

Appendix 1 – Example of Proposed Energy Saving Project for Bollard Replacement

Description	Light burning Hours of bollards	Watts per Bollard	Quantity of Bollards	Annual KWh for all Bollards	Annual Electricity costs (based on £/KWh cost of £0.105)	Annual Tonnes of CO2 (based on 0.542kg CO2 per KWh)	Cost of CRC ESS Carbon Credits at £12/tonne	
Bollard with 2 x 11W Lamps burning 24hrs with associated controls at 10W	8760 (24hrs per day for 365 days)	32	740	207,436.80	£21,780.86	112.43	£1,349.16	
Bollard with 1 x 7W LED (equivalent output to the above lamps) and light sensing technology to reduce burning time to hours of low light levels only	4271 (based on average of 11.7 hours of darkness per day for 365 days)	7	740	22,123.78	£2,323.00	12	£144.00	
			Savings	120489.02	£19,457.86	100.43	£1,205.16	£20,663.02

Notes:

1. The above table only considers the cost of energy and CO2 in relation to this project and does not factor in any potential savings that will be realised from maintenance of the existing bollards as the replacement bollards are sealed units that are guaranteed maintenance free for 10 years.
2. The capital cost of the above project is £54,834 giving a payback period of 2.65 years at 0% interest if funded through Carbon Management Fund as detailed in 2.3 of the main report and taking into consideration the above savings.
3. Although this project would generate a reduction in energy use and the carbon produced resulting in a real cost saving to the Council it should be noted that the cost of both electricity and carbon credits is set to increase substantially within the next few years so the actual cost of energy use by the Council will increase and projects such as the one above will only help towards mitigating these increases.