

CABINET

10 November 2015

Title: Low Energy Street Light Replacement Programme	
Report of the Cabinet Members for Finance and Regeneration	
Open Report	For Decision
Wards Affected: All	Key Decision: Yes
Report Author: Andrew Sivess, Group Manager: Programmes and Funding Andy Norton, Street Lighting Manager, Highways and Environmental Design	Contact Details: Tel: 020 8227 5732 E-mail: andrew.sivess@lbbd.gov.uk Tel: 020 8227 2876 E-mail: andy.norton@lbbd.gov.uk
Accountable Divisional Director: Robin Payne, Divisional Director of Environment	
Accountable Director: Jonathan Bunt, Strategic Director, Finance & Investment	
Summary: <p>This report seeks approval to procure the replacement of the borough's existing street lights with low energy Light Emitting Diode (LEDs) lanterns and to enter into an agreement with the Green Investment Bank to finance the procurement and replacement on an 'invest to save' basis. .</p> <p>The proposals set out in this report will deliver immediate and long-term financial savings through lower energy use. This will also help to reduce carbon emissions as part of the Council's commitment to tackle climate change.</p> <p>The LED replacement programme set out in this report is an important part of the Highways Asset Management Strategy (HAMS).</p>	
Recommendation(s) <p>The Cabinet is recommended to:</p> <ul style="list-style-type: none">(i) Approve the procurement proposals to replace c16,500 sodium street lanterns with energy efficient LED street lanterns, including the installation of a Central Management System (CMS), at an estimated total scheme cost of £7.5m (including £0.5m contingency) in accordance with the strategy set out in the report;(ii) Agree that the project be financed via the UK Green Investment Bank's Green Loan, as set out in option 1 in the report; and(iii) Delegate authority to the Strategic Director of Finance and Investment, in consultation with the Head of Legal and Democratic Services and the Cabinet Members for Finance and Regeneration, to negotiate terms and agree, execute	

and deliver all contract project documents to fully implement and effect the project including the Green Loan agreement and other finance documents, and award the contract to the successful bidder.

Reason(s)

To assist the Council in delivering its corporate priorities by reducing the Council's energy consumption and energy costs. This will help to reduce the authority's overheads and contribute to the long-term financial sustainability of the Council

1. Introduction and Background

- 1.1. At its meeting on the 24th March 2015 Cabinet approved the commitment of £250,000 to support detailed business planning of an initial renewable energy (RE) investment programme and the establishment of an Energy Services Company (ESCO).
- 1.2. The initial RE investment programme identified the replacement of the Borough's street lights with low energy LED lanterns. Detailed technical and financial evaluation has been undertaken. It is considered that replacement of the borough's street lights with energy efficient LED lanterns should be funded as an invest to save scheme within the General Fund using borrowing from the Green Investment Bank (GIB).
- 1.3. The UK Green Investment Bank was created by the UK Government to accelerate the transition of the UK economy to a low carbon economy. The Government has committed an initial £3.8bn of capital to the GIB. This is used to back green projects, on commercial terms, across the UK. The intention is to mobilise other private sector capital into the UK's green economy that would otherwise not be available.
- 1.4. The GIB has created the 'Green Loan', which is specifically designed to help local authorities make the switch to low energy streetlights. This is essentially an invest to save model whereby the savings in energy costs are used to provide immediate net savings to the Council and to repay the loan over the lifetime of the LED lanterns.
- 1.5. The Green Loan allows loan repayments to be profiled to match energy savings over the lifetime of the project. This flexibility is not available using borrowing from the Public Works Loan Board (PWLB) and is on more financially advantageous terms than would be available from institutional borrowing. The GIB financing has recently been used by both Glasgow and Southend-on-Sea to fund their street lighting LED projects.
- 1.6. Under the proposed financing proposal the GIB will finance the replacement programme over a 4 year installation period. The borough will retain 100% of the savings generated during the installation period; the installation period saving is estimated to be £839,000 (nominal) in the base case but could be as high as £1,552,000 (nominal) in the best case. Repayments to the GIB will commence at the end of the installation period; from this point the Council will benefit from projected net savings of £195,000 (nominal) in the first full year of operations, in the

base case but which could be as high as £321,000 in the best case; this will continue to rise annually by inflation.

2. Proposed Procurement Strategy

2.1 Outline specification of the works, goods or services being procured

2.1.1 This report seeks approval to funding and procurement arrangements to replace the borough's existing street light lanterns with low energy light emitting diode lanterns. The proposals in this report will deliver significant financial savings through lower energy use and will help to reduce carbon emissions as part of the Council's commitment to tackle climate change.

The LED replacement programme is an integral part of the Highways asset management strategy. Specifically the proposals will:

- Reduce energy consumption and lower carbon emissions by a projected 54%
- Provide greater control over street lighting levels to maintain and enhance security whilst minimizing energy costs
- Prolong the life of street lighting assets and levels of performance to ensure compliance with statutory standards and Department of Transport codes of practice

The procurement will seek fixed price tenders for the supply and installation of the following equipment:

Description	Lantern Watts	Qty
Lantern with 46W LED	46W	11520
Lantern with 67W LED	67W	3840
TOTAL		15360

2.2 Estimated Contract Value, including the value of any uplift or extension period.

The Contract Value is estimated to be £7.5m. This includes project management, professional fees and financial contingency.

2.3 Duration of the contract, including any options for extension.

The duration of the contract is estimated to be four years.

2.4 Is the contract subject to the (EU) Public Contracts Regulations 2015? If Yes, and contract is for services, are they subject to the Light Touch Regime?

Yes, the contract is subject to the Public Contracts Regulations 2015 but is not subject to the light touch regime.

2.5 Recommended procurement procedure and reasons for the recommendation.

EU restricted procedure. This procedure is considered to be the most appropriate procurement method. The contract is relatively simple in nature and will essentially

require that contractors submit prices and method statements for a narrowly defined performance based product and clearly defined services.

The restricted process is a two (2) stage tender exercise which enable the Council to review all potential bidders and after evaluation a defined number of bidders will be taken through to the tendering stage. At time of this report the maximum number bidders had not been outlined.

This was deemed to be the most appropriate route to market as the potential supply market is sizeable and varied in quality.

2.6 The contract delivery methodology and documentation to be adopted.

The terms and conditions proposed to be used will be the Councils standard terms and conditions for services including provision for any special clauses. Legal Services will be consulted prior to the terms being issued as part of the process.

The service will be managed by the Councils Street Lighting Engineer in terms of the service delivery, with the project attracting key performance indicators which will be developed prior to the tender process.

The GIB element will be managed by Andrew Sivess Group Manager: Programmes and Funding.

A detailed plan for the procurement will be developed with all of the key stakeholders once funding has been allocated.

2.7 Outcomes, savings and efficiencies expected as a consequence of awarding the proposed contract.

The table below summarises the gross financial savings that the project proposals will generate. The savings will accrue to the General Fund and should grow year on year as energy inflation is forecast to increase.

Description	Burning Hours in 1 year	Access Watts (Total Watts used)	Qty	Yearly kWh	Price £/kWh	Yearly Running Cost (current prices)
Lantern with 70W SON (current stock)	4084	90	11520	4,234,291	£0.105	£444,601
Lantern with 100W or above(current stock)	4084	180	3840	2,822,861	£0.105	£296,400
TOTAL EXISTING			15360	7,057,152	£0.105	£741,001
Lantern with 46W LED (new stock)	4084	46	11520	2,164,193	£0.105	£227,240
Lantern with 67W LED (new stock)	4084	67	3840	1,050,732	£0.105	£110,327
TOTAL NEW			15360	3,214,925	£0.105	£337,567
Energy Savings (before finance); Per cent Energy Savings						£403,434; 54%
Project Savings including maintenance						£438,666

In summary, the estimated savings as outlined above will be approximately £438,666 per annum. Further outcomes and efficiencies are outlined in 2.9.

2.8 **Criteria against which the tenderers are to be selected and contract is to be awarded**

The recommended criteria which will form the evaluation process for the procurement exercise will be as follows:

- 70% Price
- 30% Quality

2.9 **How the procurement will address and implement the Council's Social Value policies.**

The proposals in this report will support local economic, social and environmental wellbeing. Specifically the proposals will:

- **Economic wellbeing:** the scale and nature of the works proposed may provide opportunities for local firms to compete or be involved in the works either as main contractors or as sub-contractors. Contractors will also be expected to provide opportunities to support local employment and local purchasing.
- **Social:** the proposals will reduce the Council's energy costs. This will release funds for investment in other activities to support delivery of our Corporate objectives.
- **Environmental:** the proposals will directly benefit the environment locally and globally by reducing carbon emissions and through providing more control over levels of street lighting. The estimated carbon savings arising from the project are set out in the table below.

Description	Yearly KW/h	Yearly Carbon Tonnes
Lantern with 70W SON & Lantern with 100W or above (current stock)	7,057,152	3719
Lantern with 46W LED & Lantern with 67W LED (new stock)	3,214,925	1694
Lantern with 46W LED, including part night dimmed by 40% with trimming (subject to policy) & Lantern with 67W LED (new stock)	2,759,817	1454

3. Options Appraisal

3.1. The table below summarises the financing options that have been considered.

Option	Option 1: Green Investment Bank Green Loan (Recommended)	Option 2: Public Works Loan Board
Finance	<ul style="list-style-type: none"> Sculpted drawdown to match installation profile and repayment to match forecast project savings; Cost of Funds circa 3.90%; Average loan life of circa 23 years; Fixed rate is set at financial close for all future drawdowns; Project is cash flow positive from day 1 	<ul style="list-style-type: none"> Annuity Repayment; Cost of Funds circa 3.13%; Average loan life of circa 15 years; Fixed rate is set at financial close No in year net savings until project year 4 No cumulative net savings until project year 8
Project Cash Flow Profile	<p>Project cash flows relative to savings delivered by project - Green Loan</p>	<p>Project cash flows relative to savings delivered by project - Public Works Loan Board</p>
Net Savings After Finance	<ul style="list-style-type: none"> £3.89m Project NPV (Net Savings discounted @ 6.09%) £9.680m Nominal Net Savings 	<ul style="list-style-type: none"> £3.63m Project NPV (Net Savings discounted @ 6.09%) £12.55m Nominal Net Savings
Notes	<p>The Green Loan has been specifically designed to facilitate a “spend to save” project with the following key benefits:</p> <ul style="list-style-type: none"> Interest rate certainty on the facility Interest calculated only on money drawn-down for the LEDs Cash flow positive in each year <p>GIB also provides business case support, undertakes funder due diligence and provide basis for ongoing project monitoring and reporting.</p>	<p>To achieve rate certainty PWLB would need to draw all cash up front, but this would increase debt service pressure in the early years, with no cumulative positive cash flows until year eight.</p>

Option	Option 3 - SALIX	Option 4 – institutional finance	Option 5: Do Nothing
Finance	<p>The terms of the Salix funding is that 100% of funds advanced by must be repaid in full within 4 years form completion. This means that the Council would not benefit form savings until year 6 of the project.</p> <p>Salix funding is only available on terms that require each phase to be approved in the year of planned completion. There would there be no funding certainty of the last two years of the project.</p>	<p>This option is considered unviable due to the high costs of finance that would be required, circa 7-9% weighted cost of capital.</p>	<p>The Council would continue to manage the street lighting portfolio reactively to meet minimum statutory and health and safety requirements.</p>
Project Cash Flow Profile			
Net Savings After Finance			
Notes			

3.2 The investment objective has been to generate net cash savings to reduce financial pressures in the General Fund. In terms of overall financing costs funding the project through PWLB borrowing would result in the lowest costs over the appraisal period of 25 years (on a simple nominal basis and ignoring the time value of money). However, this option would not generate net savings until the beginning of year 4 and no positive cumulative net savings until year 8, and would require the Council to front fund the shortfall of £0.6m. As a result, the PWLB option also results in a lower project net present value than the GIB option.

3.3 The preferred option is therefore to fund the project using GIB borrowing using the Green Loan model that has been specifically developed to fund local authority LED street light replacement programmes. Although more expensive in over all nominal financing costs this option generates savings throughout the installation period and the operational period of the project and therefore show better value for money for the project. This option generates a net saving in the first five years of £1.0m compared to a net cost of £0.5m if funded using the PWLB borrowing. In addition the GIB team provides additional assistance by working alongside the project team to support project execution.

3.4 In terms of the options available for the procurement element, they are as follows;

- Do Nothing, this was rejected as the Council is required to renew its ageing assets as they are becoming unfit for purpose in terms of age, use of utilities etc
- Open Tender Process, this option was rejected as although the market is sizeable the quality and experience of the supply base is variable with the potential for a vast number of returns.
- Framework, this option has been rejected in the main as there are no lighting column specific frameworks; however ESPO will be letting a specific framework from December 2015. Full evaluation of this framework will be conducted and if this route to market appears beneficial a further report will be issued to gain approval of this route.
- Existing Term Contract. This has been rejected as although a term contract is available, due to the value of the proposed project either a formal competition or mini competition from a framework are deemed to be more viable to achieve the Council's cost reduction target whilst improving the quality of its assets.

4. Waiver

4.1 Not applicable.

5 Equalities and other Customer Impact

5.1 The Highways Asset Management Plan has highlighted the problem of ageing lighting installations. Good street lighting contributes to the Council's corporate objectives of achieving Safe and Sustainable Development. The provision of good quality street lighting within all urban streets has become more important as traffic volumes and other factors such as anti-social behaviour have increased. The proposals within this report will help to significantly address these issues.

6. Other Considerations and Implications

- 6.1 **Risk and Risk Management** - The Council has a responsibility to maintain the Public Highway Network in accordance with the Highways Act 1980. Action to make safe and repair is carried out if the damage is within the Councils intervention levels which are in accordance with the Department of Transport's (DFT) Code of Practice "Well Lit Highways".

The proposals in this report will help to address risk inherent in the long-term asset management of the street light portfolio.

The procurement strategy proposed will ensure that project costs are subjected to market competition. To contain project costs a fixed price contract will be negotiated.

- 6.2 **Safeguarding Children and Crime and Disorder Issues** - The new LED lanterns will produce white light which is considered to improve road safety and reduce crime levels and improve our ability to react to incidents throughout the year.

- 6.3 **Property / Asset Issues** - Long-term electricity prices are forecast to rise significantly over the coming decades. In addition, the Government's Carbon Reduction Commitment scheme has added a further cost to the Council's energy budget of £12 per tonne of carbon emitted (based on energy used) which equates to a further [10]% rise in energy costs. It is therefore essential that the Council invests in low energy measures to reduce future energy use, thereby reducing costs and reducing carbon emissions.

The proposals in this report will also reduce street light maintenance costs as the new LED lanterns have a 15 year lamp life.

7. Consultation

- 7.1 The proposals in this report were endorsed by the Procurement Board on 29 September 2015 and all relevant consultation with Portfolio Holders and officers has taken place

8. Corporate Procurement

Implications completed by: Euan Beales, Head of Procurement and Accounts Payable

- 8.1 The proposed route to market is an OJEU compliant restricted process. This process will enable the Council to sift a large market place for a pre-defined number of bidders to be put forward to the formal tendering stage. It is noted that ESPO are developing a framework, which may yield a positive outcome without the need to perform an elongated EU process. This option should be evaluated as soon as it is available in December 2015. Value for money may not be achieved through the use of the current term contract for street lighting and a competition of some description will be required.

The recommendations as set out in this report are supported on the provision that ESPO's framework is reviewed prior to a final decision being made on the route to market.

9. Financial Implications

Implications completed by: Andrew Sivess, Group Manager Programmes and Funding

9.1. In the context of the need to reduce the Council's budget by £70m investment in renewable energy is a means of creating reliable, stable and long-term income streams for the Council.

9.2. Project costs

The table below summarises the project costs that underpin the financial analysis of this project. These costs are considered robust and will be subject to confirmation through the tender strategy process set out above. Any significant variation to these costs would be reported back to Cabinet for decision.

Description	Qty	Capital Cost £
Luminaire - Residential	10500 Units	£3,932,256
Luminaire - Highway	1500 Units	£843,744
Lantern Conversion - Main Road	2300 Units	£420,336
Lantern Conversion - Residential	1000 Units	£161,232
CMS - All	12000 Nodes and branches	£1,020,192
Development and Adviser Costs 10%	Currently @10% & Includes £17.50 per unit & 15300 units design checks.	£637,776
Total (excluding contingency)		£7,015,536

9.3. Options analysis

9.3.1. A full financial options analysis has been undertaken. The shortlisted options are presented in the report and are summarised below. Other options considered were part-funding the project using Salix funding (funding provided through a Department of Climate Change initiative) or using private institutional borrowing. Neither of these options were considered suitable due the payback requirements of Salix and higher rates or return required by private investors, neither of which met the Council's invest to save objectives.

9.3.2. Officers will continue to review funding options to ensure the project on the best terms available.

9.3.3. The table at paragraph 2.7 of the report summarises the invest-to-save business case for the project.

9.4. Sensitivity analysis

The business case underpinning this project are sensitive to key assumptions. The impact of adverse changes to the assumptions on project viability has been evaluated through a sensitivity analysis. The results are shown below and indicate that the project remains financially viable.

Project risk

Assumption	Base Case	Base Case Upside	Worst Case	Best Case
Project Assumptions				
Total Capital Cost	£7,015,536	£7,015,536	3% Higher	3% Lower
Installation Period	48 months	48 months	48 months	48 months
Operational Period	26 years	26 years	26 years	26 years
Total Project Term	30 years	30 years	30 years	30 years
Annual Energy Saving Per Cent	54%, no dimming and trimming	61%, part night dimming (subject to policy)	54%, no dimming and trimming	68%, full night dimming (subject to policy)
Energy Unit Cost	£0.105/ kWh	£0.105/ kWh	£0.105/ kWh	£0.105/ kWh
Maintenance Revenue Saving	£35,232	£35,232	£35,232	£35,232
Economic Assumptions				
General Inflation	RPIx 2.5%	RPIx 2.5%	RPIx 2.5%	RPIx 2.5%
Energy Inflation (nominal)	Council Assumption 2.5% 2yrs, 3.5% 3-9yrs, 4.5% 10+yrs	Council Assumption	Council Assumption	Council Assumption

Project Benefits (pre finance)				
Projected Gross Energy Savings (nominal over 30 years)	£21,915,000	£24,930,000	£21,915,000	£27,893,000
Projected Gross Maintenance Savings (nominal over 30 years)	£1,503,000	£1,503,000	£1,503,000	£1,503,000
Total Gross Savings NPV (@ 6.09%)	£8,720,000	£9,982,000	£8,720,000	£11,224,000
Project IRR	8.99%	10.51%	8.71%	12.43%
Project Benefits (post finance, assuming Green Loan)				
Net savings (nominal) during installation, project year 1-4	£839,000	£1,198,000	£839,000	£1,552,000
Net savings (nominal) in first full year of operations, project year 5	£195,000	£254,000	£186,000	£321,000

Financial risk

Sensitivity	Total Gross Savings NPV (@ 6.09%)	Project IRR	Project NPV (Net Savings After Green Loan Finance @ 6.09%)
Base Case	£8,720,000	9.0%	£3,890,000
Energy inflation at RPIx, 2.5% (no change in finance profile)	£7,371,000	7.6%	£2,538,000
Energy inflation at 5% per annum (no change in finance profile)	£10,298,000	10.5%	£5,465,000
Funding cost increase by 50bps pre financial close	£8,720,000	9.0%	£3,505,000

10. Legal Implications

Implications completed by: Kayleigh Eaton, Solicitor

- 10.1 This report is seeking Cabinet's approval to proceed with the procurement of a low energy street lighting replacement programme. The proposed procurement being considered is estimated at approximately £7.0 million over the lifetime of the contract (inclusive of project management and professional fees) and therefore is above the EU threshold for supplies and service contracts (currently set at approximately £172,514). This means that there is a legal requirement to competitively tender the contract via the Official Journal of the European Union (OJEU).
- 10.2 This report advises that it is the intention of officers to tender this contract in accordance with the Public Contracts Regulations 2015 (the 'Regulations') using the restricted procedure. The requirements for competitive tendering, contained in the Regulations and rule 28.5 of the Council's Contract Rules, should therefore be met, provided that the procedure is conducted in accordance with the Regulations.
- 10.3 In keeping with the EU procurement principles, it is imperative that the contract is tendered in a competitive way and that the process undertaken is transparent, non-discriminatory and ensures the equal treatment of bidders.
- 10.4 Contract Rule 28.8 of the Council's Contract Rules requires that all procurements of contracts above £500,000 in value must be submitted to Cabinet for approval.
- 10.5 It is noted that it is the intention of officers to obtain the funding for the procurement by way of a loan from the Green Investment Bank. Legal Services would advise that advice should be obtained in respect of the proposed loan agreement and any obligations contained therein.
- 10.6 The report author and responsible directorate are advised to keep Legal Services fully informed at every stage of the proposed tender exercise. Legal Services are on hand and available to assist and answer any queries that may arise.

Public Background Papers Used in the Preparation of the Report: None

List of appendices: None