ADUR & WORTHING
COUNCILS

Executive Members for Environment
1 November 2017

Decision to be taken on or after
9 November 2017

Key Decision: No

Electric Vehicle Infrastructure for Adur & Worthing

Report by the Director of Digital and Resources

Executive Summary

1. Purpose

- This report will detail the current electric vehicle (EV) charging infrastructure provision in the Adur & Worthing locality
- This report will also show why there is a need to increase the infrastructure and the benefits for the locality.
- As a result there is a need for new EV charging posts to be scheduled in for initial installation (8 in total) and a long term strategy for EV infrastructure to be further pursued and achieved.

2. Recommendations

That the Executive Members for Environment approve and agree:-

- The upgrade and replacement of the existing charging posts and approve the installation of new EV charging posts on Council owned land.
- The development of a long term EV strategy for the area and endorse the inclusion of EV charging posts and associated infrastructure (to support the addition of future charge points) at all new developments, to ensure opportunities are maximised at point of build and retrofit is not required at a later date.
- For the Council to actively seek strategic partners for the EV infrastructure strategy, to include landowners and developers.

3. Context

3.1 Road transport contributes around a fifth of man-made greenhouse gas emissions and the sector's share is significantly growing. As a result new electric vehicle cars will be in excess of 35% of all car sales by 2040, according to BNEF (Bloomberg New Energy Finance).

3.2 The Government has also recently confirmed it will end the sale of all new conventional petrol and diesel cars and vans by 2040, through new plans to tackle air pollution. The UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations produced by Defra and the Department for Transport outlines how councils with high levels of air pollution at busy road junctions and hotspots must take robust action.

3.3 As part of Adur & Worthing Council's' 'Stewarding our Natural Resources' platform and the 'Ways of Living Principles', the need to reduce carbon emissions and local air quality pollutants is key to enabling a cleaner, more sustainable living community from both a residential and business perspective.

3.4 The Worthing Air Quality Action Plan (and emerging Adur Air Quality Action Plan) makes specific reference to EV's and associated infrastructure as a way of reducing harmful pollutants across the locality. The Action Plan's also form part of the A&W Public Health Plan.

3.5 The Council wants to lead by example and develop a vision of how an EV friendly locality might look, building support and momentum for more charging posts in other more widely used localities. It should also encourage the take-up of electric vehicles. Nationally the EV charging infrastructure offering is relatively poor with too few public charging points and a network of different operators - see article from The Times.

3.5 Within the Worthing area there are currently only 4 electric charging posts for common use. These are technologically several years out of date and not used to their full potential and are located at:

- Brooklands Car Park, Western Road (East Worthing)
- Multi-Story Car Park, High Street (Central worthing)

There is currently no provision in Adur.

3.6 Current ownership of electric (plug in) vehicles in Adur and Worthing is consistently growing (Adur 58, Worthing 103). There are over 1000 electric vehicles registered in West Sussex as a whole.

4. Issues for consideration

4.1 The existing charge posts were purchased outright with little or no maintenance and upgrade contracts, which is in part why they are now very old technology and not utilised much. The charging points have been used on 103 occasions from 9th May 2014 until the 29th August 2017. During 2016 - 2017 the points were used on 30 occasions using 178kwh.

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4.2 2 x upgraded replacement EV charging posts are required at both the High Street Car Park and Brooklands Park, Worthing.

4.3 Analysis suggests the need for 2 x new charge posts to be installed at both Worthing Civic Centre and the Shoreham Centre, (OLEV funding is being explored to contribute to the installation costs. This is under the workplace voucher scheme).

4.4 2 x new EV charge posts are also being considered for Commerce Way. This may be delayed while due consideration is given to a larger rapid charging post to support a long term fleet vehicle replacement program to transition to an electric fleet over time.

4.5 There are four main electric vehicle charging types:

- Slow (up to 3kW) which is best suited for 6-8 hours overnight;
- Fast (7-22kW) which can fully recharge some models in 3-4 hours;
- Rapid AC & Rapid DC (43-50 kW). Both Rapid types are able to provide an 80% charge in around 30 minutes.

The expectation is that we will install fast chargers in this first phase due to the excessive cost of Rapid chargers (currently in the region of £50k). Slow chargers are not considered to be cost effective in the locations being proposed due to the time they take to provide a charge and are better suited to home charging.

4.6 Several EV chargepoint providers have been considered whilst we have developed knowledge to understand what is the best fit for Adur &

Worthing. Quotes have subsequently been received from PodPoint & Electromotive.

4.7 After careful consideration, we recommend taking-up the quotes from PodPoint for several reasons.

- They are part of ESPO, a large LA Electric Vehicle framework set up by other Councils including Leeds & Nottingham, to enable an easier route through procurement. This framework also brings a discounted price.

- PodPoint advocate an 'open network' meaning any electric vehicle can charge from their posts and therefore would be open to all electric vehicles, allowing for increased tourist traffic.

- They offer a leasing agreement which means they are responsible for installation, maintenance and any upgrades to new technology, reducing the risk and liability for the Council.

- We would charge a fee to users for use of the posts and the initial requirement is to cover costs, but this should lead to an income in future years. We are free to decide our own charging levels.

4.8 Over time we will need to explore further areas of development, including additional posts and vehicle provision, with a critical view on our own fleet and corporate requirements.

5. Engagement and Communication

5.1 A team of Officers from across the Council have formed a small working group to devise the EV charging strategy. The group have met with a number of chargepoint providers and developed their knowledge of the requirements for successful infrastructure deployment and use.

5.2 We have researched EV activities and strategies from other Councils to understand the possibilities and viability, which has in turn helped shape our proposal and requirements - this includes Brighton & Hove, Chichester, Mid Sussex and Crawley.

5.3 As part of the PodPoint package, marketing materials and external communications are a key offering to support all aspects of the install and charging visibility in the short and long term.

5.4 Any marketing and engagement will also be available to add value to the tourism strategy as it is known to be an attractor for electric vehicle owners as a destination route for days out and holiday's.

5.5 Engagement with the local Taxi firms has also been positive and would lend itself to more rapid charges in the future, but is not part of this proposal.

5.6 The Executive Member for the Environment (Worthing) has also been briefed and is fully supportive. The Executive Member for the Environment (Adur) has also been included in communications and information.

6. Financial Implications

6.1 To help provide long term infrastructure, OLEV (Office of Low Emission Vehicles) has released a pot of £35m. This finance is being released through a series of small grants to cover Home charging, Workplace charging, Electric Bike and Fleet EV grants. We are looking to apply for the Workplace Charging grant from OLEV to help support the financial element. The Vouchers are only valid for 120 days after the grant is awarded, therefore these will be applied for once everything is in place to proceed to a conclusion. This funding is not guaranteed, and is highly competitive.

6.2 In addition the government are expected to invest a further £500 million to support ultra low emission vehicles over the next five years (LowCvp) so it is an ideal opportunity to decide a long term strategy to meet the needs of the changing environment in line with the potential available long term funding opportunities.

6.3 The full proposal from Pod Point is available here. A summary of the cost options put forward by them is contained in the table below.

Site	Costs (ex. VAT)				
	Hardware (inc. guard rail & signage)	Software (3 years)	Installation	Total Cost	
				Purchase	Lease*
High Street MSCP	£1300	£360	£355	£2015	£67.24
Brooklands Western Road Car Park	£1875	£360	£1405	£3640	£121.47
Commerce Way Depot	£1875	£360	£780	£3015	£100.61
Civic Centre Car Park	£1875	£360	£1025	£3260	£108.79
Pond Road Car Park	£1875	£360	£1710	£3945	£131.64
Total	£8800	£1800	£5275	£15,875	£529.75

* This represents the monthly lease cost over a 3 year term. It is a cost effective way to ensure that your units are always under warranty, and upgraded to the latest technology every 3 years.

6.4 The Electromotive quotes are provided here for comparison - Pond Road, High Street Car Park, Worthing Civic Centre, Brooklands Park, Commerce Way.

6.5 Proposals for cost recovery and potential income viability.

Adur and Worthing Electric Vehicle charging

Car Park	NO OF PODS	Lease cost £
High Street MSCP	2	67.24
Brooklands Western Rd Car Park	2	121.47
Civic Centre Car Park	2	108.79
Pond Road Car Park	2	131.64
Total cost for one month	8	**429.14**
Total cost for 1 year		**5149.68**
Total cost for 3 years		**15449.04**

Please note ; It is more a more cost effective way to ensure that units are always under warranty, and upgraded to the latest technology every 3 years.

Assumptions ; cost of electricity	£0.10 per kWh
Car charges	7kW rate

1 Car 1 Hours charging	**£**	
Hourly charge proposed	1.50	
Electricity per hour	0.70	
POD Point fee per hour	0.30	
Net Income to cover cost	**0.50**	
No of hours charging to cover cost of 8 pods	10299.36	hours
No of hours per month for 8 pods	858.28	hours
No of hours per pod per month	107	hours

6.6 In order to pay for the charging posts, alongside the possible availability of OLEV vouchers we will need to charge users to charge their cars on an hourly basis.

The annual cost, which excludes paying for the electricity to the post and the monthly PodPoint leasing fee has been calculated at £5149. To recoup that money there is a need to charge £1.50 an hour, at each of the posts.

On an annual basis that equate to 10,299 hours of charging or 858 hours per month in total or an average of 107 hours per post per month.

Assuming 30 days in a month and 24 hours availability, this equals 720 hours of availability per post, therefore 107 hours equals 15% usage/utilization for each post.

6.7 The existing charging data that has been available (from Brooklands & High Street) is not evidence enough of how and when the new charging posts will recoup the costs so there is an expectation that there will be a loss to start with.

However, with the marketing plan and the increase of awareness of each of the posts once installed, and on the assumption the charging isn't a deterrent, the costs are expected to be recouped over the 3 year initial contract.

6.8 We expect certain posts (High Street) will be more popular than others, but with the broad availability of posts as a starting position across Adur & Worthing we will be in a stronger position to champion the transition to electric vehicles, which will in turn, bring about more hours of charging, which in turn, will enable the costs to be recouped quicker.

We will need to monitor how the charging amount is being received and it may need to be revisited if it acts as a deterrent and the volume required can be achieved if the charging is reduced.

6.9 It has been decided charging from day 1 is the best way forward for the long term adoption of charging posts, as moving from free to charging may be more difficult further down the line.

6.10 There is also an investigation ongoing to see if the excess power generated from the Portland House solar panels can be used as an additional financial offset as they are currently expected to deliver more than their estimated annual usage.

7. Legal Implications

7.1 Under Section 111 of the Local Government Act 1972, the Council has the power to do anything that is calculated to facilitate, or which is conducive or incidental to, the discharge of any of their functions.

7.2 Section 3(1) of the Local Government Act 1999 (LGA 1999) contains a general duty on a best value authority to make arrangements to secure continuous improvement in the way in which its functions are exercised, having regard to a combination of economy, efficiency and effectiveness.

7.3 Section 1 of the Localism Act 2011 empowers the Council to do anything an individual can do apart from that which is specifically prohibited by pre-existing legislation

7.4 Section 1 Local Government (Contracts) Act 1997 allows the Council to enter into a contract in relation to any of its functions

7.5 In exercising its power under s1 above, the Council must comply with its Contract Standing Orders and the Public Contract Regulations 2015.

Background Papers

- Worthing/Adur Electric Vehicle Charging Strategy
- Worthing Air Quality Action Plan
- British Parking Association:
  http://www.britishparking.co.uk/Library/Electric-Vehicle-Charge-Points-in-parking/132170
  http://www.britishparking.co.uk/News/monday-musing-charge-forward/163195
  http://www.britishparking.co.uk/News/mmonday-musing-electric-vehicles-are-coming-to-town/158280
- Vehicle Technology and Aviation Bill
- EPSO Framework for EV
- Elektromotive (ChargeMaster) installation Guide

Extra Reading

http://www.parliament.uk/business/committees/committees-a-z/commons-select/business-energy-industrial-strategy/inquiries/parliament-2017/electric-vehicles-17-19/

http://researchbriefings.files.parliament.uk/documents/CBP-7480/CBP-7480.pdf

http://www.energy-uk.org.uk/files/docs/Research%20and%20reports/ElectricVehiclesRevolutionReport2017.pdf

http://www.legislation.gov.uk/uksi/2017/897/made/data.pdf

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Sustainability & Risk Assessment

1. Economic

- This first phase of the electric vehicle strategy helps to start future proofing the transition to electric vehicles for the locality
- This will also act as a catalyst for further points to be installed in other companies and to enable future phases to be implemented
- It will enhance the Council's reputation as a leader for the locality

2. Social

2.1 Social Value

- This strategy will help to facilitate and increase the growth in EV ownership for the locality

2.2 Equality Issues

- Matter considered and no matters arising

2.3 Community Safety Issues (Section 17)

- Matter considered and no matters arising

2.4 Human Rights Issues

- Matter considered and no matters arising

3. Environmental

- The UK is required by law to reduce its greenhouse gas (CO_2) emissions by 80% by 2050. This strategy contributes to this target reduction and as electric vehicles numbers increase so we continue to further contributions to the overall reduction in carbon from a transport perspective.

- The Councils are under a legal obligation to reduce air pollution in areas where pollutants exceed legally permitted objectives, through the declaration of air quality management areas (AQMA's) and air quality action plans.. There are currently three AQMA's in Adur & Worthing and the relevant action plans contain EV infrastructure as key action points.

4. Governance

- This activity is represented within several of the Platforms for our Places but is specifically quoted under 'Stewarding our Natural Resources' commitment number 3.3.2 - 'Evaluate installation of electric charging points across Adur & Worthing, through seeking external and partner funding support.'

- As part of our contract with PodPoint they have committed to ensure our Posts will be in fully operational order and have committed to maintain them ongoing and as and when required, will upgrade them to the latest technology.

- As a Council our reputation in regard to EV’s will be enhanced as our current offering is out of date and below standard.