

Report

Cabinet Member for Streetscene

Part 1

Date: 1 February 2019

Subject Street lights conversion to LEDs

Purpose To advise on the progress and options available following financial appraisal of the LED lighting tender.

Author Head of City Services / Highways and Engineering Service Manager

Wards All Wards

Summary The tenders for the replacement of all streetlights with LEDs has been evaluated and the savings present an opportunity to reduce the hours of part time lighting. The net saving from the proposed option is £211K per annum.

Proposal That the Cabinet Member notes the results of LED tender and considers a reduction in the hours of part time lighting.

Action by Head of City Services

Timetable Jan 2019- Dec 2019

This report was prepared after consultation with:

- Head of Finance
- Energy and Sustainability Manager

Signed

Background

1. In 2012 NCC took the lead in Wales through the introduction of part-time night lighting of alternate lights throughout the City, achieving significant savings in energy costs. However, in 2016/17, street lighting still represented 20.8% of the NCCs total spend on energy and 32% of total electricity cost. Due to these high proportions, street lighting has been identified as the number one priority area for energy and carbon reduction.
2. The Council's street lighting asset consist of 18,519 luminaires, 3,262 of which are either already LED or due to be changed to LED in the near future. Currently, each time a standard luminaire is beyond economical repair, an LED replacement is installed. This policy is not delivering the full benefits that a large scheme could.
3. Converting all Newport's street lighting to LEDs will reduce the Council's direct carbon emissions by 6.5% per year, a major step towards being carbon neutral by 2030.
4. In March 2018 a 0% interest Salix loan for up to £3.3m was secured to cover the investment, the LED replacement project was approved in June 2018 and tenders where sort.

Outcome of tender

5. The original business case estimated that the net benefit in the first year after project completion was estimated to be £32k. This accounts for the repayment of the Salix loan over 10 years. Based on the results of the tender exercise and further detailed modelling, the savings are estimated to be significantly higher, largely due to lower capital costs.
6. The City Services lighting engineer has carried out a range of tests on the winning supplier to confirm that the requirements of BS5489 EN13201 are met, in line with the code of practice for road lighting. An independent consultant has also verified these results and also evaluated the running current and colour temperature. All luminaires passed the evaluation.
7. In line with guidance from dark sky association and other environmental groups, the light source will be capped at 3,000 Kelvin. This avoids the harsh glare from high Kelvin LED lighting and more closely mimics the impact of a high-pressure sodium light. Concerns have been raised that LEDs above 4,000 Kelvin can have a negative impact on nocturnal wildlife and natural nightscapes.
8. Energy savings are largely driven by the fact that LED bulbs requires far less energy to produce the same output traditional high-pressure sodium ones. However, there is some additional saving from a better ability to focus the light on the road, reducing misdirected light.
9. Given the significant additional savings, consideration has been given to reducing the length of time that the part time lighting operates.
10. Currently every other street light goes off at 10:00 until 06:00am, this policy was introduced in 2011 to maximise savings. However, the introduction of LEDs and subsequent saving on energy usage means that that any reduction in the hours of part lighting is more affordable. As such, an option to reduce the part lighting period to 00:00 until 06:00am has been considered.
11. The financial evaluation estimates the net savings from replacing all the streetlights at £240K per year, net of the repayment of the Salix loan.

Financial Summary

12. Based on the winning tender, the capital requirement to convert all remaining lighting columns to LEDs is £3,036k. This will be financed by the Salix loan, repayable over 10 years at 0% interest rate.
13. This installation of the new bulbs will be carried out over a 10-month period, meaning that the full saving will be delivered for 2020-21 financial year.
14. The net annual saving after accounting for the capital repayment would be £240k (option 2) but if part time lighting hours are reduced to 12am to 6am, then the net annual saving would be £212k as shown in the table below.

	Option 1 Part Night 22:00-06:00	Option 2 Part Night 00:00-06:00
One off Implementation cost incl. luminaire purchase and installation, traffic management and corroded columns	£2,860,791	£2,860,791
Photocell purchase and installation	£175,224	
Total Implementation Cost	£3,036,015	£2,860,791
Annual Loan Repayment (10 years)	£303,602	£286,079
Increased Maintenance Cost	£63,600	£63,600
Energy Bill Reduction	£579,512	£589,821
Net Annual Saving	£212,310	£240,142

Risks

Risk	Impact of Risk if it occurs* (H/M/L)	Probability of risk occurring (H/M/L)	What is the Council doing or what has it done to avoid the risk or reduce its effect	Who is responsible for dealing with the risk?
Large increase in admin support needed to process installations	H	L	A temporary additional admin resource will be dedicated to this function	Highway & Engineering Service Manager
Bulbs failing to meet the required standard	M	L	Bulbs have been tested and tender specification met	Highway & Engineering Service Manager

Links to Council Policies and Priorities

This proposal supports the Corporate Plan 2017-22 and the Well-being Plan 2018-23.

Corporate Plan

Objective 2 – To promote economic growth and regenerations whilst protecting the environment (reducing energy usage)

Objective 3 – To enable people to be healthy, independent and resilient (reducing energy usage which in turn reduces emissions/pollution which adversely effects people's health)

Wellbeing Plan 2018/23

Objective 4 – Newport has healthy, safe and resilient environments

Options Available and considered

Option1: Replace all fittings with LED units and continue with the current switch off timings of 22:00 to 06:00

Option 2: Replace all fittings with LED units and reduce switch off times to 00:00 to 06:00

Preferred Option and Why

Option 2 is the preferred option as it results in significant cost and energy savings and allows for an improvement in lighting hours.

Comments of Chief Financial Officer

The cost of installing LED units across the entire Council will be met by a Salix loan repayable over ten years at 0% interest. This action will reduce energy costs significantly and taking into account the loan repayments will return net savings estimated up to £240k or £212k depending on the option chosen.

Comments of Monitoring Officer

There are no specific legal issues arising from the Report. A decision has previously been taken to convert existing streetlight to LED's in order to reduce emissions and save energy costs. The capital costs have also been secured through the provision of an interest-free loan from Salix. The work has been subject to competitive tender, in accordance with Contract Standing Orders and procurement rules and the preferred bid represents the most economically advantageous bid for the Council, as it delivers significantly higher savings than the original business case estimate, largely due to lower capital costs. The reduced light source of the new luminaires complies with British Standards, environmental standards and the code of practice. The acceptance of this tender and the award of the contract is an operational matter for the Head of City Services. However, there is the option of utilising part of the cost saving to reduce the part-time lighting hours, so the lights would only be switched off at midnight rather than 10.00pm. This would require a change to the previous part-time lighting policy and, therefore, requires a Cabinet Member decision. The Council has a discretionary power, as opposed to a mandatory duty, to provide street lighting under the Highways Act. However, in exercising this discretion, the Council has to have regard to road safety and crime and disorder implications. Although there is no suggestion that the current extended part-time lighting has had any adverse impact on road safety or crime and disorder, there are clear benefits in utilising some of the cost savings to reduce the switch-off period.

Comments of Head of People and Business Change

There are no HR implications for this proposal.

A Fairness and Equality Impact Assessment has been completed and is attached.

From a Well-being of Future Generations (Wales) Act 2015 perspective the Act has been considered when developing this report. How the proposal meets the five ways of working of the sustainable development principle is detailed in the appropriate section in the report.

Local issues

N/A

Comments from Non-Executive Members

Councillor C Ferris

Whereas the saving in cost and benefit to the environment is welcome, I hope we can light more lamps that are off at present and give a greater sense of security to residents living in dark streets. I also understand that these lights will be more flexible in the area that they can illuminate and hope that consideration will be given to the area that some street lights cover.

Response from Head of Service

The general policy that introduced part time lighting within the city will remain unchanged by this proposal, but the preferred option (2) will allow for the current 22:00hr – 06:00hr period to be reduced to 00:00 hr – 06:00 hr providing 2 hours additional lighting for all road users.

Additionally, where conditions and risk assessments dictate, there is also a limited capability to increase the lighting output of each lamp where necessary.

Councillor R White

I welcome this initiative. It will save carbon and also provide better lighting than some of the ancient street lights in some rural areas.

However unless there has been numerous complaints about the night switch off times I would suggest that Option 1 is the better option and the subsequent saving of £ 28,000 is used to clear trees and other foliage which obstructs some street lights and thus make them more efficient.

Response from Head of Service

Option 2 is the preferred option as it delivers significant cost savings whilst delivering extended lighting hours to the benefit of both urban and rural road users.

It is accepted that there are localised areas, especially in rural wards, where tree canopies reduce the efficiency of street lighting. Therefore, limited cutting back will be undertaken where necessary during the lantern change which, although will not remove the problem completely, will improve the lighting levels delivered.

Scrutiny Committees

N/A

Equalities Impact Assessment and the Equalities Act 2010

Protected characteristic	Impact:			Provide further details about the nature of the impact in the section below. Does it: 1. Promote equal opportunity 2. Promote community cohesion 3. Help eliminate unlawful discrimination/ harassment/ victimisation?
	Positive	Negative	Neither	
Age	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Impact
Disability	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Impact
Gender reassignment/ transgender	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Impact
Marriage or civil partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No impact
Pregnancy or maternity	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Impact
Race	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Impact
Religion or Belief or non-belief	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Impact
Sex/ Gender Identity	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Impact
Sexual Orientation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Impact
Welsh Language	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Impact

Children and Families (Wales) Measure

N/A

Wellbeing of Future Generations (Wales) Act 2015

Sustainable Development Principle	Does your proposal demonstrate you have met this principle? Describe how.
Balancing short term need with long term needs	<p>This proposal will be supporting the long-term social, economic and environmental well-being for future generations within the city as well as addressing a short term need.</p> <p>It will help to create a city that residents are happy to reside in, now and in the future.</p>
Working together to deliver objectives	<p>This proposal will enable the authority to focus on stakeholder concerns around the environment and perceptions of safety whilst supporting other council / multi agency objectives in social, economic and environmental well-being.</p>
Involving those with an interest and seeking their views	<p>The current part time lighting scheme within the city has generated significant public and member concerns. The views of residents, members and businesses are well documented and the relaxation in the part time hours will go some way to reducing these concerns.</p>
Putting resources into preventing problems occurring or getting worse	<p>This proposal has the capacity to directly improve the social, economic and environmental wellbeing of the residents and visitors to the city.</p> <ul style="list-style-type: none"> • Reduced carbon emissions. Because of their energy efficiency and long lifespan, LED streetlights are advocated as a means for reducing carbon emissions. • Promote active travel (walking and cycling) throughout the city, especially during periods of darkness
Considering impact on all wellbeing goals together and on other bodies	<ul style="list-style-type: none"> • A prosperous City This proposal will have the following impact : <ul style="list-style-type: none"> • Promote active travel including cycling and walking • Reduced carbon emissions • A resilient City <ul style="list-style-type: none"> • Reduced carbon emissions promoting ecosystems that support social, economic and ecological resilience and the capacity to adapt to change • A healthier City This proposal will have the following impact: <ul style="list-style-type: none"> • Minimise energy usage and production of greenhouse gases • Promote active travel (walking and cycling) throughout the city • Ensure new and replacement lighting schemes minimise environmental impact such as light spillage and intrusion • Reduction of the amount of carbon dioxide that impacts on human health and is a major contributor to global warming • A more equal City The proposal will apply to all stakeholders
A City of more cohesive communities	<p>This proposal will have the following impact:</p> <ul style="list-style-type: none"> • Promote perceptions of highway safety in all our city communities • Promote well connected communities through improved lighting and improved sense of personal safety <p>The proposal will have the following impact:</p>

<p>A City of vibrant culture an thriving Welsh Language</p>	<ul style="list-style-type: none"> • Promote the Welsh Language by ensuring all business is conducted in both the English and Welsh medium
<p>A globally responsible City</p>	<p>Reduction of the amount of carbon dioxide that impacts on human health and is a major contributor to global warming</p>
<p>Crime and Disorder Act 1998</p>	<p>Relaxation of the current part time lighting could have the ability to improve perceptions of safety and deter anti-social behaviour. Subsequent releasing of Police resources, the authority will be meeting its duty under Section 17(1) of the Crime and Disorder Act 1998 to exercise its various functions with due regard to the likely effect of the exercise of those functions on, and the need to do all that it reasonably can to prevent, crime and disorder in its area</p>

Crime and Disorder Act 1998

As above

Consultation

N/A

Background Papers

Dated: 1 February 2019