

## SOUTH HOLLAND DISTRICT COUNCIL FINANCIAL COMMENTS &amp; APPRAISAL

THIS DOCUMENT PROVIDES THE FINANCIAL IMPLICATIONS  
IN RESPECT OF THE ATTACHED REPORT

**FROM:** Ryan Pack

**REPORT:** Electric Vehicle Charging Stations

**REPORT DATE:** Cabinet 15<sup>th</sup> January 2019

**Option 1: Recommended model for seven fast charging units funded through the Office of Low Emissions On street Parking Grant at 0.30p a kwh.**

Option one relates to purchase and construction of seven fast charging units. All seven fast charging units would be applicable to receive grant funding if approved by the Office of Low Emission Vehicles.

	Year 1	£ Year 2	£ Year 3	£ Year 4
	2018-19	2019-20	2020-21	2021-22
<b>Revenue</b>				
<b>Income</b>		-		
Use of electric vehicle charging station ( at 0.30p per kwh with a 2% increase per year based on RPI changes)	(£10,516)	(£10,726)	(£10,940)	(£11,158)
<b>Costs</b>				
Commission (0.19p per charging event)	£431	£431	£431	£431
Utility costs (0.20p per kwh with 2% increase per year based on RPI changes)	£7,010	£7,150	£7,290	£7,430
Extended Warranty	£245	£245	£245	£245
Loss of car parking income	£912	£912	£912	£912
<b>Total Income -</b>	<b>(£10,516)</b>	<b>(£10,726)</b>	<b>(£10,940)</b>	<b>(£11,158)</b>
<b>Net (Surplus)/Deficit</b>	<b>(£1,918)</b>	<b>(£1,988)</b>	<b>(£2,062)</b>	<b>(£2,140)</b>

	Year 1
	2018-19
<b>Capital</b>	
<b>Charging units</b>	
Fast Units	£12,600
Fast installation	£14,000
<b>Applicable grants</b>	
Grant funding for fast units	(£12,600)
Grant funding for fast unit installation	(£14,000)
<b>Total Capital</b>	<b>£0</b>

**Option 2: Model for seven fast chargers, with no funding from Office of Low Emissions on Street Parking Grant at 0.30p a kWh.**

Option two relates to if the council wishes to construct seven fast units through its own capital budget. This option is relevant in the event that all sites are unsuccessful and the council wishes to pursue the construction of charging infrastructure throughout the district.

	<b>Year 1</b>	<b>£ Year 2</b>	<b>£ Year 3</b>	<b>£ Year 4</b>
	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>
<b>Revenue</b>				
<b>Income</b>		-		
Use of electric vehicle charging station ( at 0.30p per kWh with a 2% increase per year based on RPI changes)	(£10,516)	(£10,726)	(£10,940)	(£11,158)
<b>Costs</b>				
Commission (0.19p per charging event)	£431	£431	£431	£431
Utility costs (0.20p per kWh with 2% increase per year based on RPI changes)	£7,010	£7,150	£7,290	£7,430
Extended Warranty	£245	£245	£245	£245
Loss of car parking income	£912	£912	£912	£912
<b>Total Income -</b>	<b>(£10,516)</b>	<b>(£10,726)</b>	<b>(£10,940)</b>	<b>(£11,158)</b>
<b>Net (Surplus)/Deficit</b>	<b>(£1,918)</b>	<b>(£1,988)</b>	<b>(£2,062)</b>	<b>(£2,140)</b>

	<b>Year 1</b>
	<b>2018-19</b>
<b>Capital</b>	
<b>Charging units</b>	
Fast Units	£12,600
Fast installation	£14,000
<b>Total Capital</b>	<b>£26,600</b>

**Option 3: Model for seven fast charging units funded through the Office of Low Emissions On street Parking Grant at 0.25p a kWh.**

Option one relates to purchase and construction of seven fast charging units. This option is if Council wish to charge at the lower rate of 0.25pence per. All seven fast charging units would be applicable to receive grant funding if approved by the Office of Low Emission Vehicles.

	<b>Year 1</b>	<b>£ Year 2</b>	<b>£ Year 3</b>	<b>£ Year 4</b>
	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>
<b>Revenue</b>				
<b>Income</b>		-		
Use of electric vehicle charging station ( at 0.25p per kWh with a 2% increase per year based on RPI changes)	(£8,764)	(£8,939)	(£9,115)	(£9,290)
<b>Costs</b>				
Commission (0.19p per charging event)	£431	£431	£431	£431

Utility costs (0.20p per kWh with 2% increase per year based on RPI changes)	£7,010	£7,150	£7,290	£7,430
Extended Warranty	£245	£245	£245	£245
Loss of car parking income	£912	£912	£912	£912
<b>Total Income -</b>	<b>£8,764</b>	<b>£8,939</b>	<b>£9,115</b>	<b>£9,290</b>
<b>Net (Surplus)/Deficit</b>	<b>(£166)</b>	<b>(£201)</b>	<b>(£237)</b>	<b>(£272)</b>

	<b>Year 1</b>
	<b>2018-19</b>
<b>Capital</b>	
<b>Charging units</b>	
Fast Units	£12,600
Fast installation	£14,000
<b>Applicable grants</b>	
Grant funding for fast units	(£12,600)
Grant funding for fast unit installation	(£14,000)
<b>Total Capital</b>	<b>£0</b>

**Option 4: Model for seven fast chargers, with no funding from Office of Low Emissions on Street Parking Grant at 0.25p a kWh.**

Option two relates to if the council wishes to construct seven fast units through its own capital budget. This option is if Council wish to charge at the lower rate of 0.25pence per. This option is relevant in the event that all sites are unsuccessful and the council wishes to pursue the construction of charging infrastructure throughout the district.

	<b>Year 1</b>	<b>£ Year 2</b>	<b>£ Year 3</b>	<b>£ Year 4</b>
	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>
<b>Revenue</b>				
<b>Income</b>				
Use of electric vehicle charging station ( at 0.25p per kWh increasing 2% per year based on RPI changes)	(£8,764)	(£8,939)	(£9,115)	(£9,290)
<b>Costs</b>				
Commission (0.19p per charging event)	£431	£431	£431	£431
Utility costs (0.20p per kWh with 2% increase per year based on RPI changes)	£7,010	£7,150	£7,290	£7,430
Extended Warranty	£245	£245	£245	£245
Loss of car parking income	£912	£912	£912	£912
<b>Total Income -</b>	<b>£8,764</b>	<b>£8,939</b>	<b>£9,115</b>	<b>£9,290</b>
<b>Net (Surplus)/Deficit</b>	<b>(£166)</b>	<b>(£201)</b>	<b>(£237)</b>	<b>(£272)</b>

	<b>Year 1</b>
	<b>2018-19</b>
<b>Capital</b>	
<b>Charging units</b>	

Fast Units	£12,600
Fast installation	£14,000
<b>Total Capital</b>	<b>£26,600</b>

**Notes:**

*How electric vehicle charging works:*

On average it takes 16 kWh's to fully charge an electric vehicle, with variables including the age of the battery, model of car and charge currently within the battery. The speed at which these 16 kWh's can be delivered is dependent on the available current from the power source of the charging stations. Anything which has a current between 7kWh's and 22kwhs would be considered a fast-charging unit whereas a rapid unit is any charge between 42kWh's and 50 kWh. The stronger the current available, the quicker an electric vehicle is able to receive 16kwhs. Fast units deliver this charge slower than rapid units and this is reflected in the time it takes for an electric vehicle to charge. Both fast and rapid units use the same amount of electricity, the only difference being that the power source for a rapid unit has a stronger current, which allows electricity to be transferred quicker.

In order to make electric vehicle charging, cost effective for the council, it is proposed that the council offsets the cost of utilities through what it charges users. This is done by ensuring that the price per kWh sold to users is higher than what the council currently pays its utility provider.

*Income:*

It is proposed that the council charges 30 pence or 25 pence per kWh for users on any of its fast electric vehicle charge stations. Several elements have been considered in order to reach this figure. This charge has been considered against both local and national charges to use electric vehicle charging infrastructure. A comparison of this can be found in table A. below. As per previous discussions, the council wishes to charge users to use electric vehicle charging infrastructure and retains the right to change this charge at any time (dependent on terms of the agreement with its supplier). Whilst the council retains the freedom to charge what it wishes for the user of the electric charging units, it must offer a price which is competitive as other units within market towns are currently free to use. If the council does not charge competitively, then it risks losing custom to its units.

*Costs:*

Utility costs have been calculated to be inflated in comparison to what the council currently pay for its utility supplies. Current council utility bills vary between 14-18 pence per kWh. The attached Proforma lists utility costs as 20 pence per kWh, in order to accommodate for utility costs of parish councils. It is proposed that parish sites are used to host South Holland Council charging units, which would be powered by nearby parish buildings. The district council would then reimburse the parish council for the utilities used by the charging stations (this will be calculated through either backroom programmes to do directly with the charging unit or through a metered connection being made to the charging unit). This will be calculated per parish council and will be replayed to them at an agreed time e.g. monthly, quarterly, annually.

Commission costs are based on what is currently charged by electric vehicle installer Chargemaster. In the event that the council wishes to go with a different installer, these costs would change.

The attached Proforma B also includes utility price increases based on current Retail Price Index trends (of 2% growth per year). The council will be able to offset the increased utility prices by increasing what it charges customers, to ensure that the units do not operate at a loss.

*Loss of car parking income:*

The above Proforma B includes loss of car parking income specific to one site (Vine Street). This is due to the limited size of the site, as the removal of two parking spaces for non-electric vehicles, will have a much greater impact on the car park. The calculation for this loss of income can be seen in the below.

- 300 days per year
- 2 car parking spaces out of normal use
- Usually fully occupied-assumption 8 hours – peak hours
- Less potential income from electric car parking – 4 hours
- Average hourly car park rate £0.38 per hour
- Lost income 4 hours x 2 spaces x £0.38 x 300 days = £912.00

This loss may however change as electric vehicle ownership levels increase in the district, resulting in the space being filled more. Any electric vehicle which uses the space will still have to pay normal parking charges in council owned car parks.

*Infrastructure:*

There are currently seven sites proposed as being suitable for electric vehicle charging infrastructure. The Council may wish to apply for grant funding through the Office of Low Emission Vehicles on-street parking grant. The council would be able to apply for this grant on sites where it wishes to install a fast charging station. The government are not currently willing to fund any rapid chargers through this or any associated schemes, as it does not currently fit their strategic goals, set out in their low emissions vehicles strategy.

It is recommended that the council apply for this grant at all relevant car parks. However, due to the terms of the grant, there is no guarantee that a bid would be successful at all sites. This would be due to some sites not meeting the correct criteria such as a lack of off-street parking available to residents.

*Polar Users:*

Polar users are monthly subscribers to the POLAR network, the UK’s biggest public charging network. It links over 6,500 public charging points, giving EV drivers a convenient and reliable nationwide charging system which is the name of the supplier used by Chargemaster. POLAR users receive the benefit of having the amount they pay on POLAR charging units capped (at 9 pence per kWh). A further breakdown of this can be found in the table below. Current estimates show that there are 100 POLAR users currently registered in Lincolnshire. In Lincolnshire, there are currently 901 registered electric vehicles with 95 registered in South Holland. This is an associated risk of joining the POLAR charging scheme, it is a contractual condition of using Chargemaster as an installer and by extension, receiving funding from them.

<b>Income</b>	
Use of electric vehicle charging station ( at 0.09p per kWh)	£1.63
<b>Costs</b>	

Commission (0.19p per charging event)	0.19
Utility costs (0.20p per kWh)	£3.20
<b>Total Income -</b>	<b>£1.63</b>
<b>Net (Surplus)/Deficit</b>	<b>-£1.76</b>

**Table A: Current cost of use for commercial electric charging stations in England**

Network name	Charge	Additional costs
Polar Instant	£1.50 per hour	£1.20 administrative charge
Polar Plus	9p per kWh	£7.85 monthly membership fee
Charge Your Car	Not set costs (charged at either a flat rate or per kWh used)	£20 yearly membership fee
POD Point	Free	Free
GeniePoint	30p per kWh	£1 connection fee
InstaVolt	35p per kWh	None
Ecotricity	30p per kWh	None
Plugged in Midlands	10.8 per kWh	£7.85 monthly membership fee
EV Driver	25p per kWh	£5 one time membership fee
GMEV	Free	£20 annual fee and £1 connection charge
Source West	Free	£20 annual fee and £1 connection charge
Recharge	Free	£20 annual fee and £1 connection charge
Energise	Free	£20 annual fee and £1 connection charge
New Motion	20-25p per kWh	30-35p connection charge

Rates are based off of 22kWh charging station

**Considered By:**

**Date:**

This appraisal is valid for 1 month from issue date.  
If there are changes to the original report it may invalidate this document & must be reviewed by Finance.

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**PROFORMA B**

**Detail**

**Financial Services Comments**

Assuming that the electrical charging stations can be installed at no cost to the Council (Options 1 & 3), with operating costs being covered by projected customer revenue, on the basis of the assumptions presented this bid should therefore be cost neutral factoring in the potential loss of car

park income. If the Council is unsuccessful in obtaining this external funding (Options 2 & 4), there is a risk that this will be a pressure on the Council's capital programme.

### **Financial Risk**

Not being able to obtain adequate grant funding, creating a pressure on the Council's capital programme. Potential reduction in income due to POLAR subscription usage.

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