

**WAVERLEY BOROUGH COUNCIL**

**EXECUTIVE – 3 FEBRUARY 2015**

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**Title:**

**ELECTRIC VEHICLE RAPID CHARGING POINTS WITHIN THREE WAVERLEY CAR PARKS**

**[Portfolio Holders: Cllrs Tom Martin and Donal O’Neill]**

**[Wards Affected: All]**

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**Summary and purpose:**

The report seeks approval to install three Electric Vehicle (EV) charging points within three Waverley car parks. The project aims to create an open and accessible electric vehicle network across the South East to encourage and enable the use of EVs. The project aims to support the Government’s environmental and sustainability policies relating to carbon emissions and air pollution.

Deploying EV infrastructure within the Borough actively supports Waverley’s duty to improve air quality under its statutory Air Quality Action Plan as well as encourages reductions in carbon emissions. The National Planning Policy Framework also promotes air quality consideration through sustainable transport infrastructure in new developments.

Under the EV South East Network project, Waverley has been offered three EV rapid charging points which would be installed at the following car parks: **Central – Farnham, Crown Court – Godalming and Stocklund Square – Cranleigh**. This offer is at no capital cost to the Council. Waverley would enter into a three year agreement with the project delivery partners to operate and maintain the rapid charging points. After this period the contract agreement could be renegotiated.

Overall benefits of Waverley’s participation in the project:

- Being part of a nationwide EV infrastructure network
- Taking advantage of Government funding
- Potential income opportunity
- Demonstrates that Waverley is proactive and forward thinking in delivering its core priorities

**How this report relates to the Council’s Corporate Priorities:**

Environment:

Supporting the Air Quality Management Plan and carbon reduction commitments.

**Financial Implications:**

The installation and commissioning of the rapid charging points, worth approximately £50,000 will be fully-funded externally. There will be no capital cost to the Council.

There will be a maximum revenue cost implication associated to the project related to a three-year fixed admin and data management totalling £4,200. This will be covered by existing budgets. This fixed expenditure will be reduced on regular usage of the EV points. Detailed financial implications are outlined within the body of the report.

### **Legal Implications:**

If the proposal is approved by Executive, a legally binding deed will have to be signed between the owner (Waverley) and the maintenance and support partners (CYC and Elektromotive Ltd).

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### **Introduction and background**

1. Waverley has been given the opportunity to participate in a project that is aiming to develop a network of linked Electric Vehicle (EV) rapid charging points, able to recharge a vehicle within 20-30 minutes, at key en-route locations across the South East.
2. The purpose of this project is to encourage and enable the use of EVs. EVs are economical to run and contribute significantly to reducing air pollution and carbon emissions.
3. Deploying EV infrastructure within the Borough actively supports Waverley's duty to improve air quality under its statutory Air Quality Action Plan as well as encourages reductions in carbon emissions. The National Planning Policy Framework also promotes air quality consideration through sustainable transport infrastructure in new developments.
4. Waverley has a dedicated EV plan incorporated into the Air Quality Action Plan to encourage the uptake of EV's through new planning applications.
5. The EV market is increasing and the Government is investing significant amounts of money to encourage the take up of this technology. Car manufacturers are also making significant investments. For example, BMW is forecasting 100 per cent of their portfolio will move to full electric and/or hybrid motors by the middle of the next decade. Since 2012, the number of electric car models has increased from six to seventeen. Between October 2013 and October 2014 almost 10,500 "plug in" electric vehicles were registered as opposed to 2,880 the year before. There are currently over 17,000 grant funded plug-in electric/hybrid vehicles on the road. Throughout the UK, there have been 7,554 charging points installed to date.
6. The EV South East Network Partnership is a consortium of local authority and private sector electric charge point owners across Sussex, Surrey, Kent and Hampshire. The partnership is led by the Sussex Air Quality Partnership (Sussex-air), who has been successfully awarded £2.4 million from the Government's Office for Low Emission Vehicles (OLEV) to develop a network of rapid charging points in the South East of England.

## **Proposition to Waverley**

7. Under the EV South East Network project, Waverley is offered up to three EV rapid charging points installed within car parks. The selection criteria for the appropriate sites are:
  - Good access to major routes
  - 24/7 public access
  - Safe and well lit
  - Access to 3 phase power
  - Good proximity to electrical substation
  - Access to amenities (café's, toilets, etc)

With these criteria in mind. the following three car parks are being proposed to host the charging points: **Central – Farnham, Crown Court – Godalming and Stocklund Square – Cranleigh.**

8. The installation and commissioning of each rapid charging point, worth approximately £50,000 will be fully-funded externally, at no capital cost to the Council. OLEV will be offering 75% of the total cost; the remaining 25% will be covered by the project delivery partners Charge Your Car (CYC) and Elektromotive Ltd. Annexe 1 shows an image of the EV rapid charging point.
9. Waverley would enter into a three year agreement with the project delivery partners for operation and maintenance of the rapid charging points at no cost. After this period the contract agreement can be renegotiated. Annexe 2 summarises Waverley's responsibilities under this agreement.

## **Financial considerations**

10. It is difficult to predict the take up of the scheme in the early stages. Table 1 below sets out the projected annual expenditure for all three charging points. The three scenarios presented are for 1, 2 and 3 vehicle charges per day for each of the charging points for 360 days.
11. Each customer will pay a £7.50 fee for each charge. A fee will be deducted to cover the Pay As You Go (PAYG) system and the network operation, including bank charges. The remaining income will be paid to Waverley on a quarterly basis to cover the electricity cost and a profit. The electricity cost will initially be covered by Waverley and then recovered from the quarterly profit payment.

<b>Table 1: Projected net income from three charging points</b>					
		Per charge	Scenario 1	Scenario 2	Scenario 3
			1 charge/day each (1080 charges)	2 charge/day each (2160 charges)	3 charge/day each (3240 charges)
Income	Customer fee/charge	£7.50			
	Revenue per 360 days	£7.50	£8,100	£16,200	£24,300
Expenditure	PAYG management fees to CYC	£2.86	£3,084	£6,168	£9,253
	Electricity cost	£2.88	£3,111	£6,222	£9,333
<b>TOTAL</b>	<b>Net income (to Waverley)</b>	<b>£1.77</b>	<b>£1,905</b>	<b>£3,810</b>	<b>£5,715</b>

12. There will be a fixed expenditure across the first three years for all three charging point and it is proposed that this will be covered by existing car park budgets. Table 2 below explains the costs.

<b>Table 2 : Fixed expenditure in the first 3 years</b>				
	Fixed fees for three charging point			
	Year 1	Year 2	Year 3	
Data management Annual Fee	£900	£900	£900	£2700
Admin Costs <i>energise network</i>	£0	£750	£750	£1500
Insurance implications	£960	£960	£960	£2880
<b>Fixed total expenditure for Waverley</b>	<b>£1860</b>	<b>£2610</b>	<b>£2610</b>	<b>£7080</b>

13. Based on Scenario 1, of one charge per day, per charging point over 360 days, Table 3 below demonstrates the level of usage required for the fixed expenditure to be recouped.

<b>Table 3: Net Income – assuming scenario 1</b>			
	Year 1	Year 2	Year 3
Fixed expenditure	£1860	£2610	£2610
Projected net income From scenario 1	£1905	£1905	£1905
<b>Surplus to Waverley</b>	<b>£45</b>	<b>£705</b>	<b>£705</b>

14. The worst case scenario would be that the charging points are not used at all and therefore a net cost would be incurred as shown in Table 2.

15. No loss of income is anticipated in these figures as a result of giving up parking spaces as the proposed car parks are never at full capacity. It is proposed that users will need to purchase a parking ticket for the duration of their charge.
16. Reactive maintenance call out fees for repairs not covered by the equipment warranty will apply. For repairs covered by the insurance policy the call out costs will be covered as part of the insurance claim.

### **Other considerations**

17. Damages: The risk of vandalism of the charging points is no greater than damages being caused to playground equipment, pay and display machines, light columns in car parks, or bus shelters. If damage does occur, replacement of parts should be sufficient to rectify most problems to avoid the need of full replacement.
18. Insurance implications: Waverley does not normally hold insurance cover for items that would be considered "street furniture". Should Waverley choose to, the insurance provider has quoted an annual cost of £960 to cover full replacement of the 3 units, if necessary.
19. Planning permission: Planning have been consulted and, in their preliminary view, the charging points are likely to be covered by permitted development. The South East partnership will however be liaising with Planning Services if permission is needed.
20. Parking charges and enforcement: in order not to lose car parking income it is proposed that parking charges do apply for the users of the charging points.
21. Timescales: If the proposal is approved, contracts should be signed imminently and the project will be completed by June 2015.

### **Conclusion**

22. EVs currently have a minor place in the market however manufacturers and the Government are investing significant amounts of money to help develop the industry. A £35 million pot of money has recently been made available for Local Authorities to adopt ultra low emission vehicles.
23. Enabling EV operation will help contribute towards Waverley's responsibility to deliver against the statutory Air Quality Management Plan and reduce carbon emissions.
24. This is a low risk opportunity to own equipment that would otherwise be financially unviable for Waverley to invest in. In the worst case scenario that the charging points are not used at all, Waverley would only incur a revenue expenditure of £7,080 over 3 years.
25. The car parks proposed have been chosen based on location, proximity to amenities and available electricity supply. Loss of income from parking spaces

will be minimal because either no existing spaces will be taken out or sites do not operate to full capacity.

26. The risk of vandalism of the charging points is no greater than the risk of damages being caused to playground equipment, pay and display machines, light columns in car parks, or bus shelters.

### **Recommendation**

It is recommended that the Executive:

1. approves in principle the implementation of up to three EV charging points in the three car parks proposed above in paragraph 7, as part of the South East Network project, subject to final site feasibility studies and satisfactory contract terms and conditions; and
2. delegates authority to the Director of Finance and Resources, the Portfolio holders for Finance, Environment and Sustainability to sign off the project once the details are finalised.

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### **Background Papers**

There are no background papers (as defined by Section 100D(5) of the Local Government Act 1972) relating to this report.

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## EV rapid charger



TECHNOLOGIE CH

### The Universal Quick Charger

- Full charge in less than 30 Minutes.
- Compatible with all car brands.
- Perfect solution for traffic intense locations.

## QUICK CHARGER TRI-STANDARD

Station

ZE Ready



CHAdeMO



CCS Ready



CE



General presentation

Material	Stainless steel
Standard Colour	RAL9003
Installation	Indoor / Outdoor
Dimensions (HxWxD)	1840x600x700mm
Number of Charging Points	1 or 2 charging points
Number of connectors	1 tethered cable with CHAdeMO connector 1 tethered cable with CCS connector 1 tethered cable with Type 2 plug
Available Power	AC from 20 to 43kW / DC from 20 to 44kW
HMI	LCD colourscreen with side buttons
Warranty	2 years

Technical features

Weight	About 350kg
IP Index (solid/liquid)	IP55
Shock Resistance	K 10
Climate	-10 to +40 °C (-30 to +40°C with cold option)
Max Altitude	1000m
Humidity index	30-90%
Connector type	4m Type 2 Tethered cable for AC43kW 4m Tethered cable CHAdeMO DC 44kW 4m Tethered cable with CCS connector DC
Rated Input	400VAC 100kVA 50Hz
Output Voltage	400V AC / 200-500V DC
Output current	0-63A AC / 0-125A DC depending on configuration
Electrical Protections	Integrated RCD 30mA (AC), 300mA (DC) and MCB
Thermo-Management	Active fan cooling / Heating system

<b>General Structure</b>	SEC 54294 NFC 19 100 ICEM 3004/50A/CE
<b>CHAdeMO</b>	SEC 55591 SEC 55592/3 annex A CHAdeMO 30kCompatible 10
<b>CCS</b>	SEC 55591 SEC 55592/3 annex C ISO 15118
<b>AC 43kW</b>	SEC 55591 SEC 55592/3 SEC 55591/2 annex A ZE-Ready 12 (229-12-10534051)



### Waverley's responsibility

As part of the agreement Waverley:

- Will offer 2 parking spaces per car park for EV users.
- Must ensure operation of the associated equipment for a minimum of 3 years.
- Agrees to maintain and provide data to OLEV for 3 years after the commissioning date.
- Must insure and indemnify the equipment.
- Will cover a £300 annual fee, per rapid charging point, for data management and reporting back to OLEV.<sup>1</sup>
- Shall be under contract to the *energise network* for the 3 year period and pay an annual fee of £250 (per rapid charging point) for year 2 and 3 only. This fee will cover admin costs.<sup>1</sup>
- Will ensure the rapid charging points and associated equipment are connected to the eV South East Network (*energise network*), CYC network and registered on the National Charge point Register (NCR), for 3 years after the commissioning date.
- Agrees that the customer re-charging fees (for electricity provision on the PAYG system) shall be set by eV South East Network (*energise network*), for 3 years after the commissioning date to ensure a consistent approach to all fees across the network.

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<sup>1</sup> Fees are included in Table 2