APPENDIX 1

Electric Vehicle Chargingpoints on NNDC Car Parks

<u>Assumptions</u>	
	£
Capital Costs:	
Stearman's Yard - Wells	37,540
Morris St - Sheringham	37,540
Queens Rd - Fakenham	48,540
New Rd - North Walsham	30,360
Meadow - Cromer	31,540
Albert St - Holt	31,540
Council offices - Cromer	31,540
Total initial outlay	248,600
	-
Initial Maintenance Costs	4,250
Initial Cost of electricity used	9,979
Initial back office annual charge	2,040
Total costs	16,269
Income from use	20,808
	-
Total Income	20,808
OLEV Grant (potential)	150,000
Total Funding	150,000
•	

Cost of borrowing, 10 yr EIP loan from PWLB, @ certainty rate Correct at AM 22/08/2019

1.17%

External borrowing used as is currently cheaper than internal borrowing rate

Opportunity cost - what we could have achieved with this money through treasury investment using Budgeted average return of $3.3\%\,$

10 year NPV to reflect time probable obsolescence period

Number of sockets Weeks	34 52
Yearly increase in Electricity costs	8%
Electric Vehicle Growth per annum	41%
Increase in other running costs	5%

ROCE - full grant funding assumed		Year 1	Year 2	Year 3	Year 4	Year 5	<u>Year 6</u>	Year 7	Year 8	Year 9	Year 10
Income from use of charge points	£	20,808.00 £	31,686.42 £	48,252.08 £	73,478.27 £	111,892.71 £	170,390.23 £	259,470.24 £	395,121.28 £	601,690.68 £	916,254.57
Annual maintenance	£	4,250.00 £	4,462.50 £	4,685.63 £	4,919.91 £	5,165.90 £	5,424.20 £	5,695.41 £	5,980.18 £	6,279.19 £	6,593.14
Electricity costs	£	9,979.49 £	15,196.77 £	23,141.64 £	35,240.09 £	53,663.61 £	81,718.95 £	124,441.61 £	189,499.69 £	288,570.13 £	439,434.59
Back office charge	£	2,040.00 £	2,142.00 £	2,249.10 £	2,361.56 £	2,479.63 £	2,603.61 £	2,733.80 £	2,870.48 £	3,014.01 £	3,164.71
Net Revenue	£	4,538.51 £	9,885.15 £	18,175.72 £	30,956.72 £	50,583.57 £	80,643.47 £	126,599.42 £	196,770.92 £	303,827.36 £	467,062.12
Total intial investment Less likely funding Net capital outlay	£ -£ £	248,600.00 150,000.00 98,600.00									
Borrowing cost Net Revenue	£	1,153.62 £ 3,384.89 £	1,153.62 £ 8,731.53 £	1,153.62 £ 17,022.10 £	1,153.62 £ 29,803.10 £	1,153.62 £ 49,429.95 £	1,153.62 £ 79,489.85 £	1,153.62 £ 125,445.80 £	1,153.62 £ 195,617.30 £	1,153.62 £ 302,673.74 £	1,153.62 465,908.50
Effective % ROCE per annum		3.43%	8.86%	17.26%	30.23%	50.13%	80.62%	127.23%	198.39%	306.97%	472.52%

DOCE. No grant funding accumed											
ROCE - No grant funding assumed		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Income from use of charge points	£	20,808.00 £	31,686.42 £	48,252.08 £	73,478.27 £	111,892.71 £	170,390.23 £	259,470.24 £	395,121.28 £	601,690.68 £	916,254.57
Annual maintenance	£	4,250.00 £	4,462.50 £	4,685.63 £	4,919.91 £	5,165.90 £	5,424.20 £	5,695.41 £	5,980.18 £	6,279.19 £	6,593.14
Electricity costs	£	9,979.49 £	15,196.77 £	23,141.64 £	35,240.09 £	53,663.61 £	81,718.95 £	124,441.61 £	189,499.69 £	288,570.13 £	439,434.59
Back office charge	£	2,040.00 £	2,142.00 £	2,249.10 £	2,361.56 £	2,479.63 £	2,603.61 £	2,733.80 £	2,870.48 £	3,014.01 £	3,164.71
Net Revenue	£	4,538.51 £	9,885.15 £	18,175.72 £	30,956.72 £	50,583.57 £	80,643.47 £	126,599.42 £	196,770.92 £	303,827.36 £	467,062.12
Total intial investment Less likely funding Net capital outlay	£	248,600.00 - 248,600.00									
Borrowing cost Net Revenue	£	2,908.62 £ 1,629.89 £	2,908.62 £ 6,976.53 £	2,908.62 £ 15,267.10 £	2,908.62 £ 28,048.10 £	2,908.62 £ 47,674.95 £	2,908.62 £ 77,734.85 £	2,908.62 £ 123,690.80 £	2,908.62 £ 193,862.30 £	2,908.62 £ 300,918.74 £	2,908.62 464,153.50
Effective % ROCE per annum		0.66%	2.81%	6.14%	11.28%	19.18%	31.27%	49.75%	77.98%	121.05%	186.71%

With grant funding: Year	1 2020/21	2 2021/22	3 2022/23	4 2023/24	5 2024/25	6 2025/26	7 2026/27	8 2027/28	9 2028/29	10 2029/30
Initial outlay Cash flows Present value factor Present value of future cash flows PV Cumulative NPV Discounted payback (yrs)	-£ 98,600.00 £ 3,384.89 1 -£ 98,600.00 -£ 98,600.00 £ 1,070,311.30	• '	£ 17,022.10 0.977004356 £ 16,630.66 -£ 73,338.78	,	£ 47,182.74	£ 74,998.56	£ 125,445.80 0.932587307 £ 116,989.16 £ 194,612.70	£ 195,617.30 0.921802221 £ 180,320.47 £ 374,933.16	£ 302,673.74 0.911141861 £ 275,778.71 £ 650,711.88	0.900604785
Discount Rate Number of periods	1.17% 10									
Without grant funding: Year Initial outlay Cash flows Present value factor Present value of future cash flows PV Cumulative NPV Discounted payback	1 2020/21 -£ 248,600.00 £ 1,629.89 1 -£ 248,600.00 £ 248,600.00 £ 905,402.02		3 2022/23 £ 15,267.10 0.977004356 £ 14,916.02 -£ 226,788.13	,	£ 45,507.53	£ 73,342.72	7 2026/27 £ 123,690.80 0.932587307 £ 115,352.47 £ 34,500.80	8 2027/28 £ 193,862.30 0.921802221 £ 178,702.70 £ 213,203.50	9 2028/29 £ 300,918.74 0.911141861 £ 274,179.66 £ 487,383.16	10 2029/30 £ 464,153.50 0.900604785 £ 418,018.86 £ 905,402.02
Discount Rate Number of periods	1.17% 10									

Scenario - Maintenance costs increase by 50%		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	<u>Year 10</u>
Income from use of charge points	£	20,808.00 £	31,686.42 £	48,252.08 £	73,478.27 £	111,892.71 £	170,390.23 £	259,470.24 £	395,121.28 £	601,690.68 £	916,254.57
Annual maintenance	£	5,312.50 £	5,578.13 £	5,857.03 £	6,149.88 £	6,457.38 £	6,780.25 £	7,119.26 £	7,475.22 £	7,848.98 £	8,241.43
Electricity costs	£	9,979.49 £	15,196.77 £	23,141.64 £	35,240.09 £	53,663.61 £	81,718.95 £	124,441.61 £	189,499.69 £	288,570.13 £	439,434.59
Back office charge	£	2,040.00 £	2,142.00 £	2,249.10 £	2,361.56 £	2,479.63 £	2,603.61 £	2,733.80 £	2,870.48 £	3,014.01 £	3,164.71
Net Revenue	£	3,476.01 £	8,769.53 £	17,004.31 £	29,726.74 £	49,292.09 £	79,287.42 £	125,175.57 £	195,275.88 £	302,257.56 £	465,413.84
Total intial investment Less likely funding Net capital outlay	£ £	248,600.00 150,000.00 98,600.00									
Borrowing cost Net Revenue	£	1,153.62 £ 2,322.39 £	1,153.62 £ 7,615.91 £	1,153.62 £ 15,850.69 £	1,153.62 £ 28,573.12 £	1,153.62 £ 48,138.47 £	1,153.62 £ 78,133.80 £	1,153.62 £ 124,021.95 £	1,153.62 £ 194,122.26 £	1,153.62 £ 301,103.94 £	1,153.62 464,260.22
Effective % ROCE per annum		2.36%	7.72%	16.08%	28.98%	48.82%	79.24%	125.78%	196.88%	305.38%	470.85%
Scenario - Electricity costs increase by 50% Assuming cost pass through to users		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	<u>Year 7</u>	Year 8	<u>Year 9</u>	<u>Year 10</u>
Income from use of charge points	£	20,808.00 £	32,859.99 £	51,892.50 £	81,948.64 £	129,413.29 £	204,369.47 £	322,740.26 £	509,671.43 £	804,873.12 £	1,271,055.63
Annual maintenance	£	4,250.00 £	4,462.50 £	4,685.63 £	4,919.91 £	5,165.90 £	5,424.20 £	5,695.41 £	5,980.18 £	6,279.19 £	6,593.14
Electricity costs	£	9,979.49 £	15,759.61 £	24,887.58 £	39,302.47 £	62,066.46 £	98,015.35 £	154,785.84 £	244,437.80 £	386,016.18 £	609,596.75
Back office charge	£	2,040.00 £	2,142.00 £	2,249.10 £	2,361.56 £	2,479.63 £	2,603.61 £	2,733.80 £	2,870.48 £	3,014.01 £	3,164.71
Net Revenue	£	4,538.51 £	10,495.88 £	20,070.20 £	35,364.71 £	59,701.30 £	98,326.31 £	159,525.22 £	256,382.96 £	409,563.74 £	651,701.02
Total intial investment Less likely funding Net capital outlay	£ £	248,600.00 150,000.00 98,600.00									
Borrowing cost Net Revenue	£	1,153.62 £ 3,384.89 £	1,153.62 £ 9,342.26 £	1,153.62 £ 18,916.58 £	1,153.62 £ 34,211.09 £	1,153.62 £ 58,547.68 £	1,153.62 £ 97,172.69 £	1,153.62 £ 158,371.60 £	1,153.62 £ 255,229.34 £	1,153.62 £ 408,410.12 £	1,153.62 650,547.40
Effective % ROCE per annum		3.43%	9.47%	19.19%	34.70%	59.38%	98.55%	160.62%	258.85%	414.21%	659.78%
Scenario - Usage 50% of expected		Year 1	Year 2	Year 3	<u>Year 4</u>	<u>Year 5</u>	Year 6	<u>Year 7</u>	Year 8	<u>Year 9</u>	<u>Year 10</u>
Income from use of charge points	£	20,808.00 £	27,079.53 £	35,241.30 £	45,863.03 £	59,686.15 £	77,675.55 £	101,086.96 £	131,554.58 £	171,205.12 £	222,806.35
Annual maintenance	£	4,250.00 £	4,462.50 £	4,685.63 £	4,919.91 £	5,165.90 £	5,424.20 £	5,695.41 £	5,980.18 £	6,279.19 £	6,593.14
Electricity costs	£	9,979.49 £	12,987.31 £	16,901.69 £	21,995.85 £	28,625.40 £	37,253.10 £	48,481.19 £	63,093.42 £	82,109.77 £	106,857.66
Back office charge	£	2,040.00 £	2,142.00 £	2,249.10 £	2,361.56 £	2,479.63 £	2,603.61 £	2,733.80 £	2,870.48 £	3,014.01 £	3,164.71
Net Revenue	£	4,538.51 £	7,487.72 £	11,404.89 £	16,585.71 £	23,415.21 £	32,394.64 £	44,176.58 £	59,610.50 £	79,802.16 £	106,190.84
Total intial investment Less likely funding Net capital outlay	£ £	248,600.00 150,000.00 98,600.00									
Borrowing cost Net Revenue	£	1,153.62 £ 3,384.89 £	1,153.62 £ 6,334.10 £	1,153.62 £ 10,251.27 £	1,153.62 £ 15,432.09 £	1,153.62 £ 22,261.59 £	1,153.62 £ 31,241.02 £	1,153.62 £ 43,022.96 £	1,153.62 £ 58,456.88 £	1,153.62 £ 78,648.54 £	1,153.62 105,037.22
Effective % ROCE per annum			•	·	•			-	<u> </u>	•	
		3.43%	6.42%	10.40%	15.65%	22.58%	31.68%	43.63%	59.29%	79.77%	106.53%
Scenario - Electricity costs increase by 50% Charge not passed to users		3.43% <u>Year 1</u>	6.42% <u>Year 2</u>	10.40% <u>Year 3</u>	15.65% <u>Year 4</u>	22.58% <u>Year 5</u>	31.68% <u>Year 6</u>	43.63% <u>Year 7</u>	59.29% <u>Year 8</u>	79.77% <u>Year 9</u>	106.53% <u>Year 10</u>

Annual maintenance	£	4,250.00 £	4,462.50 £	4,685.63 £	4,919.91 £	5,165.90 £	5,424.20 £	5,695.41 £	5,980.18 £	6,279.19 £	6,593.14
Electricity costs	£	9,979.49 £	15,759.61 £	24,887.58 £	39,302.47 £	62,066.46 £	98,015.35 £	154,785.84 £	244,437.80 £	386,016.18 £	609,596.75
Back office charge	£	2,040.00 £	2,142.00 £	2,249.10 £	2,361.56 £	2,479.63 £	2,603.61 £	2,733.80 £	2,870.48 £	3,014.01 £	3,164.71
Net Revenue	£	4,538.51 £	9,322.31 £	16,429.78 £	26,894.34 £	42,180.72 £	64,347.06 £	96,255.19 £	141,832.81 £	206,381.30 £	296,899.96
Total intial investment Less likely funding Net capital outlay	£ £	248,600.00 150,000.00 98,600.00									
Borrowing cost Net Revenue	£	1,153.62 £ 3,384.89 £	1,153.62 £ 8,168.69 £	1,153.62 £ 15,276.16 £	1,153.62 £ 25,740.72 £	1,153.62 £ 41,027.10 £	1,153.62 £ 63,193.44 £	1,153.62 £ 95,101.57 £	1,153.62 £ 140,679.19 £	1,153.62 £ 205,227.68 £	1,153.62 295,746.34
Effective % ROCE per annum		3.43%	8.28%	15.49%	26.11%	41.61%	64.09%	96.45%	142.68%	208.14%	299.95%
Scenario - Electricity costs increase by 25% Charge not passed to users, usage drops by 50%		Year 1	Year 2	Year 3	<u>Year 4</u>	Year 5	<u>Year 6</u>	Year 7	Year 8	<u>Year 9</u>	<u>Year 10</u>
charge not passed to users, usage drops by 50%		10011	1001 2	<u> </u>	100. 1	<u>100.0</u>	10010	<u> </u>	<u> </u>	100.0	10a: 10
Income from use of charge points	£	20,808.00 £	27,079.53 £	35,241.30 £	45,863.03 £	59,686.15 £	77,675.55 £	101,086.96 £	131,554.58 £	171,205.12 £	222,806.35
	£										
Income from use of charge points		20,808.00 £	27,079.53 £	35,241.30 £	45,863.03 £	59,686.15 £	77,675.55 £	101,086.96 £	131,554.58 £	171,205.12 £	222,806.35
Income from use of charge points Annual maintenance	£	20,808.00 £ 4,250.00 £	27,079.53 £ 4,462.50 £	35,241.30 £ 4,685.63 £	45,863.03 £ 4,919.91 £	59,686.15 £ 5,165.90 £	77,675.55 £ 5,424.20 £	101,086.96 £ 5,695.41 £	131,554.58 £ 5,980.18 £	171,205.12 £ 6,279.19 £	222,806.35 6,593.14
Income from use of charge points Annual maintenance Electricity costs	£	20,808.00 £ 4,250.00 £ 9,979.49 £	27,079.53 £ 4,462.50 £ 13,227.82 £	35,241.30 £ 4,685.63 £ 17,533.47 £	45,863.03 £ 4,919.91 £ 23,240.62 £	59,686.15 £ 5,165.90 £ 30,805.44 £	77,675.55 £ 5,424.20 £ 40,832.60 £	101,086.96 £ 5,695.41 £ 54,123.62 £	131,554.58 £ 5,980.18 £ 71,740.86 £	171,205.12 £ 6,279.19 £ 95,092.50 £	222,806.35 6,593.14 126,045.11
Income from use of charge points Annual maintenance Electricity costs Back office charge	£	20,808.00 £ 4,250.00 £ 9,979.49 £ 2,040.00 £	27,079.53 £ 4,462.50 £ 13,227.82 £ 2,142.00 £	35,241.30 £ 4,685.63 £ 17,533.47 £ 2,249.10 £	45,863.03 £ 4,919.91 £ 23,240.62 £ 2,361.56 £	59,686.15 £ 5,165.90 £ 30,805.44 £ 2,479.63 £	77,675.55 £ 5,424.20 £ 40,832.60 £ 2,603.61 £	101,086.96 £ 5,695.41 £ 54,123.62 £ 2,733.80 £	131,554.58 £ 5,980.18 £ 71,740.86 £ 2,870.48 £	171,205.12 £ 6,279.19 £ 95,092.50 £ 3,014.01 £	222,806.35 6,593.14 126,045.11 3,164.71
Income from use of charge points Annual maintenance Electricity costs Back office charge Net Revenue Total intial investment Less likely funding	£ £ £	20,808.00 £ 4,250.00 £ 9,979.49 £ 2,040.00 £ 4,538.51 £ 248,600.00 150,000.00	27,079.53 £ 4,462.50 £ 13,227.82 £ 2,142.00 £	35,241.30 £ 4,685.63 £ 17,533.47 £ 2,249.10 £	45,863.03 £ 4,919.91 £ 23,240.62 £ 2,361.56 £	59,686.15 £ 5,165.90 £ 30,805.44 £ 2,479.63 £	77,675.55 £ 5,424.20 £ 40,832.60 £ 2,603.61 £	101,086.96 £ 5,695.41 £ 54,123.62 £ 2,733.80 £	131,554.58 £ 5,980.18 £ 71,740.86 £ 2,870.48 £	171,205.12 £ 6,279.19 £ 95,092.50 £ 3,014.01 £	222,806.35 6,593.14 126,045.11 3,164.71



ALL COSTS ARE PER SOCKET

			Year 1		Year 2	Year 3		Year 4		Year 5		Year 6	Year 7		Year 8		Year 9		<u>Year 10</u>
	(Percentage yearly cost increase)			8%	8%	1	89	6	8%		8%	8%		8%	ó	8%		8%	
	Cost of Daytime	£	0.132	£	0.142 £	0.1	53 £	0.166	£	0.179	£	0.193 £	0.20	9 £	0.226	£	0.244	£	0.263
>	Cost of Night	£	0.093	£	0.100 £	0.1	08 £	0.117	£	0.126	£	0.136 £	0.14	7 £	0.159	£	0.171	£	0.185
ci.	Average cost	£	0.120	£	0.129 £	0.1	40 £	0.151	£	0.163	£	0.176 £	0.19	00 £	0.205	£	0.222	£	0.240
ţ	Average sale price per kWh (based on																		
Electricity	50/50 day at 30p / night use at 20p)	£	0.250	£	0.270 £	0.2	92 £	0.315	£	0.340	£	0.367 £	0.39	7 £	0.428	£	0.463	£	0.500
ш																			
	Average mark-up per kWh (based on																		
	50/50 split)	£	0.130	£	0.141 £	0.1	52 £	0.164	£	0.177	£	0.191 £	0.20	6 £	0.223	£	0.241	£	0.260
	:																		
S	Electric Vehicle growth Per Annum				41%	4	1%	419	ó	41%	,	41%	4:	L%	41%		41%		41%
Vehicle stations	Hours use per Day per socket		1.00		1.41	1.	99	2.80		3.95		5.57	7.8	16	11.08		15.62		22.03
hi hi	Total hours Per year per socket (used																		
	hours per day x 340 days)		340		479	6	76	953		1,344		1,895	2,67	2	3,767		5,312		7,489
ic B	Average kWh per annum @ 7.2kW		2,448		3,452	4,8	67	6,862		9,676		13,643	19,23	7	27,123		38,244		53,924
Electric charging	Net Income per annum after direct cost																		
	of electricity per socket	£	318.49	£	484.99 £	738.	54 £	1,124.65	£	1,712.62	£	2,607.98 £	3,971.4	3 £	6,047.69	£	9,209.43	£	14,024.12
_																			
sts	(Annual cost increase)			5%	5%		59		5%		5%			5%		5%		5%	
ly costs	Maintenance per annum per socket		£125.00		£131.25	£137	.81	£144.70)	£151.94		£159.54	£167.	51	£175.89	1	£184.68		£193.92
Yearly running co	(Annual cost increase)			5%	5%		59	,	5%		5%	5%		5%	,	5%		5%	
آج ت	Back Office Annual Charge per Socket		£60.00	J/0	£63.00	£66		£69.46		£72.93		£76.58	£80.		£84.43		£88.65	J/0	£93.08
2	back Office Affiliaal Charge per Socket		100.00		103.00	100	.13	109.40	,	172.53	'	170.38	Lou.	41	104.43	1	100.03		155.06
	Annual Cost per Charger (Socket)		£185		£194	£2	204	£214	1	£225	;	£236	£2	48	£260)	£273		£287
	, , ,																		
	Surplus per socket	£	133.49	£	290.64 £	534.	48 £	910.39	£	1,487.65	£	2,371.77 £	3,723.4	1 £	5,787.28	£	8,936.00	£	13,737.02
ated	Total Number of Sockets		34		34	34		34		34		34	34		34		34		34
Estimated Revenue	Total Potential Surplus Per Annum	£	4,538.51	£	9,881.75 £	18,172.	32 £	30,953.32	£	50,580.17	£	80,640.07 £	126,596.0	2 £	196,767.52	£	303,823.96	£	467,058.72
	Total Potential Surplus Cumulative	£	4,538.51	£	14,420.26 £	32,592.	58 £	63,545.90	£	114,126.07	£	194,766.13 £	321,362.1	.6 £	518,129.68	£	821,953.64	£	1,289,012.36

Notes

Electricity cost increases are estimated against current levels of government forecasts for energy inflation at between 6% & 10%

Typical mark up is based on a 50%/50% mix of day and night time use

Government advice is the number of Electric vehicles will double every 2 years for the next 10 years, estimated at 6 million EV's by 2029

Usage hours per day are estimated against limited information available from councils and commercial operators already using EVC

The council office EVC revenue generation per socket are not included in the number of total sockets, but allowed in the purchase and grants from OLEV (main use will council vehicle at cost price)



			Year 1	Year 2	<u>Ye</u>	ear 3	Year	4	Year 5		Year 6		Year 7		Year 8		Year 9		Year 10
	(Percentage yearly cost increase)		109	%	10%	1	.0%	10)%	10%	5	10%		10%		10%		10%	
	Cost of Daytime	£	0.132 £	0.145	£	0.159	£	0.175 £	0.193	3 £	0.212	£	0.233	£	0.256	£	0.282	£	0.310
>	Cost of Night	£	0.093 £	0.102	£	0.112	£	0.123 £	0.136	5 £	0.149	£	0.164	£	0.180	£	0.198	£	0.218
cit	Average cost	£	0.120 £	0.132	£	0.145	£	0.160 £	0.176	5 £	0.193	£	0.212	£	0.234	£	0.257	£	0.283
Ę.	Average sale price per kWh (based on																		
Electricity	50/50 day at 30p / night use at 20p)	£	0.250 £	0.270	£	0.292	£	0.315 £	0.340) £	0.367	£	0.397	£	0.428	£	0.463	£	0.500
ш																			
	Average mark-up per kWh (based on																		
	50/50 split)	£	0.130 £	0.138	£	0.147	£	0.155 £	0.16	5 £	0.174	£	0.184	£	0.195	£	0.206	£	0.217
	•																		
S	Electric Vehicle growth Per Annum			21%		21%		21%	21	%	21%	,	21%	,	21%		21%		21%
Vehicle stations	Hours use per Day per socket		1.00	1.21		1.45		1.75	2.13	1	2.54		3.06		3.69		4.45		5.36
F F	Total hours Per year per socket (used																		
Ve	hours per day x 340 days)		340	410		494		595	71	7	864		1,041		1,254		1,511		1,821
<u></u>	Average kWh per annum @ 7.2kW		2,448	2,950		3,555		4,283	5,16	1	6,219		7,494		9,031		10,882		13,113
Electric																			
ile hai	Net Income per annum after direct cost																		
_ 5	of electricity per socket	£	318.49 £	407.40	£	520.82 f	£ 6	65.37 £	849.43	3 £	1,083.62	£	1,381.27	£	1,759.23	£	2,238.61	£	2,845.92
	, , , , , , , , , , , , , , , , , , ,										_,,,,,,,		_,				_,		_,,,,,,,,,,
Ŋ	(Annual cost increase)		5%		5%	5	3%	59	6	5%		5%		5%		5%		5%	
ost	Maintenance per annum per socket		£125.00	£131.25		£137.81	£	144.70	£151.9	94	£159.54		£167.51		£175.89		£184.68		£193.92
Yearly running costs																			
ea in	(Annual cost increase)		5%		5%	5	%	59	6	5%		5%		5%		5%		5%	
7 6	Back Office Annual Charge per Socket		£60.00	£63.00		£66.15		£69.46	£72.9		£76.58	3	£80.41		£84.43		£88.65		£93.08
2																			
	Annual Cost per Charger (Socket)		£185	£194		£204		£214	£22	25	£236	;	£248	}	£260		£273		£287
	Surplus per socket	£	133.49 £	213.05	£	316.76	£ 4	51.10 £	624.4	5 £	847.40	£	1,133.26	£	1,498.81	£	1,965.18	£	2,558.82
5 0																			
ate	Total Number of Sockets		34	34		34	34		34		34		34		34		34		34
Estimated Revenue																			
Sti	Total Potential Surplus Per Annum	£	4,538.51 £	7,243.81	£ 1	0,769.71	£ 15,3	37.55 £	21,231.7	Β£	28,811.74	£	38,530.74	£	50,959.66	£	66,816.03	£	86,999.98
ш —																			
	Total Potential Surplus Cumulative	£	4,538.51 £	11,782.32	£ 2	22,552.03	£ 37,8	89.58 £	59,121.30	5 £	87,933.10	£	126,463.84	£	177,423.50	£	244,239.52	£	331,239.50

Notes

Electricity cost increases are estimated against current levels of government forecasts for energy inflation at between 6% & 10%

Typical mark up is based on a 50%/50% mix of day and night time use

Government advice is the number of Electric vehicles will double every 2 years for the next 10 years, estimated at 6 million EV's by 2029

Usage hours per day are estimated against limited information available from councils and commercial operators already using EVC

The council office EVC revenue generation per socket are not included in the number of total sockets, but allowed in the purchase and grants from OLEV (main use will council vehicle at cost price)



			Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9		<u>Year 10</u>
	(Percentage yearly cost increase)			12%		12%		12%		12%		12%	1	12%		12%		12%	6 1	12%	
	Cost of Daytime	£	0.132	£	0.147	£	0.165	£	0.185	£	0.207	£	0.232	£	0.260	£	0.291	£	0.326	£	0.365
>	Cost of Night	£	0.093	£	0.104	£	0.116	£	0.130	£	0.146	£	0.163	£	0.183	£	0.205	£	0.229	£	0.257
cit	Average cost	£	0.120	£	0.134	£	0.150	£	0.168	£	0.189	£	0.211	£	0.237	£	0.265	£	0.297	£	0.332
#	Average sale price per kWh (based on																				
Electricity	50/50 day at 30p / night use at 20p)	£	0.250	£	0.280	£	0.314	£	0.351	£	0.393	£	0.441	£	0.493	£	0.553	£	0.619	£	0.693
ш																					
	Average mark-up per kWh (based on																				
	50/50 split)	£	0.130	£	0.146	£	0.163	£	0.183	£	0.205	£	0.229	£	0.257	£	0.288	£	0.322	£	0.361
S	Electric Vehicle growth Per Annum				41%		41%		41%		41%		41%		41%		41%		41%		41%
Vehicle stations	Hours use per Day per socket		1.00		1.41		1.99		2.80		3.95		5.57		7.86		11.08		15.62		22.03
ati	Total hours Per year per socket (used																				
Ve	hours per day x 340 days)		340		479		676		953		1,344		1,895		2,672		3,767		5,312		7,489
ric	Average kWh per annum @ 7.2kW		2,448		3,452		4,867		6,862		9,676		13,643		19,237		27,123		38,244		53,924
Electric Vehicle charging station	1																				
Ele	Net Income per annum after direct cost																				
0	of electricity per socket	£	318.49	£	502.95	£	794.26	£	1,254.30	£	1,980.79	£	3,128.06	£	4,939.84	£	7,800.99	£	12,319.32	£	19,454.67
ts	(Annual cost increase)			5%		5%		5%		5%		5%		5%		5%		5%	ţ	5%	
ly costs	Maintenance per annum per socket		£125.00		£131.25		£137.81		£144.70		£151.94		£159.54		£167.51		£175.89		£184.68		£193.92
Yearly ning co																					
Ji Ç	(Annual cost increase)			5%		5%		5%		5%		5%	Ţ	5%		5%		5%	Į.	5%	
Year	Back Office Annual Charge per Socket		£60.00		£63.00		£66.15		£69.46		£72.93		£76.58		£80.41		£84.43		£88.65		£93.08
	Annual Cost per Charger (Socket)		£185		£194		£204		£214		£225		£236		£248		£260		£273		£287
	Complete and an allocate		122.40	•	200.60	_	500.20	_	1.040.04	_	4 755 02		2 004 05	_	4.004.02		7.540.50	_	12.045.00	_	10.167.50
	Surplus per socket	£	133.49	Ĺ	308.60	Ĺ	590.20	Ĺ	1,040.04	Ĺ	1,755.82	Ĺ	2,891.85	Ĺ	4,691.82	£	7,540.58	Ĺ	12,045.89	Ĺ	19,167.58
ed e	Total Number of Sockets		34		34		34		34		34		34		34		34		34		34
nat	Total Nulliber Of Sockets		34		34		34		34		34		34		34		34		34		34
Estimated Revenue	Total Potential Surplus Per Annum	£	4,538.51	£	10,492.48	£	20,066.80	£	35,361.31	£	59,697.90	£	98,322.91	£	159,521.82	£	256,379.56	t	409,560.34	£	651,697.62
ES.	Total Fotential Surplus Fer Almulli	_	4,550.51	-	10,732.40	-	20,000.00	-	33,301.31	-	33,037.30	-	30,322.31	-	133,321.02	-	230,373.30	-	409,300.34	-	031,037.02
	Total Potential Surplus Cumulative	£	4,538.51	£	15,030.99	£	35,097.78	£	70,459.09	£	130,156.99	£	228,479.90	£	388,001.72	£	644,381.28	£	1,053,941.62	£ 1	1,705,639.23

<u>Notes</u>

Electricity cost increases are estimated against current levels of government forecasts for energy inflation at between 6% & 10%

Typical mark up is based on a 50%/50% mix of day and night time use

Government advice is the number of Electric vehicles will double every 2 years for the next 10 years, estimated at 6 million EV's by 2029

Usage hours per day are estimated against limited information available from councils and commercial operators already using EVC

The council office EVC revenue generation per socket are not included in the number of total sockets, but allowed in the purchase and grants from OLEV (main use will council vehicle at cost price)



ALL COSTS ARE PER SOCKET

Mh (based on use at 20p) £ Wh (based on f Fer Annum ocket socket (used s)	0.093 £ 0.120 £ 0.250 £	8% 0.142 f 0.100 f 0.129 f 0.270 f 0.141 f	8% 0.153 f 0.108 f 0.140 f 0.292 f 0.152 f	8% 0.166	8% 0.179 f 0.126 f 0.163 f 0.340 f	8% 0.193 f 0.136 f 0.176 f 0.367 f	8% 0.209 £ 0.147 £ 0.190 £ 0.397 £	8% 0.226 f 0.159 f 0.205 f 0.428 f	8% 0.244 f 0.171 f 0.222 f 0.463 f	0.263 0.185 0.240 0.500
£ £ Wh (based on use at 20p) £ Wh (based on £ Per Annum ocket socket (used	0.093 £ 0.120 £ 0.250 £ 0.130 £	0.100 f 0.129 f 0.270 f 0.141 f	0.108 f 0.140 f 0.292 f	0.117 £ 0.151 £ 0.315 £	0.126 £ 0.163 £ 0.340 £	0.136 £ 0.176 £ 0.367 £	0.147 f 0.190 f 0.397 f	0.159 f 0.205 f 0.428 f	0.171 f 0.222 f 0.463 f	0.185 0.240 0.500
Wh (based on use at 20p) £ Wh (based on £ Per Annum ocket socket (used	0.120 £ 0.250 £ 0.130 £	0.129 f 0.270 f 0.141 f	0.140 £ 0.292 £	0.151 £	0.163 £ 0.340 £	0.176 £	0.190 £ 0.397 £	0.205 £ 0.428 £	0.222 £ 0.463 £	0.240
Wh (based on use at 20p) £ Wh (based on £ Per Annum ocket socket (used	0.250 £	0.270 £	0.292 £	0.315 £	0.340 £	0.367 £	0.397 £	0.428 £	0.463 £	0.500
use at 20p) £ Wh (based on £ Per Annum ocket socket (used	0.130 £	0.141 £								
Wh (based on £ Per Annum pocket socket (used	0.130 £	0.141 £								
er Annum ocket socket (used			0.152 £	0.164 £	0.177 £	0.191 f	0.206 €	0.223 f	0.241 f	
er Annum ocket socket (used			0.152 £	0.164 £	0.177 £	0 191 f	0.206 £	0.223 £	0.241 f	
er Annum ocket socket (used			0.132 £	U.104 I	U.1// E			U.223 I		0.260
ocket socket (used	1.00	21%				0.151 1			0.2.2	0.200
ocket socket (used	1.00	21/0	21%	21%	21%	21%	21%	21%	21%	21%
socket (used	1.00	1.21	1.45	1.75	2.11	2.54	3.06	3.69	4.45	5.36
•		1.21	1.45	1.75	2.11	2.34	3.00	3.09	4.43	3.30
'	240	410	404	EOE	717	964	1 0/11	1 254	1 511	1,821
							•	,	,	13,113
ω 7.2KVV	2,448	2,950	3,333	4,283	5,101	6,219	7,494	9,031	10,882	13,113
after direct cost										
£	318.49 £	414.48 £	539.40 £	701.98 £	913.55 £	1,188.90 £	1,547.23 £	2,013.56 £	2,620.45 £	3,410.26
	5%	5%	5%	5%	5%	5%	5%	5%	5%	
ı per socket	£125.00	£131.25	£137.81	£144.70	£151.94	£159.54	£167.51	£175.89	£184.68	£193.92
	5%	5%	5%	5%	5%	5%	5%	5%	5%	
ge per Socket	£60.00	£63.00	£66.15	£69.46	£72.93	£76.58	£80.41	£84.43	£88.65	£93.08
(Socket)	£185	£194	£204	£214	£225	£236	£248	£260	£273	£287
£	133.49 £	220.13 £	335.34 £	487.72 £	688.58 £	952.68 £	1,299.21 £	1,753.15 £	2,347.02 £	3,123.16
;	34	34	34	34	34	34	34	34	34	34
er Annum £	4,538.51 £	7,484.32 £	11,401.49 £	16,582.31 £	23,411.81 £	32,391.24 £	44,173.18 £	59,607.10 £	79,798.76 £	106,187.44
umulative £	4,538.51 £	12,022.83 £	23,424.32 £	40,006.63 £	63,418.44 £	95,809.68 £	139,982.86 £	199,589.96 £	279,388.71 £	385,576.15
n ri	rge per Socket r (Socket) £ s er Annum £	### 2,448 ### 2,448 ### 2,448 ### 2,448 ### 2,448 ### 318.49	2,448 2,950 after direct cost f 318.49 f 414.48 f n per socket f 2125.00 5% r (Socket) f 133.49 f 220.13 f s 34 34 er Annum f 4,538.51 f 7,484.32 f	2,448 2,950 3,555 after direct cost f 318.49 f 414.48 f 539.40 f n per socket f 125.00 5% 5% 5% rge per Socket f 160.00 f 63.00 f 661.5 r (Socket) f 133.49 f 220.13 f 335.34 f s 34 34 rer Annum f 4,538.51 f 7,484.32 f 11,401.49 f	after direct cost f 318.49 f 414.48 f 539.40 f 701.98 f per socket f 125.00 f 131.25 f 137.81 f 144.70 f 160.00 f 163.00 f 166.15 f 169.46 f 133.49 f 220.13 f 335.34 f 487.72 f s 34 f 4,538.51 f 7,484.32 f 11,401.49 f 16,582.31 f	## 2,448	### Apper Socket Figs Figs	## Angle 7.2kW 2,448 2,950 3,555 4,283 5,161 6,219 7,494 ### Angle 7.2kW 2,448 2,950 3,555 4,283 5,161 6,219 7,494 ### Angle 7.2kW 2,448 £ 338.49 £ 414.48 £ 539.40 £ 701.98 £ 913.55 £ 1,188.90 £ 1,547.23 £ ### Angle Per Socket	## 7.2kW 2,448 2,950 3,555 4,283 5,161 6,219 7,494 9,031 ### 10 7.2kW 2,448 2,950 3,555 4,283 5,161 6,219 7,494 9,031 #### 10 7.2kW 2,448 2,950 3,555 4,283 5,161 6,219 7,494 9,031 #### 12 318.49	## 7.2kW 2,448 2,950 3,555 4,283 5,161 6,219 7,494 9,031 10,882 ### 10

Notes

Electricity cost increases are estimated against current levels of government forecasts for energy inflation at between 6% & 10%

Typical mark up is based on a 50%/50% mix of day and night time use

Government advice is the number of Electric vehicles will double every 2 years for the next 10 years, estimated at 6 million EV's by 2029

Usage hours per day are estimated against limited information available from councils and commercial operators already using EVC

The council office EVC revenue generation per socket are not included in the number of total sockets, but allowed in the purchase and grants from OLEV (main use will council vehicle at cost price)

APPENDIX 1



NNDC - Capital cost for Electric Vehicles Charging (EVC)

Ma Paravables Ltd		Installation cost per															
Renewables	Ltd		Chargi	ng P	ost												
Treffe trables												G	round Works				
	Charging												installation				
	posts (each				Price per							Ducting for		Electrical			
	with two EVC					Cł	narging				UKPN	a	dditional 12	cab	inets and		
	sockets)	Μ	laterial	Inst	allation		Post		Total		upgrade		posts	roo	nnection		
Stearman's Yard - Wells	3	£	3,980	£	2,200	£	6,180	£	18,540		£ 6,000	£	10,000	£	3,000	£	37,540
Morris St - Sheringham	3	£	3,980	£	2,200	£	6,180	£	18,540		£ 6,000	£	10,000	£	3,000	£	37,540
Queens Rd - Fakenham	3	£	3,980	£	2,200	£	6,180	£	18,540		£ 17,000	£	10,000	£	3,000	£	48,540
New Rd - North Walsham	2	£	3,980	£	2,200	£	6,180	£	12,360		£ 5,000	£	10,000	£	3,000	£	30,360
Meadow - Cromer	3	£	3,980	£	2,200	£	6,180	£	18,540		£ -	£	10,000	£	3,000	£	31,540
Albert St - Holt	3	£	3,980	£	2,200	£	6,180	£	18,540		£ -	£	10,000	£	3,000	£	31,540
Council offices - Cromer	3	£	3,980	£	2,200	£	6,180	£	18,540		£ -	£	10,000	£	3,000	£	31,540
	20							£	123,600		£ 34,000	£	70,000	£	21,000	£	248,600

The Council office EVC would full under the OLEV workplace scheme, this is £500 per socket and worth an additional £3000

Return to investment - 2 OLEV grants awarded		OLEV grant - 75% of capital cost (split over	£ 150,000
Based upon the projects being split over 2 successful OLEV grants being awarded is	4.5 Years	two projects each of maximum eligible cost	
		of £100k)	
		Cost	t of the

-£ 3,000

		OI LIOOK)		- 1
		Cost	£ 95,6	00
Return to investment - only 1 OLEV grant awarded.		Single awarded of OLEV grant - 75% of	£ 75,0	00
Only a single grant award from OLEV the RTI will be	5.5 Years	capital cost of a maximum eligible cost of		
		£100K		
		Cost	£ 170,6	00
Return to investment - No OLEV grant				\neg
If no OLEV grant is awarded the RTI for install the EVCP will be	6.5 Years	Cost	£ 245,6	00

Notes Council office - Capital cost is allowed for, but no income at the office as being primarily for Council owned vehicles

Return to investmanets are based on a low level startup at 1 hour a day per socket and the same percentage as UK EV's numbers as shownon the revenue sheet