

From: Matthew Balfour, Cabinet Member for Environment and Transport

Barbara Cooper, Corporate Director Growth, Environment and Transport

To: **The Environment and Transport Cabinet Committee**

Decision No: 15/00028

Subject: Street Lighting Conversion to LED

Key decision: *Expenditure of more than £1m over the duration of the contract*

Classification: Unrestricted

Past Pathway of Paper: E & T Cabinet Committee, 5 December 2014  
Commissioning Advisory Board, 11 March 2015

Future Pathway of Paper: To the Cabinet Member of Environment and Transport for decision.

Electoral Division: All

**Summary:**

This report provides details of work undertaken to secure funding for conversion of the County Council's stock of street lights to LED. The scheme would cost around £40m and deliver an annual saving of around £5.2m on a base budget of £9.5m (running and maintenance annual cost). It also sets out details of available contract options for delivery and phasing of the works and ongoing maintenance arrangements.

**Recommendation(s):**

**The Environment and Transport Cabinet Committee** is asked to consider and endorse, or make recommendations to the Cabinet Member for Environment and Transport on the proposed decision for the conversion of street lighting stock in Kent to LED, in accordance with the expectations set out in the proposed record of decision attached at "Appendix A". This includes:

- Approval for the procurement of the services to fit and maintain the lanterns
- Award of a 15 year contract with potential extensions to the preferred bidder
- Any potential extension period is not delegated to officers owing to the length of the proposed contract

## **1. Introduction**

- 1.1 Kent County Council is one of the largest lighting authorities in the UK and has 118,000 street lights and some 25,000 lit signs and bollards. The annual cost of illuminating and maintaining the stock is over £9.5m, a cost that keeps rising.
- 1.2 As part of meeting the challenge of rising energy prices officers explored what more could be done to achieve further savings. It was found that innovation in street lighting technology could offer Light Emitting Diode (LED) products and controls that deliver ultra-efficient street lighting at affordable prices. Manufacturers now guarantee their LED products for up to twenty years. LED coupled with a Central Management System (CMS) enable complete management of street lighting including dimming, switch on/off, fault reporting, metering, etc. It will also provide complete flexibility with regard to future policy change.
- 1.3 Further work showed that converting Kent's street lights to LED with CMS would reduce the energy and Carbon Reduction Commitment (CRC) costs by a further 60% and significantly reduce maintenance costs. The conversion works would cost around £40m and deliver an annual saving of around £5.2m; this means that the scheme will pay for itself over a maximum of 8 years. The estimated cost is the result of extensive research and engagement with the market and manufacturers of LED and CMS products.
- 1.4 In 2012 a survey of the structural condition of the entire stock of street lighting columns was undertaken. This found that a number of columns had reached the end of their serviceable life and needed to be replaced. The County Council allocated £3.75m over 3 years (2013/14 –2015/16) to complement the annual capital column replacement allocation; thus far 7,500 columns have been replaced. By the end of the programme a total of £10m investment will have been made and over 10,000 defective columns will have been replaced, bringing the stock up to a good standard. Therefore only the existing conventional energy hungry lanterns need to be replaced with LED lanterns to achieve the savings.

## **2 Financial Implications**

- 2.1 The challenge was to secure sufficient funding to kick start the proposal so as to realise significant ongoing savings and environmental benefits. Officers therefore, engaged with SALIX, a Government organisation, funded by the Department of Energy and Climate Change, which provides interest free loans to the public sector for energy reduction projects. An interest-free loan of £22m has been secured. Repayment of this loan is to be funded corporately through the existing financing items budget; this means that, the resulting savings will go towards GET's MTFP targets. Applications for EU grant funding are being prepared to help towards the funding gap.

- 2.2 The proposal was endorsed by Members of the Environment and Transport Cabinet Committee on 5 December 2014. The scheme was therefore included in the Capital Programme which was approved by the County Council on 12 February 2015. It is uncertain how much funding can be secured from the EU. In the meantime, the County Council has undertaken to underwrite the £18m funding gap.

### **3 Policy Framework**

- 3.1 One of the supporting outcomes within Increasing Opportunities, Improving Outcomes; Kent county Council's Strategic Statement is Kent's physical and natural environment is protected, enhanced and enjoyed by residents and visitors. Also a key theme of the County Council's Local Transport Plan is 'Tackling Changing Climate'. This project will reduce energy consumption and carbon emissions by 60%, thus following the aspiration of Corporate Objectives.

### **4 The Report**

#### Procurement

- 4.1 In December 2014 a market engagement exercise was undertaken, involving suppliers, manufacturers and contractors. This was a non-contractual and non-binding exercise that enabled officers to gauge the market's views on funding, product choice, product reliability and longevity, guarantee, lead time, specification, delivery and long term maintenance, etc. This was followed by the development of a number of options for procurement and long term maintenance.
- 4.2 A do nothing option would cost the County Council an additional £71m in energy, CRC and maintenance costs over 15 years, this was therefore ruled out. The main options that were considered are detailed below which were the subject of discussion at the meeting of the Commissioning Advisory Board (CAB) on the 11 March 2015:

*Option 1 – The County Council Funds the Scheme, the Contractor Supplies and Installs and the County Council Manages Long Term Maintenance.*

- 4.3 This is a traditional supply and install contract. The County Council will pay a contractor to replace the lanterns with LED units and will have to enter a separate contract with a CMS provider. This type of contract normally has a defect period of between 12 and 24 months. At the end of this period the ongoing maintenance of the stock will become the responsibility of the County Council. Whilst manufacturers of LED lanterns guarantee to replace faulty products for a period up to 20 years, the installation cost of faulty units would have to be borne by the County Council.
- 4.4 This option would involve three separate contracts; LED conversion, CMS provider and ongoing maintenance by the County Council's Term Maintenance Contractor (TMC). This presents significant risk to the County Council, therefore CAB recommended not to proceed with this option.

*Option 2 – The County Council Funds the Scheme and the Contractor Supplies and Installs and Manages Long Term Maintenance.*

- 4.5 This is essentially a Term Maintenance Contract which involves the County Council entering into a long term contract with a contractor. The County Council will pay the contractor to replace the existing lanterns with LED units, install all necessary CMS components and software. The contractor will hold the necessary warranties with LED and CMS component suppliers and will undertake maintenance of the stock for the duration of the contract. The new contractor will also assume responsibility for the maintenance of the existing street lighting stock and lit signs and bollards at an agreed point during the installation of the works.
- 4.6 This option involves a single provider and brings significant benefits ranging from an interest-free loan from Salix, possible grant funding (from DfT and EU) and access to technology advancement. It also begins to deliver savings as soon as the conversion begins which will increase as the scheme progresses, reaching £5.2m annually on completion. This presents the most benefit to the County Council and was endorsed by CAB.

*Option 3 – The Contractor Funds the Scheme, Supplies and Installs and Manages Long Term Maintenance.*

- 4.7 This is as Option 2 above but the contractor will fund the scheme and recover the costs through an annual charge to the County Council.
- 4.8 This option is very much akin to a PFI; whilst this brings certain benefits such as no up-front costs, it also carries significant risks in that the County Council would be locked into a relatively rigid agreement and in doing so would potentially be rejecting £22m of interest free loan and “free” DfT Challenge Fund monies. Even if such a partner could be found who was willing to fund this from their own reserves, then a margin would still be charged for lost interest and the risk of committing £40m up front, which will cost comparatively more than the free/interest free funding under Options 1 & 2 above. This means that a significant proportion of the annual savings would have to be set aside to service this when there is an immediate need for base revenue savings to be delivered. Various other funding options have also been explored, including funding agencies who have partnered with potential suppliers, but the rates of interest indicated do not compare well with Salix/DfT funding. Given the above and that Salix/DfT/EU funding are all viable funding sources, it is highly unlikely that this option (Option 3) would represent value for money. This presents significant risk to the County Council, therefore CAB recommended not to proceed with this option.

### *Contract Length*

- 4.9 LED manufacturers guarantee their products for up to 20 years. However, ballasts (device that regulates power input, transformer) and CMS components have an estimated serviceable life of up to 15 years only. Specifying longer guarantee for the latter two will increase their unit costs significantly. This is because manufactures would have to carry the risk of late life failure. Furthermore, advancement in development of electronic equipment in recent years has been rapid. A 20 year contract would restrict the County Council's opportunities and may prevent it from taking advantage of emerging technologies in this industry.
- 4.10 A minimum contract term of 15 years (plus extension period) will therefore provide the best balance of cost and risk. The County Council will have the opportunity to negotiate with the contractor a replacement programme of certain component (CMS nodes and ballasts); alternatively, it may wish to procure these components through the open market. Furthermore, technology advancement may be such that it may negate the need for this upgrade, an entirely different strategy may bring greater benefit 15 years hence. CAB recommended that a contract period of 15 years plus possible extension would provide the best balance of cost and risk.

### *Phasing*

- 4.11 Residential areas will be converted first. As part of recent works in these areas, we have collected significant data on accessibility, vegetation issues and traffic management requirements in respect of each streetlight for future visits. Given the low speed environment in most residential areas, traffic management requirements would be minimal in many of these roads. This element of the works is therefore relatively uncomplicated and could be completed over 12 months. Exact details of the implementation programme will be developed with the successful contractor and will be communicated with the community.
- 4.12 Main roads and town centres for which greater design and traffic management is required, would then follow and be completed within 18 – 24 months. The entire scheme will therefore take 3 years to complete. A communication strategy is being developed to ensure members and the community are provided with regular updates on the progress of the scheme.

### *Additional Elements*

- 4.13 Certain elements of the works will remain the responsibility of the County Council, these are listed below.
- Replacement of life-expired columns – There is already a regime in place, funded through the annual capital allocation.
  - Accident Damage – The cost of replacing damaged columns are largely recovered from insurance companies.

4.14 The 25,000 lit signs and bollards will be maintained by the contractor similar to the current TMC (schedule of rates basis) initially. On completion of the LED conversion works, repayment of Salix loan could be recycled to fund the cost of converting these to LED. On completion, these will become part of the LED contract and be maintained the same way as LED street lights.

#### *Other Issues*

4.15 There are no legal implications as a result of the suggested action.

4.16 As part of preparing for the scheme, an Equalities Impact Assessment is being completed. Early indications suggest that there is no adverse effect. Any possible impacts will be become fully evident when the assessment is complete and appropriate mitigations will be identified and addressed.

4.17 As part of preparing for the scheme, an investigation into any potential health or environmental impacts is being completed. Early indications suggest there is no adverse effect. Here too, any possible impacts will be become fully evident when the assessment is complete and. appropriate mitigations will be identified and addressed.

4.18 There are no implications to the Council's property portfolio.

4.19 The Executive Scheme of Officer Delegation will provide the governance pathway to allow officers to take any necessary actions to implement the decision once taken. As the cumulative value of the contract throughout its duration would exceed £1 million pounds, it will need to be 'signed under seal' by the Council's legal team.

## **5 Conclusions**

5.1 Street lighting costs around £9.5m annually, a cost which is likely to keep increasing reflecting energy costs and CRC.

5.2 Energy efficient LED equipment combined with a CMS will reduce costs by around 60% resulting in an annual saving of £5.2m from a base budget of £9.5m.

5.3 Key benefits of a 15 year contract (including extensions) where the County Council funds the scheme and a contractor converts and maintains the stock are as follows:

- One contractor with ownership and delivery of all services and warranties.
- Long term partnership.
- Access to technology advancement.
- Refitting of faulty lanterns and CMS components will the responsibility of the contractor.
- Control and flexibility over innovation and changes in market.

- Failure of CMS provider and lantern manufacturer warranty is contractor's risk.

5.4 Funding of £22.5m has been secured through an interest free loan from SALIX. There is an opportunity to secure a grant via the EU towards the £18m funding gap..

## **6. Recommendation(s):**

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## **7. Background Documents**

Link to the Safe and Sensible Street Light – LED Conversion report to the Environment and Transport Cabinet Committee on the 5 December 2014.

<https://democracy.kent.gov.uk/documents/s49950/1400132%20Safe%20and%20Sensible%20Street%20Lighting%20-%20LED%20Conversion.pdf>

LED Street Lighting Conversion Scheme – Procurement Strategy report to the Commissioning Advisory Board on the 11 March 2015.

## **8. Contact details**

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