

## **Streetscene and Transportation Portfolio**

Appendix 1 - Street Lighting Lantern Replacement Programme – Business Case (Based on annual energy saving of 3.086 Mw/Hrs)

	Energy Inflation level					Cost saving @					Repayment schedule on £3,128,128 loan
	0%	3%	4%	5%	Saving kw/hrs	0% Inflation	3% Inflation	4% Inflation	5% Inflation		
Energy rate (per kw/hr) in Year 1 (2016-17)	10.53	10.53	10.53	10.53							
Rate in Year 2	10.53	10.85	10.95	11.06		Installation	Installation	Installation	Installation		None
Rate in Year 3	10.53	11.17	11.39	11.61		Installation	Installation	Installation	Installation		None
Rate in Year 4	10.53	11.51	11.84	12.19	3,086,000	324,956	355,087	365,531	376,176		£391,141
Rate in Year 5	10.53	11.85	12.32	12.8	3,086,000	324,956	365,740	376,497	387,461		£391,141
Rate in Year 6	10.53	12.21	12.81	13.44	3,086,000	324,956	376,712	387,792	399,085		£391,141
Rate in Year 7	10.53	12.57	13.32	14.11	3,086,000	324,956	388,013	399,426	411,058		£391,141
Rate in Year 8	10.53	12.95	13.86	14.82	3,086,000	324,956	399,654	411,408	423,389		£391,141
Rate in Year 9	10.53	13.34	14.41	15.56	3,086,000	324,956	411,643	423,751	436,091		£391,141
Rate in Year 10	10.53	13.74	14.99	16.34	3,086,000	324,956	423,992	436,463	449,174		£391,141
Rate in Year 11	10.53	14.15	15.59	17.15	3,086,000	324,956	436,712	449,557	462,649		£391,141
					Total saving £	£2,599,646.40	£3,157,561.61	£3,250,424.49	£3,345,083.40	Total Repayment	£3,128,128

Maintenance saving per year - 50% saving of 2,000 faults per year @ £40 per occasion = £40k per year or £440k over the 11 years of the project

## **Summary**

Total Number of Lanterns to Change	11,958		
Total Estimated Cost of Lantern replacement	£3,129,128		
Total Estimated Savings 8 Years @ 0% Energy Increase	£2,599,646*		
Total Estimated Savings 8 Years @ 3% Energy Increase	£3,157,561*		
Total Estimated Savings 8 Years @ 4% Energy Increase	£3,250,424*		
Total Estimated Savings 8 Years @ 5% Energy Increase	£3,345,083*		
Total Estimated kw/hr savings per annum	3,085,657*		

<sup>\*</sup> Plus maintenance savings

## 20 year Benefit

20 year cost benefit of project	At 0%	3%	4%	5%
Energy Saving year 1 - 11	2,599,646	3,157,561	3,250,424	3,345,083
Energy Saving years 11 - 20	2,924,602	4,569,704	4,704,110	4,841,104
Reduced maintenance costs (without inflation)	800,000	800,000	800,000	800,000
Less Loan repayment	-3,128,128	-3,128,128	-3,128,128	-3,128,128
Net 20 year benefit	3,196,120	5,399,137	5,626,406	5,858,059