POLICY, RESOURCES & GROWTH COMMITTEE	Agenda Item 82 Brighton & Hove City Council

Subject:		**Street Lighting Invest to Save Proposal**	
Date of Meeting:		**8 December 2016**	
Report of:		**Executive Director of Economy, Environment & Culture**	
Contact Officer:	**Name:**	**Gill Packham**	**Tel: 29-1202**
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Ward(s) affected:		**All**	

FOR GENERAL RELEASE

1. PURPOSE OF REPORT AND POLICY CONTEXT

1.1 This report presents the options for the Street Lighting Invest to Save project and requests Committee approval to progress the project with the selected funding option required to implement the project.

2. RECOMMENDATIONS:

2.1 That the Policy, Resources & Growth Committee:

2.1.1 gives approval to progress the Street Lighting Invest to Save project based upon the efficiency savings business case set out in Appendix 1 ("Business Case");

2.1.2 Approves the inclusion of the Street Lighting Invest to Save project in the Council's Capital Investment Programme as detailed in 2.1.3 below;

2.1.3 Approves the funding of the invest to save project with £7.056m from unsupported borrowing and £0.900m from the Local Transport Plan (LTP) capital programme over the lifetime of LTP4, three years.

2.1.4 Grants delegated authority to the Executive Director of Economy, Environment & Culture to procure and award a contract(s) including any necessary extensions to deliver the Street Lighting Invest to Save project and street lighting maintenance.

3. CONTEXT/ BACKGROUND INFORMATION

<u>Street Lighting Invest to Save project</u>

3.1 Brighton & Hove City Council (BHCC) are planning to implement a street lighting invest to save programme though the application of new energy efficient LED lighting technologies as well as the application of the latest British and European Road Lighting Standards and control systems.

3.2 The Street Lighting Invest to Save project looks to a sustainable approach to the lighting service that will bring energy and carbon reduction savings as well as a reduction in reactive and routine maintenance operations, yet looks to maintain the lighting performance and service required within our streets.

3.3 In January 2015 the P&R Committee gave permission for officers to resource the preparation of a detailed financial model to inform a full business case submission to a future committee for approval.

3.4 The specification and Invitation to Tender for a consultant to carry out this work was issued in September 2015. The contract was subsequently awarded to WSP | Parsons Brinckerhoff and commenced December 1st 2015.

3.5 Early in 2016 the scope of the work was extended following a request from the Departmental Modernisation Board to include Housing stock as part of the business case. Work is under way to complete the inventory and employ a new integrated approach to deliver a more effective and efficient service to all stakeholders.

3.6 The basis for the business case was developed by WSP | Parsons Brinckerhoff following the principals and requirements of the potential funders as well as good industry practice. The process has confirmed the nature of the existing lighting assets in terms of suitability, performance and electrical load to establish the base line position.

3.7 A detailed technology review was subsequently undertaken to establish the most appropriate LED lighting and control technology suitable for the city. This has included reviews of the approaches undertaken by other authorities.

3.8 The Business Case has summarised options available to update the BHCC lighting stock to create a more energy efficient service whilst achieving lighting and service levels appropriate to the needs of the city in terms of safety and amenity.

3.9 The Business Case provides the core information and supporting evidence that funders look for, and is based upon their application requirements.

3.10 The Business Case indicates that potential energy and carbon reduction of up to 61% on the assets to be upgraded is achievable. The investigation indicates that potential savings through the use of LED technologies in conjunction with the application of current good lighting practice will bring annual nett energy savings of almost 4,370,000 KWh as well as carbon savings of 2,363 tonnes of CO2 once implementation is complete. This project will reduce energy costs compared to doing nothing and help achieve a proportion of the required revenue savings identified in the Medium Term Financial Strategy. Please refer to section 5 of the Business Case (attached at Appendix 1) for full details.

3.11 In financial terms this equates to £0.472m and £0.041m cost reductions per annum respectively once the project is delivered, a total of £0.513m per annum based upon current electricity prices. After taking into account contract cost

reductions and the cost of financing this investment, the annual net savings are estimated to be £0.214m once the programme is completed.

3.12 The work costs to implement the Street Lighting Invest to Save project are estimated to be £7.956m which includes columns, lanterns, control equipment and electrical works as detailed in Appendix E of the Business Case (see Appendix 1 attached).

3.13 This project relates to equipment owned and maintained by the Council's Street Lighting team in the Transport & Highways division. The team is working closely with the Housing Department to include their lighting column stock within the project.

3.14 If the Policy, Resources & Growth Committee approves the recommendations set out in section 2 above, the Executive Director of Economy, Environment & Culture plans to run a procurement process in order to award a contract(s) to deliver the Street Lighting Invest to Save project and street lighting maintenance. Financial Services, Procurement and Legal Services will provide support and advice on the appropriate procurement process and form of contract so that the process can be run in a legally compliant way and so that value for money can be demonstrated through the evaluation of a combination of quality and price in the competitive process.

Current Position

3.15 In the past 5 years all columns have been structurally tested, and over 3200 columns replaced.

3.16 Local Transport Programme (LTP) funds have been allocated to replacing the underground cable network and age expired equipment.

3.17 A number of LED lighting trials have been implemented on a whole road basis, with over 1000 LED lanterns now in place.

3.18 Other technologies and solutions have also been utilised, including the installation of over 3200 white light sources, a trial of a Central Management System, small trial areas of part night dimming and the replacement of old photocells to more energy efficient ones enabling trimming of the burning hours.

Smart City Technology

3.19 Using a central management system to control the city's street lighting will reduce future maintenance costs. This type of system will provide continuous accurate status information enabling the ability to identify outages immediately and reduce repair and maintenance costs through more precise focus of contractors crews and quicker response times.

3.20 There are potential additional savings to be had by placing more of an emphasis on a "smart" approach across the city. This programme gives us an opportunity to optimise our existing infrastructure. Lamp posts are a council owned asset, connected to an electricity supply and technology is available to be hosted on lamp posts.

3.21 Integration declutters and modernises existing architecture and shared public space, and lighting columns are the natural choice to house new technology as they are already evenly distributed throughout the city. By providing technology hubs within the lighting columns, BHCC can begin to 'future proof' the city, ensuring the capacity to stay 'smart' into the future.

3.22 Possible smart city uses include air pollution sensors, parking space notification, adaptable lighting levels, part night lighting switch off, gully monitoring, refuse bin monitoring, and facilitation of autonomous vehicles.

3.23 Multi-functional lanterns declutter public spaces, providing multiple requirements in a single installation, removing the need for other street furniture and lowering carbon footprint.

3.24 The Street Lighting team are working collaboratively with BHCC's internal ICT team to consider the options available and ensure the most appropriate solution to the city's needs. ICT have stated that there are corporate and financial gains to be made in terms of data capturing.

3.25 The British Standards Institute is developing a standards strategy for smart cities in the UK. The strategy identifies the role of standards in the implementation of smart cities and will be designed to provide assurance to citizens that risks are being managed appropriately. BHCC will monitor the progress of this and adhere to all standards developed.

<u>Cast iron, heritage and seafront (Cherished Equipment)</u>

3.26 There are no plans to remove any of the existing cherished equipment and replace it with standard posts.

3.27 The Street Lighting team have a solution in place to adapt the existing cast iron columns in a number of streets. As an example, a scheme is currently being undertaken on Second Avenue where the posts will be extended to a height of 5 metres and a small wide lensed LED lantern attached. Units in streets of this type will then be painted black.

3.28 The Lower Promenade is not affected by the Invest to Save proposal. The Arches and Shelter Hall are currently undergoing major refurbishment work and new lighting for the Lower Promenade is being delivered as part of these projects.

3.29 In addition Valley Gardens is still to be considered for development and any lighting requirements are expected to be funded from that budget and will be considered separately.

3.30 The heritage large cast iron columns on the seafront will be treated separately. Solutions are being looked at to install an energy efficient solution in keeping with the column style, and appropriate to provide the correct lighting levels on a busy A class road.

4. ANALYSIS & CONSIDERATION OF ANY ALTERNATIVE OPTIONS

4.1 The default position of do nothing will result in the street lighting energy and carbon remaining at their current levels at a time when revenue budgets are under pressure and there is a desire to reduce energy and carbon consumption.

4.2 The street lighting revenue budget, like all council budgets, is under pressure and will require support from future LTP capital funding allocations in order to maintain the existing service. Unless capital investment is carried out, service levels are likely to diminish which will result in poor public perception and the inability to secure the safety of the city.

4.3 The Department of Energy and Climate Change (DECC) predicts ongoing energy price rises.

4.4 The approach proposed within the business case looks at a three year rolling installation of the LED and associated lighting control and infrastructure.

4.5 Detailed discussions have been held with the Green Investment Bank to consider their loan rates and lending options. Financial Services have considered the viability of each of the options and have taken the view that the unsupported borrowing option is the most appropriate for the authority to consider

4.6 If Policy, Resources & Growth Committee reject the Street Lighting Invest to Save project recommendations in this report, a report to approve the procurement and award of a contract to deliver the street lighting maintenance only will be brought to this Committee in the near future. For a basic term maintenance contract with no significant investment, the yearly budget for planned and reactive maintenance would be in the region of £1,000,000.00.

5. COMMUNITY ENGAGEMENT & CONSULTATION

5.1 Consultation will take place in the future should part night lighting be considered.

5.2 There are no issues that would disadvantage any particular group within the city. Street lighting is universal.

5.3 The purpose of public lighting is to illuminate roads and pavements only.

6. CONCLUSION

6.1 The Street Lighting Invest to Save project is designed to provide efficient street lighting services that deliver financial and carbon savings in line with the Council's financial strategy.

6.2 The Council needs to reduce its energy and carbon usage. The adoption of LED lighting across the city could bring savings both in terms of output, and also financially. In financial terms, based on current electricity prices cost reductions of over £0.500m per annum can be achieved. After taking into account contract

cost reductions and the cost of financing this investment, the annual net savings are estimated to be £0.214m once the programme is completed.

6.3 Well-lit streets help reduce crime and fear of crime as well as providing a safer night-time street scene.

6.4 There are health and safety risks involved in failing to maintain the public highway street lighting which could have severe and costly consequences.

6.5 There is the potential for citywide benefits in terms of the introduction of smart city technology using lamp posts to incorporate sensors to measure gullies air pollution for example, and to integrate other technologies of benefit to BHCC and stakeholders, including city wide wi-fi.

6.6 The project is widely supported by the Modernisation Board and other departments who can see the potential future benefits to the city.

7. FINANCIAL & OTHER IMPLICATIONS:

Financial Implications:

7.1 It is estimated that the capital costs associated to the Street Lighting Invest to Save Proposal will be £7.956m as summarised in the table below. It is proposed that these costs will be funded from a combination of unsupported borrowing and grant funding through the Local Transport Plan (LTP) programme. The capital cost estimates have been compared to other local authorities carrying out similar projects that are considered comparable to BHCC.

	2017-18	2018-19	2019-20	**Total**
	£'m	£'m	£'m	**£'m**
Capital Expenditure:				
Electrical Works	2.318	2.318	2.318	**6.954**
Columns and Connections	0.334	0.334	0.334	**1.002**
Total Capital Costs	**2.652**	**2.273**	**2.273**	**7.956**
Funded by:				
Unsupported Borrowing	2.352	2.352	2.352	**7.056**
LTP Capital Grant	0.300	0.300	0.300	**0.900**
Total Funding	**2.652**	**2.652**	**2.652**	**7.956**

7.2 Various capital borrowing options were considered for the project, including the Public Works Loan Board (unsupported borrowing), Green Investment Bank and Salix Finance. Each loan option was considered for its value for money in terms of overall costs to the council and scheme affordability, with consideration of loan market forecasts and the council's treasury management position. It is considered that the council's cash flow management position and the ability to access historically low interest rates through unsupported borrowing over the duration of this project outweighs the benefits of other borrowing options and presents the best value for money to the council.

7.3 It is recommended to use £0.900m funding from the Local Transport Plan (LTP) capital programme over the three year expenditure profile. The LTP capital

programme is funded by Department of Transport (DfT) grants. Additional use of LTP funding for this project was considered as a way to reduce the borrowing requirement; however this would impact on the ability to deliver schemes identified within the approved Local Transport Delivery Plan (LTP 4).

7.4 The forecasted financial implications to the Street Lighting revenue budget have been modelled as presented in the table below. The net annual saving following full implementation of the scheme is forecasted to be £0.214m from 2020-21 onwards. Various assumptions and sensitives have been tested in the revenue assumptions to provide a prudent forecast. It is anticipated that the net revenue cost of £0.046m in the 2017-18 financial year will be funded from existing budgets within the Street Lighting service.

	2017-18	2018-19	2019-20	2020-21
	£'m	£'m	£'m	£'m
Additional Salary Costs	0.046	0.046	0.046	0.000
Reduction in Bulk Lamp Clean and Change Costs	0.000	(0.067)	(0.133)	(0.200)
Reduction in Electricity Costs	0.000	(0.157)	(0.314)	(0.472)
Reduction in Carbon Reduction Commitment Costs	0.000	(0.014)	(0.028)	(0.041)
Borrowing Repayments	0.000	0.159	0.328	0.499
Total Revenue Implications	**0.046**	**(0.033)**	**(0.101)**	**(0.214)**

7.5 The forecast revenue implications will contribute towards savings proposed within City Transport Integrated Service & Financial Plan presented to Budget Council in February 2016. It is anticipated that there may be additional savings associated to introducing a new Central Management System facilitating a more efficient reactive maintenance operation and potential savings from Smart Cities technology. These potential savings have not been included within the revenue implications table above as it is currently difficult to forecast. The service will continue to seek potential cost reductions associated to the project to maximise service savings.

7.6 There may also be further financial implications associated to a review of lighting stock within the Housing service. This is still subject to a detailed review and any further approvals and implications will be reported to the appropriate Committee.

7.7 Future costs of the Street Lighting service have been modelled on a 'do nothing' approach to determine the financial implications of not carrying out the project. Forecasts for energy prices suggest above inflation increases which could potentially create a significant financial pressure on the street lighting service in the long term. The proposed project will help protect the service from such potential pressures to some extent due to the reduced electricity consumption.

7.8 The recommended procurement is subject to compliance with the council's Contract Standing Orders and Financial Regulations. The council's Contract Standing Orders state that contracts above the value of £0.500m require approval from the relevant Committee or executive decision-making body. The procurement process will be prepared on a basis to maximise economy and effectiveness, and will therefore support achieving value for money. The

achievement of value for money when procuring goods and services is a key task to ensure that public money is well spent.

Finance Officer Consulted: Steven Bedford/James Hengleveld Date: 31/10/2016

Legal Implications:

7.9 The Policy, Resources & Growth Committee is the appropriate decision-making body in respect of the recommendations at paragraph 2 above, given that the values of the loan and the contract(s) required in order to implement the Street Lighting Invest to Save project are likely to have corporate financial implications.

7.10 Further, the Council's Contract Standing Orders (CSOs) require that for a contract(s) valued at £500,000 or more, approval must be obtained from the relevant committee, which in this instance is the Policy, Resources & Growth Committee.

7.11 The terms of the loan agreement will need to be considered and agreed in order to protect as far as possible the interests of the Council.

7.12 The procurement process for the contract(s) for the delivery of the Street Lighting Invest to Save project and street lighting maintenance must be undertaken in accordance with the Council's Contract Standing Orders and The Public Contract Regulations 2015.

Lawyer Consulted: Isabella Sidoli Date: 02/11/16

Equalities Implications:

7.13 The nature of street lighting is that it is universally available. In respect of all of the following areas, there are no issues that would disproportionately disadvantage any particular protected characteristic group

- Legislation
- Environmental Impact
- Maintenance
- Design
- Replacement works
- Added vaue
- Light sources
- Future strategy

Further detail is provided within the attached report.

Sustainability Implications:

7.14 The Council is committed to providing a sustainable environment for the residents of the city. The purpose of this project is to provide sustainable, energy efficient and effective lighting which considers British and European Standards.

7.15 In May 2016 the South Downs National Park became the world's newest International Dark Sky Reserve (IDSR). This project will consolidate our support

for this, through the appropriate choice of equipment to minimise upward light and reduce sky glow.

Crime & Disorder Implications:

7.16 Well-lit streets help reduce crime and fear of crime as well as providing a safer night-time street scene.

Risk and Opportunity Management Implications:

7.17 There are health and safety risks involved in failing to maintain the public highway street lighting which could have severe and costly consequences. Failure to improve or maintain street lighting adversely affect National Indicators, Best Value Performance Indicators and potential funding.

Public Health Implications:

7.18 There are health and safety risks involved in failing to maintain the public highway street lighting which could have severe and costly consequences. A do nothing approach will lead to a reduced level of service as additional savings need to be made. This could disadvantage the city and lead to an increase in crime and fear of crime and potentially impact on the economy should the public consider it unsafe.

Corporate / Citywide Implications:

7.19 The development of the LED street lighting and control system also looks to the future in terms of facilitating SMART City technologies. This is a term that covers a wide range of topics that could lead to service improvements and efficiencies and also increase the potential for revenue income through permitting other users to use the lighting infrastructure for SMART System use. Lamp columns are an ideal place for sensors that can control lighting levels, diagnose faults to lighting and thus reduce future maintenance. In addition to this though, sensors can collect information on weather, traffic, air quality, gully condition, to enable more effective data collection across the council.
Apart from sensors, columns may also be used to integrate other technologies of benefit to BHCC and citizens, including city-wide Wi-Fi and CCTV. Again, this could increase the potential for revenue income to the council.

SUPPORTING DOCUMENTATION

Appendices:

1. BHCC Street Lighting Invest to Save Business Case

Documents in Members' Rooms

None.

Background Documents

1. Street Lighting Infrastructure Investment Options Business Case of 22/01/15.