STREET LIGHTING – INVEST TO SAVE PROGRAMME PHASE 2

WARDS AFFECTED

All

EXEMPT/CONFIDENTIAL ITEM

NO

1. PROPOSED DECISION

To include in the Capital Programme for 2015/16 onward, an investment of £2.978m to improve street lighting performance and quality. The revenue cost of this capital investment will be £166k per year.

2. JUSTIFICATION FOR THE DECISION

2.1 The Budget Strategy approved by Cabinet on 24 June 2015, addresses the key factors identified in the Government’s Budget Deficit Reduction Strategy. Modelling of all known factors introduces a £23m budget gap, this is due to the £19.2m grant reduction, the additional National Insurance contributions and the effects of inflationary pressures within the budget.

2.2 Zero Based Reviews will be used to establish any further areas of efficiency, priority services and improvements in Value for Money. A minimum initial savings options target of £1.835m has been set for the Transport, Housing & Community Safety portfolio.

2.3 The savings of £1.835m will, in part, be delivered by the generation of options, of which this recommendation will contribute to the savings target to the value of £197,389

2.4 An investment of £2.978m would enable 9,705 obsolete and inefficient street lighting luminaires to be replaced with energy efficient LED units, achieving a theoretical energy saving of £422,101 per annum at today’s energy prices. This should produce an estimated reduction to the Energy Budget of £363,389 in 2017/18, when the new lanterns have been installed.
2.5 The investment will significantly improve the quality of light within the highway boundary. This will apply equally to the high speed roads and residential areas where new lanterns are fitted. The lighting of highway has benefits in terms of highway safety; (prevention of accidents). It also improves the feeling of well being, and safety of residents. Its continued provision is valued. The proposed improvements to lighting do not include any planned turn off of lights during periods of low overnight activity.

3. FACTS SUPPORTING THE PROPOSED DECISION

3.1 St Helens Council operates and maintains 23,500 street lighting units within the Borough. The number of lighting units has increased slightly over the years as new developments have been added to the highway network. There has also been an improvement of the level of lighting, by using higher wattage lamps, to combat the fear of crime and anti-social behaviour and to satisfy residents’ concerns about safety.

3.2 The provision of street lighting in residential areas has a fundamental role in delivering community safety outcomes. It reduces the incidence of crime and the fear of crime. This was an outcome identified by the National Police Pilot for Reassurance Policing, that was undertaken in St Helens.

3.3 The quality of lighting in terms of public satisfaction has been subject to exploration via the Better Lighting in Sustainable Streets (BLISS) European Project. The learning from that programme has been incorporated into the specification for the LED lanterns now used by the Council.

3.4 The Council has adopted a unified approach to delivery of new developments in terms of all street scene items. This means that LED lighting features in all new developments.

3.5 Street lighting energy consumption has increased and the costs of purchasing that energy have risen from £457,875 in 2002/3 to £1,327,000 in 2013/14, which is approaching a threefold increase.

3.6 The life of a street lighting column is considered to be 30 years although this is often extended to 40 years. Over the last 15 years, St Helens Council has steadily invested in replacing its street lighting (comprising the columns, lanterns and control equipment) when these have shown signs of deterioration.

3.7 This programme of investment in replacing obsolete street lighting has ensured that the condition of the street lighting columns in the Borough is relatively satisfactory and better than most comparable authorities. However the street lighting lanterns, many of them over 30 years old, are now generally considered to be obsolete and inefficient. The lanterns use outdated lighting technology and new LED lanterns are able to deliver better performance but only consume a third of the energy.

3.8 A first phase of an “Invest to Save” street lighting programme was approved by Cabinet in February 2013. The installation programme is nearing completion and was originally predicted to deliver energy savings of £212,000 per annum for an expenditure of £1.7m. The programme of works is shown below:-
<table>
<thead>
<tr>
<th>Description</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Ballast Tapping Programme (70w SON replaced by 50w SON)</td>
<td>4,417</td>
</tr>
<tr>
<td>2 250w SON CMS Retrofit Programme (A570 &amp; A580) (Electronic control gear and CMS)</td>
<td>598</td>
</tr>
<tr>
<td>3 LED Luminaire Replacement Programme in Residential Roads (70w SON replaced by LEDs)</td>
<td>1,881</td>
</tr>
<tr>
<td>4 250w SON LED Replacement Programme (250w SON replaced by LED lanterns)</td>
<td>806</td>
</tr>
<tr>
<td>5 Luminaire Refurbishment Programme (now LED Replacement Programme) (70w SON replaced by LED lanterns)</td>
<td>2,000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>9,702</td>
</tr>
</tbody>
</table>

3.9 It is now predicted that the energy savings will amount to the equivalent of £232,000 per annum. However it should be noted that these savings are reductions from the energy costs which the Council would have paid, had we not embarked on an “Invest to Save” Programme.

3.10 When the “Invest to Save” Cabinet Report was approved in February 2013, the unit price of energy was 10.86 pence in the Energy North West area and 10.93 pence in the Scottish Power area. These prices, for 2015/16, have increased to 12.58 pence and 11.86 pence (16% and 8.5% increases) respectively, (ie over 3 financial years).

3.11 If we had not carried out energy reduction measures, our annual energy bill, due to these price increases would now be £1,504,950. It is predicted that the energy bill for 2015/16 will be £1,320,000 (a £184,950 reduction) and that the energy bill will reduce to £1,273,000 (a £232,000 reduction) when the impact of a full year of the energy savings takes effect. This figure of £1,273,000 is the base budget figure for energy consumption at 2015/16 energy prices.

**Proposed Phase 2 Invest to Save Programme**

3.12 The second phase; “Invest to Save 2” street lighting programme is predicted to deliver energy savings of £422,101 per annum at today’s prices for an investment of £2,978,640. The detailed proposals are indicated in the table below.
<table>
<thead>
<tr>
<th>Description</th>
<th>No.</th>
<th>Cost</th>
<th>Energy Saving (p.a.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 150w SON on Distributor Roads replaced with 40 unit LED lanterns</td>
<td>3,108</td>
<td>£1,243,200</td>
<td>£167,937</td>
</tr>
<tr>
<td>2 250w SON on Major Distributor Roads replaced with 100/120 unit LED lanterns</td>
<td>787</td>
<td>£409,240</td>
<td>£88,952</td>
</tr>
<tr>
<td>3 70w SON in Residential Roads replaced with 20/30/40 unit LED lanterns.</td>
<td>3,831</td>
<td>£766,200</td>
<td>£120,553</td>
</tr>
<tr>
<td>4 180w SOX on Distributor Roads replaced with 40 unit LED lanterns.</td>
<td>94</td>
<td>£37,600</td>
<td>£7,284</td>
</tr>
<tr>
<td>5 135w SOX on Distributor Roads replaced with 40 unit LED lanterns.</td>
<td>34</td>
<td>£13,600</td>
<td>£1,873</td>
</tr>
<tr>
<td>6 90w SOX on Distributor Roads replaced with 40 unit LED lanterns.</td>
<td>93</td>
<td>£37,200</td>
<td>£2,522</td>
</tr>
<tr>
<td>7 35w SOX in Residential Roads replaced with 20/30/40 unit LED lanterns.</td>
<td>1,158</td>
<td>£231,600</td>
<td>£19,732</td>
</tr>
<tr>
<td>8 50w SON in Residential Roads replaced with 20/30/40 unit LED lanterns.</td>
<td>600</td>
<td>£120,000</td>
<td>£13,248</td>
</tr>
<tr>
<td>9 Fees for design, procurement and site supervision</td>
<td></td>
<td>£120,000</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>9,705</td>
<td>£2,978,640</td>
<td>£422,101</td>
</tr>
</tbody>
</table>

3.13 The energy savings are based on unit energy prices at today’s date (August 2015). Average unit energy prices have risen by **10.38%** between 2012/13 and 2015/16. (See Paragraph 3.10). Weightings have been applied to reflect installations in different energy areas).

3.14 If similar price increases occur over the next 2 years, overall energy costs could rise by 6.9%, increasing our existing street lighting energy bill of £1,273,000, by £87,837 to **£1,360,837** in 2017/18. However, the savings of £422,101 identified in the table, would also increase by 6.9% to **£451,226**. Therefore the proposals identified in this report would reduce this projected energy bill to £909,611 (£1,360,837 - £451,226) in 2017/18.

3.15 It is assumed that there would be no increase in the available Council budget to meet any increase in unit costs of electricity in the future. The budget of **£1,273,000** for energy in 2015/16 is therefore assumed to be the base energy budget for 2017/18. Therefore, the savings to the Energy Revenue Budget in 2017/18 would be **£363,389** (£1,273,000 - £909,611).

3.16 Due to the need to design each lighting installation, the protracted tendering procedure and the lengthy delivery time for LED lanterns, it is unlikely that any of the LED lanterns would be installed before April 2016. Some energy savings would be achieved in 2016/17 but the full energy savings would not be delivered until 2017/18.
4. **RISKS**

4.1 **Risks Associated with the proposed Decision**

4.1.1 There is a risk that the purchase price and installation costs of LED lanterns will rise and that the outputs will not all be delivered within the identified budget. However, over the last five years, the unit costs of LED lanterns have fallen and it is anticipated that there will be further, albeit slight, cost reductions in future.

4.1.2 Energy costs may rise faster than the 6.9% allowed for in this report. This would cause additional budget pressures. However, if we do nothing, we will be paying even higher overall energy costs in the future.

4.1.3 There is little the Council can do to stop energy price increases although we are part of a consortium which buys energy through YPO at the most competitive rates.

4.2 **Should this Risk be added to the Corporate Risk Register?**

NO

5. **OTHER IMPLICATIONS**

5.1 Legal - None

5.2 Financial – The estimated cost of the proposed programme of works is £2.968m. The indicative saving in energy costs, at today’s prevailing charges for power and its transmission, is **£422,101** per annum.

If unit energy prices rise at the same rate as they did between 2012/13 and 2015/16, and we carried out no further energy reduction schemes the overall energy bill would increase from £1,273,000 to **£1,360,837**. The savings identified in this report would also increase from £422,101 to £451,226.

Based on the projected increase of energy rates and a reduction in consumption, the savings to the energy budget (which is assumed will not be increased if unit energy costs rise) is predicted to be **£363,389**.

The annual revenue cost of the capital investment will be £166k which will be offset against the energy savings producing an overall net saving of £197,389

5.3 Human Resources – None

5.4 Land and Property (Assets) - None

5.5 Anti-poverty - None

5.6 Effects on existing Council Policy - None

5.7 Effects on other Council Activities - None
5.8 Human Rights - None

5.9 Agenda 21 – This project will assist the Council in meeting its Carbon Reduction commitment

5.10 Equalities –

A Community Impact Assessment is attached to this report.

The assessment has raised the following positive or negative impact for staff or service users as outlined below:

- Race (Ethnicity)
- Disability and Carers
- Gender
- Gender Reassignment
- Age
- Sexual Orientation
- Marriage and Civil Partnership
- Pregnancy and Maternity
- Religion

None

Asset Management - None


6. PREVIOUS APPROVAL/CONSULTATION

None

7. ALTERNATIVE OPTIONS AND IMPLICATIONS THEREOF

The alternative is to not undertake this energy efficiency programme. However this would not address the inefficiency of the existing street lighting installations and the continuing rise in energy costs.

8. APPENDICES

None

P Sanderson
Director of Environmental Protection
The Contact Officer for this report is Rory Lingham, Assistant Director, Engineering, Wesley House, Corporation Street, St Helens, WA10 1HF

BACKGROUND PAPERS

The following list of documents was used to complete this report and they are available for public inspection for four years from the date of the meeting, from the Contact Officer named above:

None
1. **Title of Function:** Street Lighting: Invest to Save (Phase 2)  
**Service:** Engineering  
**Department:** Environmental Protection  
**Responsible Officer:** Rory Lingham  
**Date Completed:** Thursday, 13th August 2015  

**Aims:** Please identify the main aims of the policy, decision or function?  

<table>
<thead>
<tr>
<th>Issue</th>
<th>How will this be taken into account?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy lifestyles/risk taking behaviour</td>
<td>Improved quality of lighting will encourage walking and cycling at night, encouraging physical activity.</td>
</tr>
<tr>
<td>Physical Activity</td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td>Improved lighting will contribute to a safer environment with potentially less injury accidents.</td>
</tr>
<tr>
<td>Public safety and hazards</td>
<td></td>
</tr>
<tr>
<td>Efficiency</td>
<td>Replacing older, less efficient lighting with new lighting will reduce energy consumption by between 60% and 75%. The lamps have an expected life of 20 years compared with 4 years for traditional discharge lighting. The lighting is programmed to dim during the small hours to reduce energy consumption.</td>
</tr>
<tr>
<td>Energy Consumption</td>
<td></td>
</tr>
<tr>
<td>Reduced energy consumption leads to reduced carbon production/greenhouse gas emissions.</td>
<td></td>
</tr>
<tr>
<td>Air quality and greenhouse emissions</td>
<td></td>
</tr>
<tr>
<td>Waste minimisation, reuse, recycling</td>
<td>The increased life of the lamps reduces waste</td>
</tr>
<tr>
<td>The Local “Low Carbon” Economy</td>
<td>See comments above.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Equality Strand

<table>
<thead>
<tr>
<th>Issue</th>
<th>How will this be taken into account?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to facilities, information, guidance, help and support</td>
<td>The contracts for supply and works have both been subject to the Procurement Equality Standard</td>
</tr>
<tr>
<td>The elimination of discrimination, harassment and victimisation</td>
<td>It is not perceived that this decision will affect access to footways.</td>
</tr>
<tr>
<td>Valuing local history and heritage. Promoting a positive attitudes toward disability</td>
<td>Improved lighting will encourage residents to walk and cycle during hours of darkness, thereby improving community contacts.</td>
</tr>
</tbody>
</table>

3. **Indirect discrimination**

   Are there any rules or requirements in the policy / decision that:
   
   a) Can be met by a considerably smaller proportion of people from a particular section of the community?
   
   b) Is to the disadvantage of that group?
   
   c) Cannot be justified by the aims and importance of the policy?

   If all three conditions apply then there may be evidence of indirect discrimination.

   No

4. **Publishing the results of the assessment:**

   This Impact Assessment Report must be used to inform Decisions, Scrutiny Reviews, Service Level Agreements Service and Contract specifications, policy or service evaluations and reviews. The key issues from the impact assessment must be included within the documents, and the impact assessment must be attached.