## Streetscene and Transportation Portfolio

Appendix 1 - Street Lighting Lantern Replacement Programme - Business Case (Based on annual energy saving of $3.086 \mathrm{Mw} / \mathrm{Hrs}$ )

|  | Energy <br> 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 $=£ 40$ k per year or $£ 440$ k 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 | $3,085,657^{*}$ |

[^0]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 |


[^0]:    * Plus maintenance savings

