organisations/transport/electric-vehicles-chargeplace-scotland>

Appendix 4: Parking Restrictions at Chargepoints

Parking restrictions

In East Lothian, charging places on the public road network or in ELC car parks are subject to a Traffic Regulation Order restricting parking to plugged-in EVs only.

Our parking policy will differentiate between Journey (Rapid) chargepoints and others. Journey chargepoints will not be treated as parking spaces as high turnover of users is essential to make best use of this expensive asset. Drivers will be expected to stay for 20 minutes or less (80% charge), until they have taken enough electricity to complete the next stage of their journey.

- **Journey (Rapid) chargepoints** – up to 45 minutes with a 90 minute no-return period. A £1 per minute overstay charge (after a 10 minute grace period) will be administered through the Chargeplace Scotland back office, alongside the tariff. The maximum overstay charge will be set to be equal to the local Penalty Charge Notice. This method of restricting overstaying is endorsed by the Electric Vehicle Association.

Other chargepoints fulfil a different function, complementing the driver's daily business and therefore, will be treated as parking spaces.

- **Destination (Fast/Standard) chargepoints** - up to 4 hours stay between 8.30am-5.30pm, with a 90 minute no-return period. No restrictions for EVs overnight. This will be policed by our parking attendants and parking fines collected through the usual mechanisms.
- **'Park & Choose' hubs and long-stay car parks** - parking restrictions will be considered on a case-by-case basis

Car Club vehicles are shared by multiple drivers and need a dedicated public parking space. If requested a slow charger will be installed for the electric car club vehicle at their 'base' parking space.

- **Car Club EVs** – no parking restrictions on their 'base' parking space.

Appendix 5 – East Lothian EV network proposals

Over financial 2018/19, around £860k was received from Transport Scotland and the Department for Transport to cover the installation of EV chargepoints around the county.

This has produced a basic network including -

- ‘alpha’ charging hubs in each of our six town centres and in East Linton to serve the trunk road network – comprising at least one Journey (Rapid) and one Destination chargepoint at each
- ‘beta’ satellite hubs in strategic locations – comprising at least two Destination chargepoints in each
- Additional chargepoints in villages and residential areas, where these have been requested

Aspirations 2019-23

In 2019, Transport Scotland (TS) directly funded the Energy Savings Trust (EST) to conduct an in-depth feasibility study (worth an estimated £40k) under Round 1 of the Switched on Towns and Cities (SOTC) Challenge Fund programme focusing on Musselburgh and Wallyford.

This calculates the infrastructure required to provide for 15% of vehicles being electric. This is considered a reasonable step towards the Scottish Government’s aim to phase out the need for new petrol and diesel cars by 2032.

For Musselburgh/Wallyford the recommendations were:

- 16 more Destination chargers
- 6 more Journey (Rapid) chargers

Scaling this up to the whole of East Lothian suggests a need for an additional:

- 119 Destinations chargers
- 12 Journey (Rapid) chargers

These will be spread across all towns and villages. Indicative plans for our 6 largest towns are below with sites due for completion in 2019/20 highlighted green.



Figure 6: Proposals additional chargepoints in Musselburgh 2023



Figure 7: Proposals additional chargepoints in Tranent 2023

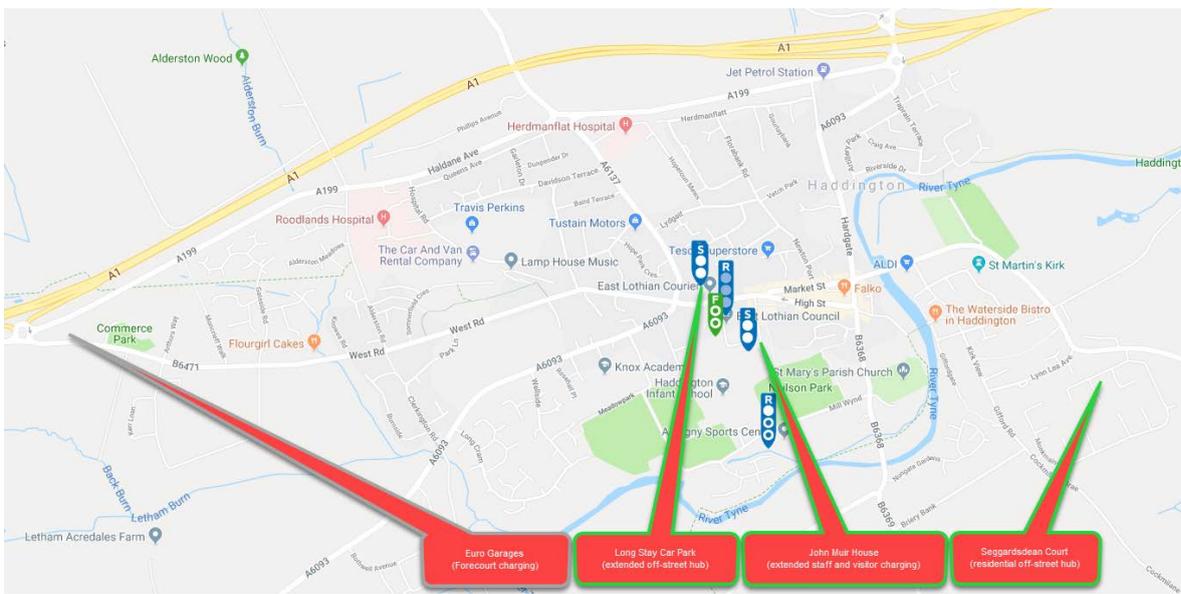


Figure 8: Proposals additional chargepoints in Haddington 2023



Figure 9: Proposals additional chargepoints in Prestonpans 2023



Figure 10: Proposals additional chargepoints in Dunbar 2023



Figure 11: Proposals additional chargepoints in North Berwick

We have been encouraged by the Transport Scotland to submit a bid to the Switched On Towns and Cities Challenge Fund Round 2 to enable us to fulfil these recommendations for the 'urban conurbation' in the west of the county including Musselburgh, Wallyford, Tranent, Prestonpans, Cockenzie & Port Seton. This is expected to amount to around £0.7m.

A further £0.8m of supporting projects have also been identified and may be included in the bid. These include:

- Integration with housing micro generation projects,
- Commercialised opportunities with partners e.g. ConnectedKerb, Engenie
- Significant workplace charging schemes,
- Further pathfinder fleet electrification projects (including induction charging)
- In-depth fleet feasibility study on ELC fleet electrification.

This fund opens at the end of 2019. In the meantime, a sum of around £200k annually is expected to be available from the Transport Scotland's Local Authority Infrastructure Fund (LAIP) for the next few years, and there are ongoing opportunities to match this with OLEV's On-street Residential Chargepoint and Workplace Charging Schemes.

- £100,000 from OLEV ORCS as match funding for £33,000 of CPS LAIP, annually
- £10,000 from OLEV WCS as match funding for 3k of CPS LAIP
- £25,000 from EST workplace as match funding for £25k CPS LAIP

The criteria for these funds all make allowance for us to include the staff costs of managing these projects.

In conclusion, LAIP grants are expected to form the core of our funding and unlock further grants from OLEV and EST but for security, we will be seeking additional

funding from, for example:

- Scottish Power Energy Networks Green Economy Fund Round 3 (up to £20M)
- Scottish Futures Trust (no investigated yet)

We will also explore commercialisation opportunities.

Growing our infrastructure early will put us in a good position to generate a surplus via Charging for Charging in FY20/21, which may subsequently allow us to grow our infrastructure at a faster rate beyond 2023, at whatever rate EV uptake follows

Appendix 6: Planning Policy and EVs

Local Development Plan 2018: Policy T31: Electric Car & Bus Charging Points states that *“The Council will encourage and support the principle of introducing electric vehicle charging points around both existing and proposed community facilities such as schools and retail areas, including from developers as part of new developments that contain such facilities or areas.”*

Considering the rate of change being set by the Scottish Government necessary to address wider environmental and energy pressures, we believe this policy should be extended to support the provision of chargepoints in new residential developments /employment sites /re-development sites. It would also be appropriate to have guidelines for new on-street chargepoints in conservation areas, which also require planning permission.

The current view of the planning Authority is that the Main Issues Report (MIR2) for the Local Development Plan (LDP2) is expected in late autumn followed by a proposed plan mid-2020.

It was hoped that advice and specification for electric charge points appropriate for residential areas could have been included in the revised Supplementary Planning Guidance on Design Standards for New Residential Areas. However, supplementary guidance adopted and issued under section 22(1) of the Town and Country Planning (Scotland) Act 1997 (in connection with a particular local development plan), may only deal with the provision of further information or detail in respect of the policies or proposals set out in the plan and then *only provided that those are matters which are expressly identified in a statement contained in the plan as matters which are to be dealt with in supplementary guidance.*

Opportunities to prepare requisite planning policy and technical guidance will have to be explored in LDP2 and associated supplementary planning guidance.

Collation of Evidence

In order to support inclusion of a requirement for EV chargepoints in the updated Local Development Plan we will look to develop:

- Case study: Housing development (ELC council housing or development elsewhere)
- Case Study: Employment site (ELC schools e.g. North Berwick)
- Document the clear benefits of non-polluting vehicles on our streets
- Support from councillors.

In the meantime, road services are starting to develop the following policy suggestions:

New Residential developments

Road Services will seek to implement a policy of the installation of at least one dedicated EV charging space per dwelling. This is to ensure sufficient capacity for 100% EV uptake. This could be in a private driveway or separate parking space, and should be maintained privately by residents or a factor. The charging apparatus should not be on the adopted road or footway.

Additional public and visitor parking (on the adopted road) does not require a chargepoint.

Slow charging is sufficient as it is expected that residents will charge their vehicles overnight. Multiple low-powered chargepoints are considered to be more practical than the installation of fewer high-power chargepoints which would require monitoring of their use to ensure turnover of vehicles.

Additionally, on larger residential developments (more than 49 units) the requirement for passive provision for a Journey chargepoint (to provide for emergencies and top-ups) will be assessed by Road Services. A contribution towards the purchase and installation of the chargepoint by the local authority may be requested from the developer. The chargepoint may be adopted by ELC.

Council Housing Developments

The requirement for one EV chargepoint per dwelling will remain, but where the parking courtyards will be maintained by Amenity Services (rather than a private factor), then Road Services would look to install, adopt and maintain the chargepoints alongside our public chargepoints. Further, assessment for the integration of chargers into metered street lighting apparatus will be explored.

Other New Developments

In other new developments, we expect either:

- 1) One chargepoint on 100% of parking bays (at any power rating);

OR

- 2) One accessible Journey chargepoint per 10 parking spaces. This will not count towards the overall parking supply. Provision should be made for monitoring use to ensure sufficient turnover of vehicles;

OR

- 3) A mix of the above to be agreed on discussion with officers.

Multiple slow chargers are recommended for locations where vehicles park all day e.g. offices, but high power chargepoints are more appropriate where short-stay visitors are expected.

Electricity supply

Developers should engage with electricity providers to ensure that the entire electricity supply infrastructure will have sufficient capacity to enable all chargepoints (once installed) to operate simultaneously. The developer will be required to meet the costs of any upgrades needed. Large developments with dedicated electricity sub-stations should specify the sub-station to a sufficient capacity to fully cater for all EV charging requirements.

Accessing chargepoints

Tariffs for electricity from private chargepoints should be set at an appropriate rate. Private chargepoints which are publicly available should be added to the ChargePlace Scotland network, or be capable of pay-as-you-go transactions.

Adoption and maintenance of chargepoints

ELC Road Services will consider adopting new chargepoints on the public road network, if they are in line with our requirements.

Specifications for Equipment/ Bays/ Signage that are proposed to be adopted by the Council for maintenance, as well as Expected Installation and Adoption dates will have to be discussed and approved by ELC Road Services during the Road Construction Consent process. In considering the adoption of chargepoints, care

must be taken on the age and warranty of the unit and if it is in the interest of the general public to adopt the unit.

Appendix 7: EV Tariffs

A condition of the earlier Transport Scotland grant funding for the early EV chargepoints was that they were free at point of use. This condition has now been removed and we, like other councils, are considering introducing a charging regime.

Our Parking Management Strategy (as part of the Local Transport Strategy) introduced *Parking Policy 17: The Council will review the 'free at point of use' electric vehicle chargepoint policy, at regular intervals.*

In 2017 the Council had 7 operational chargepoints that over a 12-month period incurred electrical charges of £9,850. An increase to 43 public chargepoints suggests a potential bill of £60,507 per year, if usage remains proportional. Additionally there are costs associated with maintenance and back office services. This document summarises our review, and it is anticipated a charging regime could be introduced in late 2019.

Only 2 Local Authorities in Scotland have introduced charges for electricity from public chargepoints. These are:

- Moray Council – flat rate of £3.80 per charge, whether regardless of power supplied
- Dumfries and Galloway Council – 25p per kWh for Journey (Rapid) charging, 10p per kWh otherwise

In addition, particularly in England which does not enjoy the support of Transport Scotland funding, there are the commercial chargepoint networks:

- Ecotricity/ Electric Highway – 30p per kWh
- Chargemaster Polar Network – Membership of £7.95 per month, plus 9p per kWh

The commercial networks almost exclusively provide Journey (Rapid) chargepoints.

The Journey chargers are significantly (4 times) more expensive to purchase and install, and current statistics imply they are also more attractive to users, therefore a differential pricing regime appears sensible.

The Electric Vehicle Association Scotland has consulted extensively with its members (EV owners) over the last few years on the principal of charging for charging. Their report, published in 2018, states *“EVA Scotland is supportive of the introduction of billing for charging, to ensure that each post host is able to support and maintain the service offered, but also to encourage best practice amongst users at charge points, facilitating all journeys. We support practices that encourage appropriate behaviours that maximise utilisation and availability of the charge points.”*

We intend to distinguish between Journey and slower chargers. Spaces at slower chargers will be parking spaces where people will leave their vehicles overnight or for long periods. We want to encourage people who do not have access to private parking to use these to regularly charge their EV, and as such will keep the pricing comparable to domestic tariffs. However, we must also take into account how to foster an environment where commercial operators are happy to invest in the

mature network. As such, we do not wish to undercut the commercial price structures, and therefore the pricing for Journey charges will be more in line with these. We propose to introduce the following tariffs:

- 30p per kWh for Journey chargepoints (over 43kW)
- 16p per kWh for all slower chargepoints
- An overstay charge to discourage abuse of the charging spaces
- A minimum charge of £1 per session, which would be waived if the session is interrupted

It is important to ensure that it remains cheaper for EV drivers to charge their vehicles at home (currently 2-4p per mile, depending on tariff), in order to reduce the pressure on the public charging network.

Our charging proposals equate to prices from 5p per mile for Journey charges and 3p per mile for slower charges, which compares well with average costs for conventionally fuelled vehicles of 15p per mile⁵.

A further consideration is the demand on the electricity network. Electricity suppliers are comfortable that there is enough capacity in the grid to support EV charging, as long as this is not all undertaken at peak times. In order to satisfy peak time demand, additional power sources such as nuclear and gas are often brought on stream. To spread the load, and to support the use of low carbon sources of electricity, we are proposing a surcharge of 50p per charge to connect to an EV chargepoint from 4-7pm.

We have assumed that at a minimum we have to cover the costs of:

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

Currently chargepoint maintenance is covered by the warranty for the first 5 years, and new units and staff management time will be funded by Transport Scotland for the next year. However, we may need to increase charges in future to cover:

- Ongoing maintenance of chargepoints
- Staff time to maintain, promote and expand the network
- Eventual replacement of chargepoints

We have run three scenarios to test for potential income generated by ELC following the introduction of the suggested tariffs.

Scenario 1 assumes no increase in the number of charging sessions. In this scenario we expect drivers who currently charge at the free public chargepoints to now charge at home and only new EV owners without alternative places to charge will use the public chargepoints.

Scenario 2 assumes that the number of charging sessions per vehicle remains constant, and therefore the number of sessions will increase with the number of vehicles. We expect to be moving towards our ambition of 15% of vehicles being EVs by 2023.

Scenario 3 assumes the number of charging sessions per chargepoint remains constant (and therefore the total number of charging sessions increases due to the

⁵ Figure from Energy Saving Trust Insight and Analytics Team

increased number of chargepoints).

	Surplus
Scenario 1: total chargepoint sessions same as 2018	£7k
Scenario 2: same number of sessions per EV as 2018 (1% EVs in 2019)	£36k
Scenario 3: same number of sessions per chargepoint as 2018	£32k

The number of assumptions included in this analysis are significant, and all numbers should be understood as estimates.

Any surplus from the charging tariffs will be used to cover ongoing costs of maintenance, staff and unit replacement once grant funding is no longer available, and we will adjust pricing once we have the data to monitor the impact of cost on charging behaviour. There may also be additional income not accounted for here, from the imposition of overstay and minimum charges.

While we are not expecting any losses, should these happen in practice, these should be seen in the context of subsidising the switch to lower emission vehicles, and we would expect to increase our promotional efforts accordingly.

All the scenarios assume that users still have a preference towards using Rapids as is currently the case. However, this is unlikely as some will switch to the lower priced chargepoints, but we have no means of gauging how many.

The most likely scenario is that the number of charging sessions will remain fairly constant for the next few years after an initial drop in use as people with the facility to charge at home start to do so once the public network is no longer cost-free.

The new chargepoint network will instil confidence in the market and more people will buy EVs as a result, but most people are expected to charge at home most of the time.

Other options for the future of the network include handing it over to a commercial operator once the market is mature.

Appendix 8 – Electric Vehicle Chargepoint Asset Status

EV CHARGING POINT STATUS

Quantity & Type

Standard 7kW AC Destination Chargers:	9
Fast 22kW AC Destination Chargers:	23
Rapid 50kW DC Journey Chargers:	13
Total synchronous sessions possible:	90

8 older chargers were replaced in FY18/19.

Condition

All chargers are annually inspected & serviced (Q1, 2019), covered by warranty and maintenance packages and therefore maintained in a very high condition.

Age (years):	>4	2	1	Total
7kW AC:	0	0	9	9
22kW AC:	0	3	20	23
50kW DC:	3	1	9	13
Total:	3	4	38	45

All chargers are constructed to remain in a safe, operable condition for a minimum of 10 years as a condition of the 100% Grant Funding used.

Condition Band Descriptions

- Condition 1 – As New: All
- Condition 2 – Aesthetically Impaired: None
- Condition 3 – Minor Deterioration: None
- Condition 4 – Major Deterioration: None

Valuation & Investment

The Gross Replacement Cost is £816,000.

No RAMP methodology exists for calculating EVCP Depreciation Values. However, It is expected that our simple, reliable 7-22kW AC Destination chargers (the bulk of our assets) will remain attractive and economical to maintain after the initial 10 year period whereas alternative 50-150kW Forecourt Chargers are expected to be available in sufficient quantities to remove the demand for ELC to maintain our existing 50kW DC Journey chargers at the end of their expected useful service life of 10 years. Very few additional 50kW DC chargers are therefore planned.



7-22kW AC Destination Charger



Rapid 50kW DC Journey Charger



Charging Hub within Conservation Area