ABERDEEN CITY COUNCIL

COMMITTEE	Communities, Housing and Infrastructure
DATE	15th March 2016
DIRECTOR	Pete Leonard
TITLE OF REPORT	Public electric vehicle charging infrastructure development in Aberdeen City
REPORT NUMBER	CHI/16/022
CHECKLIST COMPLETED	Yes

1. PURPOSE OF REPORT

The purpose of this report is to make the Committee aware of ongoing developments of the publicly-available Electric Vehicle (EV) charging infrastructure network which the Council provides in Aberdeen City. The report also updates Members on the costs associated with the project to date and requests approval to continue to offer the EV charging service at no charge for a further 12 months.

2. RECOMMENDATION(S)

It is recommended that the Committee
a) Note the contents of this report and
b) Instruct officers to continue to offer the EV charging service at no charge for a further 12 months and future decisions on levels of charging would be made within the budget setting process.

3. FINANCIAL IMPLICATIONS

The supply and installation of the EV Charging Units has, to date, been 100% grant funded by Transport Scotland, the Scottish Government Transport Agency, OLEV, the UK Office for Low Emission Vehicles and the Energy Saving Trust Scotland. Funding has been awarded to Community Planning Partnerships in each local authority area with Community Planning Partners (CPPs) the recipients. In most cases, being the owners of most of the public car parks, the Councils in each area have been the ones who have used the funding.

Since the Aberdeen public network was installed in 2013, the cost of providing the electricity for these units has been absorbed by the

Council, with costs either being charged against the building that plays host to the unit or to the Parking Account. It is intended that, subject to committee approval, this process will remain in place for a further 12 months. Discussions have already taken place with the Council's Accounting Team and it has been confirmed that provision has been built into the Parking Account budget for 2016/17.

Figures obtained from EDF, the Council's energy provider, reveal that, since they were installed, the cost of running the 34 charge points that the Council has figures for is £13,116. Further explanation of these costs is provided in Section 5 of this report.

Units were covered either by a two or three year warranty and maintenance agreement from new. At the time, Transport Scotland did not stipulate how the units would be managed long-term and who would do this. Therefore, this saved the council paying upfront for a longer agreement that it might not need should other arrangements come into place beyond this. However, by February 2016, twelve of the publicly-available units and seven "fleet only" ones will be outwith their warranty and maintenance agreements. Costs for extending this have been sought from the manufacturer and an application for funding has been made to the Bus Lane Enforcement (BLE) fund for 2016/17. The rest of the units remain under warranty and service agreement at least until April 2017.

4. OTHER IMPLICATIONS

The Aberdeen Air Quality Action Plan (2011) identifies road traffic as the main contributor to poor air quality in Aberdeen. Given that Electric Vehicles (EVs) and Plug-in Hybrid Vehicles (PHEVs) offer zero and reduced tailpipe emissions respectively when compared with 100% Internal Combustion Engine (ICE) vehicles, facilitating the use of such vehicles could make a difference to Aberdeen air quality.

Evidence suggests that people choose EVs and PHEVs partly for their environmental credentials and partly due to the low running costs. An 80 mile journey in an EV typically costs around £2.50 in electricity, around a quarter of the price of an equivalent fossil fuelled vehicle. Still, only 1% of new car sales in Scotland are EV and PHEV and it is argued that the current low cost of petrol and diesel at the pumps is doing little to help uptake. The free use of the charging infrastructure could be considered as a significant incentive to stimulate interest. If this is not offered, the uptake could be limited and this could have a detrimental impact upon sustainability and environmental issues.

Aberdeen City Council won a Scottish Transport Award in 2015 for its work "Powering ahead with electric vehicles", and is regarded by the Electric Vehicle Association Scotland (EVAS) as the best EV Council in Scotland. By continuing to present the city as EV friendly, the Council

will hopefully be able to continue to uphold this reputation both with users and transport professionals alike.

5. BACKGROUND/MAIN ISSUES

5.1 At the meeting of the Communities, Housing and Infrastructure Committee in March 2015, Members agreed to continue to offer the EV charging service for free to users until the end of December 2015 and to instruct officers to review this position in January 2016. Users were still expected to pay for the cost of parking in car parks (with the exception of one location) where charges applied, whether charging their vehicle or parked up in a standard parking bay. In line with this, officers have undertaken a review and this report contains the findings and recommendations.

5.2 The reasoning behind these incentives was to encourage an uptake of EVs and PHEVs in Aberdeen since they will help Aberdeen meet the Scottish Government Target that *"By **2050**, Scottish towns, cities and communities will be free from the damaging emissions of petrol and diesel fuelled vehicles. A significant reduction in greenhouse gas emissions will be accompanied by marked improvements in local air quality, noise pollution and public health. Scotland will also enjoy increased energy security and new economic opportunities through leadership in sustainable transport and energy technologies. A key ambition is that by **2040** almost all new car sales will be near zero emission at the tailpipe and that by **2030** half of all fossil-fuelled vehicles will be phased-out of urban environments across Scotland."*

5.3 In Aberdeen, Scottish Government data for 2015 shows that two streets are exceeding agreed Nitrogen Dioxide (NO2) levels – Wellington Road and Union Street – while for Particulate Matter (PM10), Wellington Road and Market Street have the second and fourth highest levels in Scotland respectively. Transport emissions are contributing factors to all of these readings. Given that EVs and PHEVs are zero and low emission vehicles respectively, encouraging people to switch to them could be part of the solution to these air quality problems.

5.4 Although the Community Planning Partners (CPPs), who received the Government funding to buy and install charging units, were encouraged by Transport Scotland to make the charging service free until the end of 2014, Transport Scotland have given no clear guidance on a national policy of monetary charging for the service to date. Instead, it is being left up to the CPPs to decide how to proceed. Given that, across Scotland, the Councils have implemented most of the EV charging units in CPP areas, Aberdeen City Council officers have conducted a benchmarking exercise to establish the thoughts of other Scottish councils concerning this. The following information has been gathered

Council	Plan for EV charging post-2015
Fife Council	Will continue to offer public recharging service and use of charging bays for free as there are so few public EV's on the road they are trying to encourage the take up in their area.
Glasgow City Council	Previously waived the parking charge to people who were charging and offered the charging service for free. However, this has led to bay hogging and people plugging in but not charging just to get free parking. Therefore, they are looking to implement time limits and charge for the parking in some charging bays.
Edinburgh City Council	Likely to continue to offer the charging service for free but recharging bays in pay and display spaces would follow the parking charges and time limits of the conventional spaces (where these apply)
Perth and Kinross	Offer the charging service for free but recharging bays in pay and display spaces would follow the parking charges and time limits of the conventional spaces (where these apply)
Moray	Currently charge users £3.80 to use the rapid charger and to park for an hour. This is regardless of how much energy is used.

5.6 In addition, in Aberdeen, Union Square Shopping Centre, SCARF on Cotton Street, RGU, Hutton Institute, The Marine Laboratory and AECC offer EV charge points to members of the public and do not charge them to use the units. Union Square still charge users for the cost of parking.

5.7 In order to establish the current level of EVs and Plug-in Hybrid (PHEVs) in the North East, Council officers have contacted the dealerships that sell EVs and PHEVs in the Aberdeen area. As well as numbers physically sold, dealerships were asked how many additional vehicles come in for servicing, to account for those which may have been bought outwith Aberdeen. The number of EVs and PHEVs currently in the Aberdeen area is estimated at around 400. Although this is around three times more than the predicted number in the North East a year ago, and mirrors the official figures from the Society of Motor

Manufacturers and Traders (SMMT) for the UK in this time period, it still makes up a very small proportion of registered cars in Scotland. Also, given that there are 209,952 households in Aberdeen City and Aberdeenshire, this means that only around 0.2% of households in the North East have an EV or PHEV.

5.8 Figures for usage of Aberdeen's publicly available EV charging points, collected from the management company "Charge Your Car" are now available and can be seen in the table below. Each site has two charge points.

Site	Time Period	No. of times used	Average per week 2014	Ave per week 2015
Installed in 2013				
Sclattie Park Rapid Charger	02/08/13 – 08/01/16	961	3.4	13.9
Chapel Street	19/07/13 – 08/01/16	632	3	8.3
Gallowgate (7kW)	11/07/13 – 08/01/16	873	7.4	8
Gallowgate Rapid Charge	11/07/13 – 08/01/16	1176	6	15.9
Polmuir Road	19/07/13 – 08/01/16	502	3	6.4
Kingswells Park and Ride	19/07/13 – 16/01/16	280	0.4	4.9
Installed in 2014				
Aberdeen Snowsports Centre Rapid Charger	14/05/14 – 08/01/16	2250	12	36
Dunmail Avenue	28/02/14 – 16/01/16	47	0.2	0.75
Golden Square	06/03/14 – 21/02/16	604	1	10.9
Installed in 2015				
Danestone	31/03/15 – 08/01/16	31	n/a	0.9
Bridge of Don	31/03/15 – 08/01/16	155	n/a	5
Satrosphere	31/03/15 – 08/01/16	239	n/a	6.1
Mastrick	31/03/15 – 08/01/16	64	n/a	1.7
Cornhill	31/03/15 – 08/01/16	37	n/a	1
Hazlehead Park	31/03/15 – 08/01/16	42	n/a	1.2
Palmerston Road	31/03/15 – 08/01/16	224	n/a	5.9
Kincorth	31/03/15 – 08/01/16	72	n/a	2.7

	2013	**2014**	**2015**	**Total**
Total kWh used by units	1920	17,311	69,957	**89,188**
Total usage billed (£)	£2396	£6,641	£4079	**£13,116**

5.9 The total cost of running these units to date, since the first publicly-available charge points were switched on in 2013, is £13,116. The figures presented to this committee a year ago in 2015, suggested the combined cost for 2013 and 2014 was around £9000. However, given that the consumption in 2015 is around four times that of 2014, yet the cost amounts to less, this suggests an error somewhere. Having contacted EDF energy, who supply the Council, it emerged that many meter readings taken during 2013 and 2014 were estimates whereas the cost of £13,116 at the end of 2015 was based on true readings. These estimates would appear to have been much larger than the reality. By obtaining these readings from EDF and using figures provided from Charge your Car, which detail the amount of energy consumed per charging session, it is possible to work out the true consumption each year and, subsequently, to work out more accurately how the £13,116 actually breaks down. This is provided in the table below.

Year	Energy Consumed (kWh)	Cost (£)
2013	1,920	£282
2014	17,311	£2,546
2015	69,957	£10,288
Total	89,188	£13,116

5.10 In addition to the sites quoted above, Aberdeen City Council operates an additional eight publicly-available charge points at Frederick Street (2), West North Street (2) and Marischal College (4) (Marischal is available to the public Thursday nights and weekends). However, these are wired straight into the building's own supply and are not able to be separately billed. Therefore the cost of running these is difficult to calculate.

5.11 In the January bulletin report to this committee, Members were made aware that Government funding has been granted to bring an additional ten public electric charge points to Aberdeen. Details of these are shown overleaf. Each site has two charge points. The conditions state that these charge points must be in the ground and operational by the end of March 2015.

Site	Charger type	Funding source	Land owned by
Altens Hydrogen refuelling station	Rapid charger (30 mins to 80% charge)	Transport Scotland	ACC
Altens Hydrogen refuelling station	Fast charger (1-2 hour charge)	Transport Scotland	ACC
Site to be confirmed	Rapid charger (30 mins to 80% charge)	Transport Scotland	ACC
Stanley Street	Fast charger (1-2 hour charge)	Energy Saving Trust	ACC
Queen Street	Fast charger (1-2 hour charge)	ACC/ Scottish Government	ACC

5.12 The site funded by the Energy Saving Trust is being 100% grant funded for supply and installation with the funding secured due to it playing host to an Aberdeen car club vehicle, run by Co-wheels. The site will play host to a fully public charge point.

5.13 The three sites funded by Transport Scotland are being 100% grant funded for supply and installation. As part of the grant funding conditions the Council must offer the charging service free of charge for a year. While two sites have confirmed locations, Transport Scotland have also pledged to fund a third site and discussions are ongoing with a potential location for this.

5.14 The final site is partly funded by the Scottish Government and partly by funds from Aberdeen City Council from budgets set aside for car club support. It will play host to two electric Co-wheels car club vehicles.

5.15 This means that within the next few months, the Council will be managing 52 publicly-available electric vehicle charge points. Of these, 18 will be playing host to Co-wheels car club cars with the remaining 34 available to members of the public. Based on usage of current charge points, that would cost the Council about £17,000 for 12 months.

5.16 Taking all of this into account, officers are proposing that the Council continues with the existing arrangement and continues to offer the use of the electric vehicle charging points for free but requires users to pay for the cost of their parking, including whilst using charging bays, where applicable. The one exception to this is the Gallowgate rapid charger where users get their parking free if they stay with the car, as the

charge takes about 30 minutes but the minimum ticket time is 2 hours. A summary of the reasoning is presented below;

- The number of EVs and PHEVs on the road is still at a lower level than required to reach the Government targets, therefore more work requires to be done in order to encourage uptake.
- Aberdeen's approach remains consistent with that of other Local Authorities in trying to encourage more EV and PHEV uptake. This is beneficial for the local economy and could also help Aberdeen's chances of continuing to secure future government funding.
- Encouragement of EVs and PHEVs complements the existing Hydrogen project in helping Aberdeen to promote itself as a low carbon City in which low carbon transport plays a huge role.
- Figures suggest that 90% of charging takes place at home overnight. Therefore, even if the number of private EVs continues to grow in the north east, it is unlikely that all of these vehicles will be totally reliant on the public charging network.
- As part of its grant funding conditions for the Transport Scotland funded units in the 2015/16 financial year, the Council has to make the charging service free at these locations. Introducing charges for the charging service elsewhere and keeping these units free could prove confusing for users at a time when the network needs to be made user friendly to attract additional uptake.
- Keeping the parking charges in place can help with enforcement. There is no chance of people blocking the EV charging bays in order to obtain free parking.
- Encouragement of EVs and PHEVs is in keeping with the Aberdeen Local Transport Strategy which aims to encourage more sustainable travel and ensure that, where private vehicles are used, they are increasingly less environmentally damaging
- Although a free charging service brings benefit to Co-wheels car club, themselves a Social Enterprise, this in turn brings many benefits to the city. The setting up of a car club in Aberdeen is one of the actions of the Aberdeen Local Transport Strategy. Co-wheels were the successful bidder following a tendering exercise set up by the council in 2012. As well as encouraging private members – residents and businesses, the car club currently acts as a pool car fleet for the Council, with around 520 members of staff using this service. Furthermore, being a social enterprise company, all profits made by the Aberdeen car club are invested back into it.
- With EVs and PHEVs offering zero tailpipe emissions and much lower emissions respectively than 100% ICE vehicles, encouragement of these vehicles can help Aberdeen improve air quality.

6. IMPACT

Improving Customer Experience –
Providing more electric vehicle charge points and continuing to offer part of the service for free not only makes electric vehicle ownership cheaper and more attractive to owners but it gives people a good

impression of the Council as an “EV Friendly” authority, actively trying to improve air quality and reduce emissions in the city.

Improving Staff Experience –
The new EV charge point in Queen Street will allow two existing Co-wheels petrol cars, which are five years old, to be replaced by two brand new electric Co-wheels cars. These vehicles will be booked exclusively for the use of staff 8am to 6pm Monday to Friday, giving staff access to newer, cleaner, more city friendly cars than the ones they replace. EVs are much quieter and nippier than fossil fuelled ones so users tend to enjoy driving them more too.

Improving our use of Resources –
Providing more EV chargepoints and continuing to offer the charging service for free in Aberdeen will encourage more people in Aberdeen to consider switching to EVs and PHEVs. This will help to make city residents less dependent on fossil-fuelled transport.

Corporate -
The project referred to in this report will contribute to delivery of the Smarter Mobility aims of Aberdeen – The Smarter City: We will provide and promote a sustainable transport system, including cycling, which reduces our carbon emissions.

The project identified in this report will assist in the delivery of actions identified in the Single Outcome Agreement (SOA) 2013, in particular the Underlying principle of “Environmental Sustainability”

The project identified in this report will help realise the Strategic Infrastructure Plan Goal of “A better image for Aberdeen” by helping facilitate uptake of cleaner vehicles.

Public –
Members of the public will be able to use the chargepoints and will benefit from being able to charge their vehicles for free. They will also benefit from a greater number of locations, making EV and PHEV ownership even more attractive to them.

An Equality and Human Rights Impact Assessment (EHRIA) has not been undertaken as the projects listed in this report flow from the Regional Transport Strategy and the existing and emerging Local Transport Strategies, all of which have been, or will be, subject to their own EHRIAs.

A Privacy Impact Assessment (PIA) has not been undertaken as implementation of the projects outlined in this report should not impact on the privacy of any individual.

7. MANAGEMENT OF RISK

Risk 1	Category	Cause	Impact
Risk of increased car journeys	Control	Making EV car use too attractive	People stop walking, cycling and taking public transport and congestion increases
Controls	Risk Class	Further planned mitigating actions	
No preferential parking for EV and PHEVs	Environmental	Looking at a system of emissions-based parking charges	

Risk 2	Category	Cause	Impact
Risk of large financial implications for the Council	Control	Offering EV charging service for free	Lots of drivers take advantage of the free charging service
Controls	Risk Class	Further planned mitigating actions	
Monitor system over 12 months	Financial	Investigate implementing a monetary charge post-2016.	

8. BACKGROUND PAPERS

None

9. REPORT AUTHOR DETAILS

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