

ABERDEEN CITY COUNCIL

COMMITTEE	Communities, Housing and Infrastructure
DATE	18 March 2015
DIRECTOR	Pete Leonard
TITLE OF REPORT	Public electric vehicle charging infrastructure development in Aberdeen City
REPORT NUMBER	CHI/15/114
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 and OLEV, the UK Office for Low Emission Vehicles. 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.

At present, 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 2015/16.

At present, the cost of running the 18 charge points, that the Council has figures for, over 12 months is around £9,000.

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 July 2015, three 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 2015/16. The rest of the units remain under warranty and service agreement at least until Summer 2016.

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.

In order to encourage people to choose such vehicles over 100% ICE vehicles and while the technology is comparatively new, free use of the charging infrastructure in the short term 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.

5. BACKGROUND/MAIN ISSUES

- 5.1 At the meeting of the Enterprise, Strategic Planning and Infrastructure Committee in March 2014, Members agreed to continue to offer the EV charging service for free to users until the end of December 2014, with users still expected to pay for the cost of parking in car parks (with the exception of one location) where charges applied and to instruct officers to review this position in January 2015. 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 2013 shows that three streets are exceeding agreed Nitrogen Dioxide (NO₂) levels – Wellington Road, Union Street and Market Street – while for Particulate Matter (PM₁₀), Market Street and Wellington Road have the highest levels in Scotland with Union Street and King Street also exceeding the Scottish Standard. Transport emissions are contributing factors to all of these readings. Given that EVs and PHEVs are zero and low emission vehicles respectively, they are clearly part of the solution to these air quality problems. Aberdeen is already establishing itself as a city committed to lowering its carbon emissions from transport with the Hydrogen Bus (HyTrec) Project and the world’s first trial of hydrogen car club vehicles.
- 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 had given no clear guidance on a national policy of monetary charging for the service post 2014. Instead, it is being left up to the CPPs to decide how to proceed beyond 2014. 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	Will continue to offer public recharging service and use of charging bays for free.
Edinburgh City Council	Plan to continue to offer public recharging service and use of

	charging bays for free
Scottish Borders	Currently offer public recharging service and use of charging bays for free but cannot continue to do so indefinitely. Support a national system of charges.
Perth and Kinross	Currently offer public recharging service and use of charging bays for free but cannot continue to do so indefinitely. Support a national system of charges.
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.
Dundee City Council	Likely to offer one component free. Either the charging service or the parking. Currently, like Aberdeen, users are expected to pay for parking where charges apply.
Aberdeenshire Council	Likely to offer one component free. Either the charging service or the parking. Currently, like Aberdeen, users are expected to pay for parking where charges apply.

- 5.6 In addition, in Aberdeen, Union Square Shopping Centre, SCARF on Cotton Street, RGU 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 car 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 North East of Scotland is estimated at around 130 (110 based on Mitsubishi, BMW and Nissan figures to date with an allowance of 20 to account for Toyota, Renault, Citroen, Porsche, Smart and Peugeot who have not provided figures). Although this is around four 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 0.06% of households in the North East have an EV or PHEV.

- 5.8 Figures for usage of Aberdeen's publicly available EV charging points are now available and can be seen in the table below. Each site has two charge points.

Site	Time Period	Energy consumed (KWH)	Number of times used	Average per week
Installed in 2013				
Sclattie Park Rapid Charger	02/08/2013 – 01/10/2014	19,388 (Estimated)	227	4
Chapel Street	19/07/2013 – 01/12/2014	21,418 (Estimated)	168	2
Gallowgate (7kW)	11/07/2013 – 01/12/2014	4731	372	4.3
Gallowgate Rapid Charge	11/07/2013 – 01/12/2014	4026	283	3
Polmuir Road	19/07/2013 – 01/08/2014	807.74 (incomplete)	74	1.5
Kingswells Park and Ride	19/7/2013 – 01/10/2014	374	14	0.1
Installed in 2014				
Aberdeen Snowsports Centre Rapid Charger	23/05/2014 – 01/12/2014	8301 (Estimated)	313	8
Dunmail Avenue	26/03/2014- 01/10/2014	524	5	0.2
Golden Square	15/04/2014 - 01/12/2014	1668	28	1.2
Total KWH used by units		61237.74		
Total Usage Billed		£8666.98 excluding VAT		

- 5.9 The above table shows that, from mid July 2013 to the start of December 2014, Aberdeen City Council has spent £8666.98 on running the eighteen public charge points. However, this does not give the full picture as;
- Not all sites had billing information up to 1st December 2014
 - The sites have not all been operational for the same amount of time. Some have operated for more than 16 months whilst others have only operated for around 6.

- The three highest consuming sites had their bills based on estimated readings which, given the usage figures, may be larger than the reality.
- Public charging sites at Frederick Street (2), West North Street (2) and Marischal College (4) (Marischal is available to the public Thursday nights and weekends) are wired straight into the building's own supply and so are not able to have the charging units separately billed. Therefore the cost of running these is difficult to calculate.

Helpfully though, the average length of operation for the sites is 12 months, so what can be concluded is that the operation of 18 charge points has cost the council around £9,000 over 12 months.

5.10 In the January bulletin report to this committee, Members were made aware that Government funding has been granted to bring an additional 20 public electric charge points to Aberdeen. Details of these are shown below. 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
Satrosphere	Fast charger (1-2 hour charge)	Energy saving Trust	ACC
Kincorth (Community centre/ Library/ NHS Clinic)	Fast charger (1-2 hour charge)	Energy Saving Trust	ACC
Mastrick (car park beside Access Point)	Fast charger (1-2 hour charge)	Energy Saving Trust	ACC
Palmerston Road (Roadside opposite Grande Development)	Fast charger (1-2 hour charge)	Energy Saving Trust	ACC
Danestone (Community Centre)	Fast charger (1-2 hour charge)	Energy Saving Trust	ACC
Bridge of Don (Scotstown Road shops)	Fast charger (1-2 hour charge)	Energy Saving Trust	ACC
Cornhill Shopping Centre	Fast charger (1-2 hour charge)	Transport Scotland	ACC
Hazlehead Park	Fast charger (1-2 hour charge)	Transport Scotland	ACC
ARI (Eye Clinic)	Fast charger	Transport	NHS

	(1-2 hour charge)	Scotland	
ARI (Trusty Teds)	Fast charger (1-2 hour charge)	Transport Scotland	NHS

- 5.11 The 6 sites funded by the Energy Saving Trust are being 100% grant funded for supply and installation with the funding secured due to the Aberdeen car club, run by Co-wheels, securing government funding to bring an additional 9 EVs to Aberdeen. All six sites will play host to at least one car club car with five also having a public point.
- 5.12 The 4 sites funded by Transport Scotland are being 100% grant funded for supply and installation. The 2 ARI sites will be managed by ARI once installed so the Council does not need to assume responsibility for them.
- 5.13 This means that by the end of March 2015, the Council will be managing 42 publicly-available electric vehicle charge points. Of these, 15 will be playing host to Co-wheels car club cars with the remaining 27 available to members of the public. Based on usage of current charge points, that would cost the Council about £21,000 for 12 months.
- 5.14 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 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 80% 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.
 - 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 450 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

The contents of this report link to the Community Plan vision of creating *“A sustainable City with an integrated transport system that is accessible to all”*.

The contents of this report link to the Single Outcome Agreements (SOAs) *“Aberdeen is easy to access and move around in”* and *“Aberdeen is an energy efficient city, with high quality open spaces, a natural environment and low levels of pollution and waste”*

The contents of this report also refer to the 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”*.

Reference can also be made to delivery of the “Five year Corporate Business Plan Principle 2”, *“Focus investment for long-term, sustainable, economic growth of the city and surrounding area.”*

The contents of the report demonstrate that this project promotes partnership working with Transport Scotland, EST Scotland, NHS Grampian and Co-wheels Car Club all working together with the Council to deliver the projects.

Furthermore, members of the public and Council staff will benefit from the greater choice of Car Club vehicles and electric vehicle charge points that this project will deliver.

7. MANAGEMENT OF RISK

Risk 1	Category	Cause	Impact
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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 buy
Controls	Risk Class	Further planned mitigating actions	
Monitor system over 12 months	Financial	Investigate implementing a monetary charge post-2015.	

8. BACKGROUND PAPERS

None

9. REPORT AUTHOR DETAILS

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