



REPORT TO: ECONOMIC GROWTH, HOUSING AND ENVIRONMENTAL SUSTAINABILITY COMMITTEE ON 8 JUNE 2021

SUBJECT: INFORMATION REPORT: STREET LIGHTING LED INVEST TO SAVE PROJECT UPDATE

BY: DEPUTE CHIEF EXECUTIVE (ECONOMY, ENVIRONMENT AND FINANCE)

1. REASON FOR REPORT

- 1.1 To inform the Committee with a closing report following the substantial completion of the LED Spend to Save Project.
- 1.2 This report is submitted to the Economic Growth, Housing and Environmental Sustainability Committee following a decision of Moray Council on 17 June 2020 to agree a simplified Committee structure as a result of the COVID-19 pandemic. In the case of this Committee the combining of the delegated responsibilities of Economic Development and Infrastructure, Community Services (Housing and Property) and Finance (budget, capital and revenue monitoring) (para 9 of the minute refers).

2. BACKGROUND

- 2.1 The Councils internal audit section have recently undertaken an audit of the project, which was reported at Audit & Scrutiny Committee on 14 October 2020 (paragraph 4 of the Minute refers). As part of the recommendations from the audit it was identified that management should provide the service committee with an update report outlining the benefits derived from the capital investment.
- 2.2 The Council approved a change to the Capital Plan at a meeting of the Moray Council on 11 November 2015 to allocate resources to a LED Spend to Save project (para 24 of the minute refers). This proposed project involved the fitting of new LED Street Lighting Lanterns as a replacement for the existing SOX/SON type lantern stock. It was reported at that time that by changing to LED technology, the Council would benefit from lower energy consumption, reduced maintenance visits and carbon levy costs.
- 2.3 The programme involves the replacement of some 17,500 lanterns, mainly by the council's in-house lighting team. The approved estimated cost was £5 million, with works scheduled to be delivered over a five year period.

3. SCHEME PROGRESS

- 3.1 Table 1 below shows the key facts around the LED Spend to Save project.
- 3.2 As the project has progressed the unit cost of installing LED lanterns reduced due to a combination of improved productivity of site operations as well as reduced lantern procurement costs, which are detailed in Section 5 of this report.

Table 1 – LED cost installation summary

Year	Expenditure	Units Installed	Unit Cost
2015/16	£ 218,000	445	£ 490
2016/17	£ 1,110,000	3,306	£ 336
2017/18	£ 867,000	4,380	£ 198
2018/19	£ 922,000	4,909	£ 188
2019/20	£ 666,000	3,614	£ 184
2020/21	£ 78,000	493	£ 158
2021/22**	£ 257,000	759	
Totals	£ 4,118,000	17,906	

** Budget allocation with anticipated carry-forward, along with projected installations

4. FINANCIAL OVERVIEW

- 4.1 The capital costs of purchasing and installing new lanterns to date are substantially below budget, with the expected outturn for the project forecast at £4.118m. The cost reduction, based on the £5m originally allocated is due principally to optimisation of lantern procurement costs achieved through a retendering process undertaken in year 2 of the works.
- 4.2 Council officers were able to secure an interest free loan of £500k from SALIX in 2017/18 (a non-departmental public body who enable public organisations to tackle climate change by increasing their energy efficiency) thereby saving capital borrowing interest costs.
- 4.3 The council also benefited from a £123k grant from Central Energy Efficiency Fund (CEEF) which was allocated to this project.
- 4.4 The combination of interest free loan and grant funding was to reduce the borrowing requirement for this project by £613,000 and thus reduce loan charges by around £36,000 per annum.

5. LANTERN SELECTION

- 5.1 In order to comply with Council's Financial Procedures, a rigorous design and procurement process was undertaken in 2016/17 to identify the most suitable method for procuring LED lanterns.
- 5.2 The procurement of lanterns was then carried out via a mini-competition using an existing Scotland Excel (SXL) Framework for the purchase of Street Lighting materials. The award evaluation methodology provided in

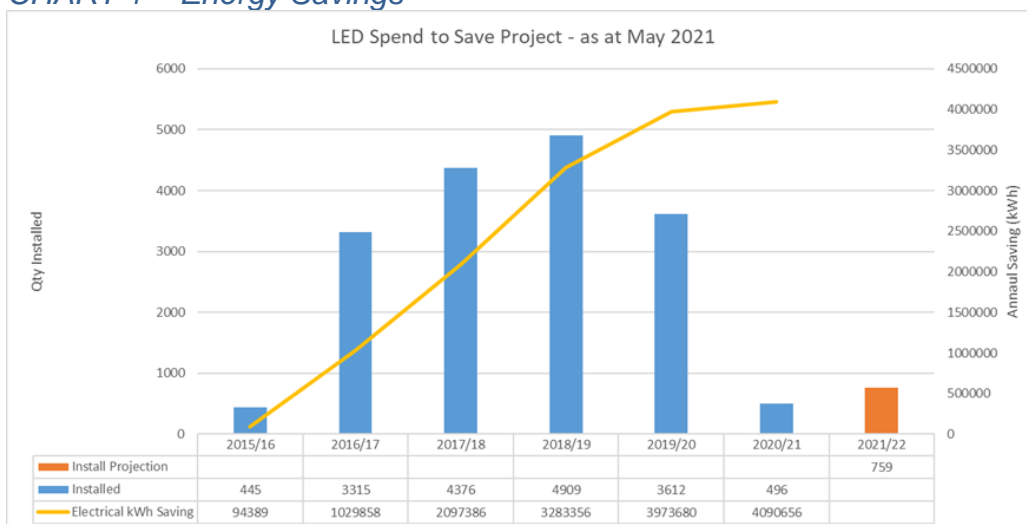
the framework used a combination of the offer price submitted along with an independent evaluated score on the ability of the offered lantern to meet the SXL specification.

- 5.3 The first mini-competition was issued in January 2017 for the supply of 1000 lanterns. Following evaluation the contract was awarded to Urbis Schröder Ltd
- 5.4 Following the success of the first mini-competition, officers decided to continue with this procurement method but with additional specifications that would allow greater operational benefits such as pre-wired lanterns and a reduced range of lantern types.
- 5.5 The second mini-competition was issued in July 2017 for 5000 lanterns, and with provision to increase the number of lanterns at the same terms should it be agreeable between both parties. Urbis Schröder Ltd were the successful supplier again, and the optional increase in lantern numbers was also taken up.
- 5.6 The project was audited recently by the Council’s Internal Audit section. This audit recognised in particular the work done by the lighting team to reduce the cost of lanterns by moving to a single supplier in year two via a procurement tender exercise. This move resulted in a reduction in the average unit cost of lanterns, from £242 down to £137. This saving has had a significant influence in the overall costs of delivering the project coming under budget.

6. REVENUE SAVINGS AS A RESULT OF THE PROJECT

- 6.1 Associated revenue costs in respect of electricity charges have clearly reduced year on year as more lamps are replaced (as shown in CHART 1 below).

CHART 1 – Energy Savings



- 6.2 As at the time of writing this report, 95% of the project has been completed

with energy consumption dropping by 67% compared to that being used prior to project inception. This saving in energy consumption equates to a reduction in the councils carbon footprint of over 5000 tonnes of CO² to date, with additional ongoing projection of 954 tonnes per annum.

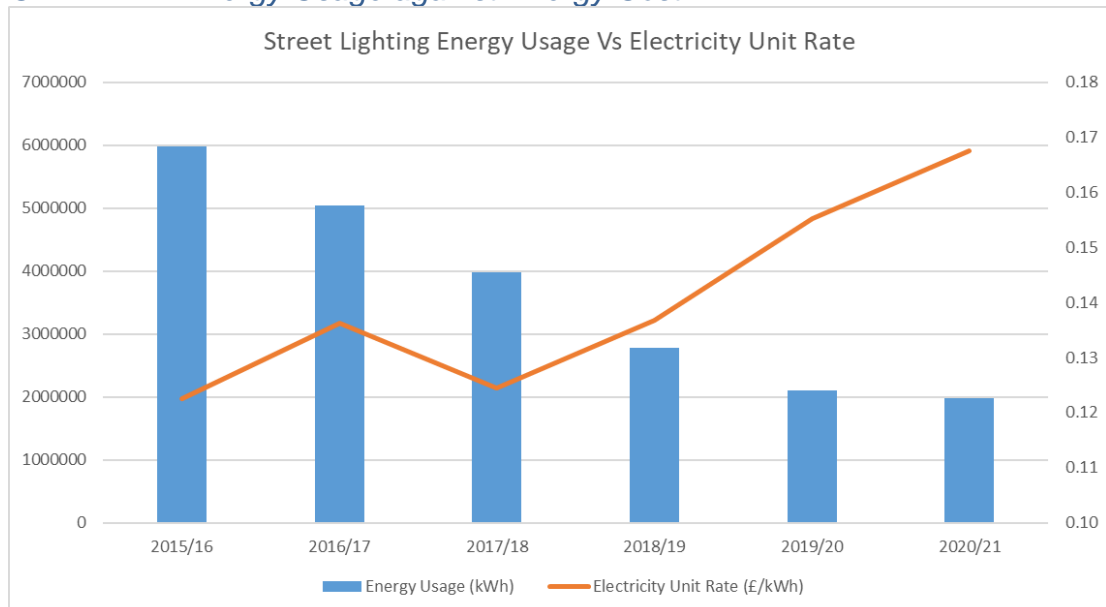
6.3 This reduction in energy consumption equates to a saving of £508,000 per annum when calculated using the rates for electricity and carbon reduction commitment at the start of the project (2015/16). However, when calculated using the rates we are currently paying for electricity this figure increases to £695,000 per annum, with no allowance for carbon reduction commitments as this scheme ceased during the life of the project.

6.4 The original payback period for this project was estimated at 9.26 years based on the original investment of £5m. However with the additional savings documented in this report, the payback period has reduced to 5.10 years based on an investment of £4.118m, and the increase in energy costs. This is shown in the table below

	Business Case	Current
Project Investment (over 5 Year)	£ 5,000,000	£ 4,118,000
Carbon Reduction Commitment (2014 tax level of £16/tonne)	£ 33,246	£ -
Energy Cost Reduction	£ 404,135	£ 695,830
Maintenance Cost Saving	£ 102,555	£ 112,000
Annual Savings Total	£ 539,936	£ 807,830
Payback Years (Investment / Saving)	9.26	5.10

6.5 As shown in the table above, the biggest factor in the improved savings achieved by this project is the increase in the Energy Cost Reduction. The reason for this increase is that during the life of the project the unit rate of electricity increased by over 40% (12p in 2015/16 to 17p in 2021/22), and had the project not taken place this cost would have been a budget pressure on the Council. Another factor in the additional reduction in energy costs is that the amount of energy saved as a result of installing LED Lanterns was greater than originally estimated by approx. 25%. The graph below shows that as the councils energy consumption fell, the unit rate of electricity increased.

CHART 2 – Energy Usage against Energy Cost



7. COMMUNICATION STRATEGY

- 7.1 Officers recognised that this project would attract a lot of public attention as we upgrade lighting from the traditional yellow/orange coloured lighting to modern white LED lighting.
- 7.2 A webpage (www.moray.gov.uk/LED) was created to provide the public with more information about the project.
- 7.3 This webpage contains a FAQ section which provides answers to common questions regarding these type of works.
- 7.4 The webpage also reports on progress with the project by showing the number of installs completed, as well as the annual energy and CO² savings achieved.
- 7.5 The service also engaged in PR campaigns with news articles on our own website as well as in local newspapers.
- 7.6 In an attempt to keep all council staff appraised of the scheme, the project featured in the internal staff newsletter (Connect).

8. WHAT WENT WELL

- 8.1 The most important achievement is that the project is expected to be completed significantly under budget.
- 8.2 The importance of engaging and appointing a single lantern supplier cannot be under estimated. The internal audit also recognised this point as having had a significant influence in the success of the project.
- 8.3 The project would have been completed within the specified 5 year period had it not been for the significant disruption of the Covid-19 pandemic.
- 8.4 The project was designed and managed using only in-house resources.
- 8.5 The majority of the installations were carried out by our internal DLO with only a small percentage of installs carried by an external contractor in the initial years to help kick start the project.
- 8.6 As a result of this project and move to LED lighting, these works have had a significant contribution to our area being given 'Dark Sky status.'

9. SUMMARY OF IMPLICATIONS

(a) Corporate Plan and 10 Year Plan (Local Outcomes Improvement Plan (LOIP))

Several objectives of these plans are influenced by the condition of the public roads network. Effective budget management is an essential component of delivery of Council priorities on a sustainable basis.

A Growing, Diverse and Sustainable Economy – the public road network is used by all sections of society, to access shops and services and to transport goods within and to and from Moray.

Empowering and connecting communities – road and footway hazards have the potential to cause injury. Enhance street lighting provision contributes to making communities safer.

(b) Policy and Legal

The Council is responsible for the maintenance of 1555km of road network which have been adopted by the Local Authority in terms of the Roads (Scotland) Act 1984. The Act places a duty on the Local Authority to maintain the roads, lighting units and structures so adopted, but does not prescribe the level of maintenance to be delivered.

Codes of Practice for Highway Maintenance Management, Management of Highway Structures and for Highway Lighting Management identify good practice and consideration has to be given to this advice.

(c) Financial implications

There are no financial implications as a result of this report. This project was a send to save project and the savings have been successfully secured.

(d) Risk Implications

There are no risk implications as a result of this report.

(e) Staffing Implications

There are no staffing implications as a result of this report.

(f) Property

There are no property implications as a result of this report.

(g) Equalities/Socio Economic Impact

There are no equalities implications as a result of this report.

(h) Consultations

Depute Chief Executive (Economy, Environment and Finance), Head of Environmental and Commercial Services, Chief Financial Officer, Legal Services Manager, the Equal Opportunities Officer and L Rowan, Committee Services Officer have been consulted and any comments taken into consideration.

10. CONCLUSION

10.1 The report highlights the success of the LED Spend to Save project which is nearing completion. The project will be delivered significantly under budget, has achieved the financial savings in regards to energy, carbon and maintenance costs and seen the capital investment payback period reduced by over four years.

Author of Report: Mark Atherton, Roads Maintenance Manager

Background Papers:

Ref: SPMAN-524642768-459