

STREET LIGHTING PROJECT
Full Business Case

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1.0 Executive Summary

This report advises the Council of the work carried out to develop the Full Business Case (FBC) for a reduction in energy costs of the street lighting infrastructure through a proposed spend to save programme.

The FBC reviews the current and forecast budget pressures placed on the Council, with regard to the energy costs of operating street lighting, and investigates methods and technologies available to reduce the increasing financial costs.

The financial analysis has been supported by use of the street lighting toolkit created by Scottish Futures Trust (SFT). This model has been externally audit by BDO, a firm of accountants, to confirm its robustness and accuracy and appropriately uses underlying technical data to generate financial forecasts. The toolkit has been successfully used with 11 councils in Scotland to develop street lighting business cases, and has been formally adopted by the Department of Energy and Climate Change ('DECC') for use by Councils in England and Wales.

The table below is a summary of results from the SFT financial model and this assumes a contribution of £150k is made towards Service Choices.

Summary of estimated first year savings (see appendix D)	£'000
Estimated saving on electricity costs	472
Debt Servicing cost on £3.9m luminaire replacement	269
Anticipated saving	203
Contribution to Service Choices	150
Remaining unallocated saving	53

The total cost for supply and fitting of 14,090 luminaires is estimated at £3.9m.

Using the mid-range figure of £1,400 per column within the prudential borrowing option enables 25% of the estimated 2,000 defective columns identified in the independent column condition survey to be replaced giving a cost of £750k.

The total investment amounts to £4.6m.

It should be noted that this business case does not take in to account the existing cabling infrastructure. The project will highlight and record in the asset management system the remaining street lighting stock that requires to be programmed into ongoing asset management maintenance. In addition to this the asset inventory will be updated as part of the 6 yearly column inspection programme providing an up to date asset condition for the street lighting stock.

The LED luminaires have the ability to be pre-dimmed. The proposed policy is that the installed luminaires be dimmed by 30% of the design specification. Research has shown that a 30% dimming is not detectable by the human eye. LED installation in locations in

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Dunoon were pre-dimmed by 30% with no adverse impact. Dimming will realise additional energy savings which have been built into the financial model which supports this business case.

There is scope to install additional switch gear which could further dim or switch off certain sections of lighting. This can be controlled either manually or by electronic system remotely. Whilst technology continues to advance the additional cost of this equipment is not considered to be cost effective. This in part is due to the electricity companies being paid pass through charges which in practical effect means that there is not a full percentage saving for any additional reduction in consumption. This Business Case recommends that a LED system is progressed with 30% pre dimming of luminaires. It is not recommended that any further dimming or partial switch off is progressed.

2.0 Recommendation

This business case recommends that Council:

- Progresses with an innovative lighting energy efficient scheme as detailed in this business case in order to reduce future cost pressure relating to street lighting electricity.
- Agrees to a tender process being completed and that the energy efficient scheme is progressed utilising the most cost effective model as determined from the tender process.
- Agrees that the remaining reduced electricity budget is inflated in line with energy costs on an annual basis.
- Agrees that the balance of savings generated is used to fund a column replacement program with replacements being prioritised on condition.

3.0 Background

The Council currently owns some 14,212 illuminated signs and street lights.

Energy costs in regard to street lighting are expected to increase over time. Current analysis of Energy Market shows that electricity prices have been forecast to increase in line with the Consumer Price Index (CPI) and DECC forecasts. Due to advances in lighting technology, there is now an opportunity to review street lighting provision with a view to making revenue savings on energy costs.

A further consideration for the Council is that modern lower energy street lighting and new legislation will prohibit the use of inefficient technologies, including the control gear (spare parts), used in the majority of our street lights. Investment in this apparatus will be necessary as spares for existing equipment will no longer be available after 2017.

4.0 Strategic Case

Since the introduction of the Climate Change (Scotland) Act in 2009 and the Carbon Reduction Commitment Energy Efficiency Scheme there have been obligations placed on all large energy users, such as Argyll and Bute Council (>6,000 MWh/annum) to reduce their energy needs.

Reducing carbon usage is directly related to energy costs, which for the street lighting element (excluding signs and signals) is currently estimated at £735k per annum. Energy costs are forecast to double within the next 10 years, and to maintain the Councils energy costs at current levels a reduction in energy use of 8% per annum would be required.

It is important to note that meeting this target is possible utilising the latest luminaires and control equipment with little or no reduction to the current service levels. In addition the extended service intervals will offer savings in maintenance costs.

The Scottish Futures Trust has developed a financial model for the evaluation of Street Lighting within the public sector. The model uses current forecasts from the Department of Energy and Climate Change (DECC) to predict future energy costs and potential savings. This model also uses costs and performance figures for LED luminaires from the Scotland Excel framework, and indicates potential financial savings available when converting to energy efficient lighting.

The latest British Standard BS5489:2013, provides a code of practice for the design of street lighting. This document sets out the lighting levels required for the different street types based on traffic volumes and type of use. Using this document a lighting plan shown in Appendix A has been developed for Argyll & Bute and used to determine suitable lantern replacements. In the implementation of any project for installation of replacement luminaires, this document would be the basis of a more detailed lighting design.

Consideration has been given through the project to remove sections of lighting in very remote locations. Experience to date suggests that once lighting has been installed local communities would be very reluctant to see its removal. As such through this project there is no proposal to remove any lighting. Any new development proposals would be designed with energy efficient lighting where it is considered necessary and consideration given to lighting not being installed where that would be appropriate.

The requirements of EU Directive 2005/32/EU for discharge lamps analyses how the performance of a range of energy-using products will need to improve over the period to 2020. This has major implications on the use of some existing technologies used within existing street lighting which will be deemed inefficient and effectively withdrawn from service. This directly affects over 27% of the current lighting inventory, and will impact on an additional 52%.

5.0 Objectives and Project Outcomes

The main objectives of this project are;

- to reduce the Council's public lighting energy bill and mitigate against future cost pressures
- lower the associated carbon footprint
- identify savings that the Council would make which could then be utilised to improve infrastructure, in particular lighting columns, to a more sustainable basis and therefore improve the reliability of the network
- to assist in containing the maintenance costs within existing budgets

6.0 Key Milestones and Timescales

It is recommended that the target date for the project to commence is 1 April 2016 being cognisant that the lead in time for design and material procurement is approximately 6 months.

In order to be able to demonstrate a value for money process, a tendering exercise is required which is envisaged to take around 4 – 5 months post business case approval. The tender process will determine the delivery model. Whichever model is progressed, an external resource for the design and project management will be required to provide the necessary expertise and capacity to deliver this element of the project.

Assuming project approval the following tasks will be progressed between the end of 2015 and the anticipated start of the project delivery in April 2016:

- Tender specification and documentation, PQQ and ITT.
- Implementation Plan
- Service Procedures/specification covering:
 - Procedure for designing replacement luminaires – to be used in conjunction with Appendix A to the FBC.
 - Detailed specification for luminaire change.
 - Project monitoring tools including detailed Gantt Chart, Risk Register, monthly Highlight report, cost profile and percentage completion reports.
 - Specification and procedure for determining where columns are changed.
 - Management plan to ensure that works are delivered to specification, time and budget.
 - Procedure for updating inventory data and notifying power companies of inventory change.
 - Procedure to check that correct energy tariff is being is being invoiced and paid.

7.0 Options Appraisal

There are three options which the Council has considered

- Continue as present maintaining existing lighting stock.
- Switch off lighting (part night) – existing stock.
- Replacement of luminaires – various types of luminaires have been considered with LEDs giving the most cost effective solution. This has been verified with many other local authorities and Transport Scotland changing out their existing stock with LED luminaires.

Continue as present

In the most basic sense, doing nothing will not mitigate the council against the future risk of increasing energy costs and will fail to meet Carbon reduction targets and lose the Council the opportunity to make significant savings. In simple terms over a ten year period the Council's energy costs, at current infrastructure population alone, would increase from £735k to over £1.3m per annum.

A more pressing matter is the phasing out of existing technologies by European legislation, which will remove the ability to source cost effective replacement maintenance parts for some 79% of the lighting infrastructure. This figure represents the remaining SOX luminaires and approximately 50% of the SON luminaires. Already MBF-U lamps will be banned this year and SOX lamps will also be affected by the energy efficiency legislation with component spares difficult to source from 2017.

Switch off lighting (Part Night)

Savings can be made in street lighting energy costs by switching off lighting for periods and leaving streets in darkness. However there are many factors to consider when looking at such a radical proposal, including.

- Future energy billing trends which will increase as a result of not taking up “cheaper” through the night tariffs. While switching off part night can reduce the hours by half, the savings are closer to 20% due to the varying energy costs throughout the night.
- Connection to network charges being raised as units remain connected but not drawing energy rates.
- Failure to fulfil statutory duties to maintain our existing street lights and meet carbon reduction targets.
- A potential detrimental effect in terms of the Council's Single Outcome Agreement in relation to crime & disorder, social inclusion/Human Rights legislation, promoting economic development and after dark educational facilities & amenities, emergency service assistance, CCTV coverage, road safety etc.
- Potential claims to the Council as a result of failure to adequately prevent issues arising from the above.

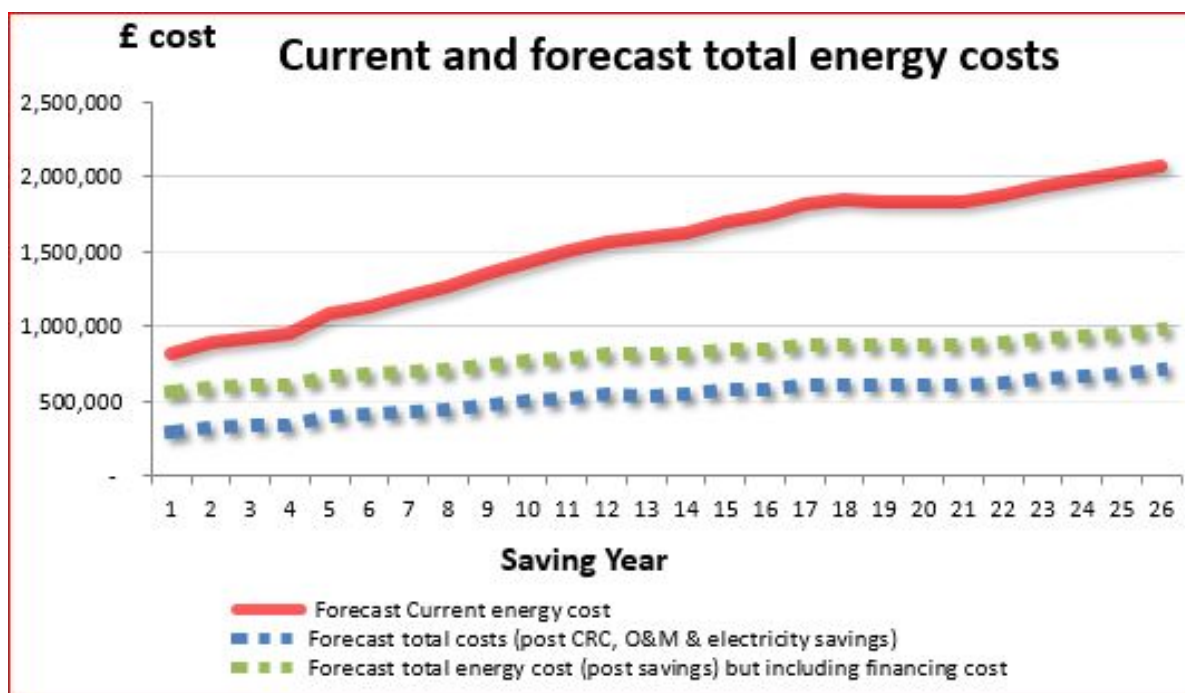
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The industry is moving away from considering switching off for energy savings, in favour of newer technological advances in energy reducing lamp source and control systems such as part night dimming.

Replacement of Luminaires

Using manufacturer's data and costs from the Scotland Excel materials tender the whole life cost of the different technologies used to provide street lighting were considered. Street lights have an effective life span of over 25 years, and the cost of energy and maintenance over this period was calculated to determine the whole life cost using the existing lamp technologies and LED luminaires. The conversion of existing SON lamps to more energy efficient lamps was also considered.

The financial model has identified savings from luminaire replacement of some £423k per annum in Electricity and £30k in Carbon Reduction (CRC). A graphical extract from the SFT Financial Model, for the forecast energy and finance costs for the replacement of lanterns only is shown below. An analysis of these costs clearly indicates that the correct use of LED luminaires provides the lowest whole life cost.



The SFT Financial Model provides an estimate of savings based on certain assumptions. The actual saving that will fall to the Council can only be fully determined after the preferred option for delivery has been identified and implemented.

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Conclusion and Recommendation

Option	Advantages	Disadvantages
Continue as present	No resource requirement	Does not deliver any savings Increasing costs over time Don't meet carbon reduction targets Obsolete stock Replacement parts will become unavailable
Switch off part night	Reduction of energy costs	Reduction less than LED replacement Reduced service to customers Delivered through current lighting stock (all disadvantages from continue as present apply)
LED replacement	Delivers savings Meets project objectives No reduction in services Switch off part night can still be considered but delivers minimum additional savings due to pass through charges and reduced rate energy during switch off times Provides a more reliable lighting system by replacing luminaires and <15% of columns. This will reduce future maintenance.	Requires energy savings to be reinvested investment in a major capital programme

Preferred Option

Therefore, Replacement of Luminaires is the preferred option for this project because it gives us the opportunity to upgrade the existing street lighting asset by replacing luminaires with LED equivalent and the replacement of some defective street lighting columns.

8.0 Financial Case

The SFT Financial Model as summarised in appendix D indicates that the Council will make a saving in energy costs of £472k after the installation of LED luminaires which it can utilise to fund the capital cost of this project. The appendix also clearly indicates that if nothing is done there is a recurring cost pressure that could amount to £654k in 10 years' time.

This assumes that the remaining reduced electricity budget is fully funded to meet any energy inflation on an annual basis i.e. energy specific inflation is added to the electricity budget on an annual basis.

Scotland Excel, a procurement company set up and used by local authorities to reduce purchasing costs, issued a Framework contract for the purchase of LED luminaires this year. The costs and performance of lanterns within this framework have been used within the Scottish Futures Trust Financial Model, it is anticipated that the luminaires will be purchased by the Council using this framework. The framework will reduce risk to the Council by purchasing luminaires from manufacturers and suppliers already assessed for performance, service and warranty as suitable for the supply of LED luminaires. Purchasing luminaires through the Excel contract will remove risk of contractors supplying equipment which meets the specification but will not necessarily provide the most attractive solution over the whole life of the luminaire. The tender specification will provide for contractors collecting luminaires from identified stores. This will ensure luminaries are procured in line with the Excel contract which has been developed with input from Scottish Futures Trust. Furthermore, luminaries will be consistent with those used by other local authorities making the availability of spares more reliable due the scale of the number of units installed.

The total cost for supply and fitting of luminaires is estimated at £3.9m.

Summary of estimated first year savings (see appendix D)	£'000
Estimated saving on electricity costs	472
Debt Servicing cost on £3.9m luminaire replacement	269
Anticipated saving	203
Contribution to Service Choices	150
Remaining unallocated saving	53

The unallocated savings identified in the above table should be utilised to fund a column replacement program as detailed below.

An independent column condition survey has been carried out on a sample of the existing infrastructure to determine any requirement for replacement. The sample of 455 columns or 3% found 69 columns categorised as red, indicating a likely failure, a further 170 were categorised as amber, where failure is possible. When extrapolated over the entire infrastructure this indicates that some 15% or in the region of 2,000 of the authorities lighting

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columns may require replacing. During the luminaire replacement process any columns that are found to be defective will be identified for replacement, lanterns will be fitted to maximise the benefit of energy savings with the lantern being refitted to the new column once this has been installed.

The cost of column replacements is estimated at £2.9m based on an individual column replacement cost of £1,400. The table below gives indicative costs of replacing the columns over a potential range of costs.

Indicative capital cost of column replacement 15% equating to 2114 columns					
Estimated replacement cost per column	£1,600	£1,500	£1,400	£1,300	£1,200
Total cost	£3,382,000	£3,170,000	£2,959,000	£2,747,000	£2,536,000

The following table presents how the £53k should be utilised on a year to year basis.

Funding available (£)	53,000	53,000	53,000	53,000	53,000	53,000
Column cost (£)	1,600	1,500	1,400	1,300	1,200	1,100
Annual column replacement	33	35	38	41	44	48
Years to replace 2000 columns	60	57	53	49	45	42

This indicates that we would only be able to replace a minimum of 38 columns per year at a cost of £1,400 through the revenue budget. The exact costs will only be known once tender costs are returned. The above table details the sensitivities of the range of likely tender returns and provides an indication of the number of columns which can be replaced on an annual basis.

Column replacement strategy detailed above provides the council with an opportunity to improve columns from energy savings made from replacing luminaires. This provides an alternative funding source to reducing capital budgets which have been used historically to fund column replacement and will assist in relieving demands on future capital allocations.

An alternative to using the unallocated savings year on year to fund column replacement would be to use this to fund prudential borrowing. The £53k would be able to fund debt of £746,979 over a 25 year period at 5%. The table below demonstrates how this could be utilised.

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Capital available	746,979	746,979	746,979	746,979	746,979	746,979
Column cost (£)	1,600	1,500	1,400	1,300	1,200	1,100
Columns that can be replaced	467	498	534	575	622	679

The difference in approach is that under the prudential borrowing option the columns can be replaced immediately rather than on a long term program.

Using the mid-range figure of £1,400 per column within the prudential borrowing option enables 25% of the estimated 2,000 defective columns identified in the independent column condition survey to be replaced.

9.0 Delivery Model

The actual delivery model will be based on proposals which provide best value to the Council. The project team have carried out scoring of 9 options that were initially considered as viable delivery options. Through scoring, these options have been short listed down to 4 possible options.

The final model will be determined following a tender exercise which will confirm the actual delivery model on a value for money basis. The final assessment criteria will be based on value and risk. Appendix C to this Business Case provides a summary of the options being considered.

10.0 Business Case Conclusion

Based on the detail in this Business Case, which is supported by the financial model provided by Scottish Futures Trust, it has been concluded that it is in the best interest of the Council to progress a luminaire replacement project. This project is self-financing in that the savings in energy consumption costs meet the cost of replacing luminaires, a column replacement programme of 25% of the estimated 2,000 defective columns identified in the independent column condition, contributions to service choices and provides operational savings through a more reliable lighting stock that can be maintained at a lower cost than the existing stock.

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11.0 Project Roles

The reporting structure, roles and responsibilities for the street lighting energy efficiency programme are outlined below.

Street Lighting Energy Efficiency Project	
Responsibility for investment decision	Project Board responsible for initial decision and for making a recommendation to ED&I Project Board, SMT and D&I Committee.
	ED&I Committee are responsible for making a recommendation to Council
	Council – final investment decision.
Responsibility for monitoring progress	Development & Infrastructure Services DMT Strategic Board, monthly reports provided by SRO
Senior Responsible Officer (SRO)	Jim Smith, Head of Roads and Amenity Services – Programme SRO
Project Manager	Walter McArthur, Fleet & Waste Manager
Members of Project Board	Jim Smith, Head of Roads & Amenity Services Walter McArthur, Fleet & Waste Manager Murray MacFarlane, Principal Accountant Peter Cupples – Finance Manager (Treasury) David Logan, QIO Stewart Clark, Network Manager
Key members of the project team	Morag Cupples – Accountant Marshall Gillespie – Advisor (contracted via Scottish Futures Trust) Ryan McGlynn – Street Lighting TO Chris Crawford – Technician Implementation Designer – To be appointed Implementation team – to be appointed

12.0 Risks

Risks associated with the project will be monitored through the project team and reported initially via the project board. Any risks that cannot be mitigated against shall be reported through the established corporate channels.

Appendix A - Lighting Plan – Argyll & Bute Council

Location	Area	Zone	Main User	Traffic Flow	Crime Risk	Class
Town Centre	High Amenity	E4	Traffic / Cyclist / Pedestrian	Moderate	Moderate	P2
Town Centre	Distributor Road	E3	Traffic / Cyclist	Low	N/A	M4
Town Centre	Residential	E3	Traffic / Cyclist	≤ 30mph	Moderate	P3
Town Centre	Residential	E3	Traffic / Cyclist / Pedestrian	Slow	Moderate	P4
Village Centre	High Amenity	E3	Traffic / Cyclist / Pedestrian	Moderate	Low	P3
Village Centre	High Amenity	E3	Traffic / Cyclist / Pedestrian	Low	Low	P4
Village	Distributor Road	E3	Traffic / Cyclist	Low	Low	M4
Village	Residential	E3	Traffic / Cyclist	Low	Low	P4
Village	Residential	E2	Traffic / Cyclist / Pedestrian	Low	Low	P5
Main Arteries	>40mph	E3	Traffic	Moderate	N/A	M3
Main Arteries	>40mph	E3	Traffic	High	N/A	M2
Main Arteries	< 40mph	E3	Traffic	Moderate	N/A	M4
Main Arteries	< 40mph	E3	Traffic	High	N/A	M3
Towns	Industrial Areas	E3	Traffic	Moderate	Moderate	P4
Villages	Industrial Areas	E3	Traffic	Moderate	Low	P4
Town	Car Park	E3	Traffic / Pedestrian		Moderate	10 Lux Uniformity 0.25
Village	Car Park	E3	Traffic / Pedestrian		Low	5 Lux Uniformity 0.25

Lighting plan details the type of luminaire to be used in various locations. This lighting plan to be used as one of the tools in completing the lighting designs.

Appendix B – Delivery Options

There are four delivery options, shortlisted from 9 overall delivery options:

1. Design from framework/agency and internal management and Installation (over 2 year period).
2. Design from framework/agency, internal management and external installation (over 2 year period).
3. External design and installation (over 2 year period) with contract management internal.
4. Hybrid of the above i.e. Design from framework/agency, contract management in house, eg Helensburgh, Dunoon and Oban delivered external and remainder internal (over 2 year period).

In-house costs have been used to verify the figures used within the SFT Financial model. Advice from our external advisor indicates that there is generally not a material difference between the cost of in-house versus external delivery. This will be market tested as part of the project development. The difference between delivery options in financial terms is likely to be the timing of the saving, the earlier the saving is delivered the greater the benefit to the Council.

For the purpose of the financial comparisons all 4 models assume similar costs (in-house costs have been verified by strategic finance from recent installation projects), external costs have been estimated based on contracted works and costs provided by SFT and other authorities. However, as with any tender process, the exact costs remain unknown until the market is tested. The costs assumed in each of the options is £3.9M for Luminaire replacement and £750k available for column replacement.

Each of the four options will require a 3-6 month lead in period for detailed lighting design and procurement of the luminaires. This means that to deliver the physical works in 18 months would take a minimum of 24 months including the lead in period.

Delivery over 12 months and 36 months was also considered but both of these options have been discounted as detailed below.

Option 1 - Design from framework/agency and internal management and Installation (over 2 year period).

Design and project management

In this proposal the Council would procure through the existing framework a suitably qualified lighting designer to act as Project Manager / Designer. They would be supported by existing technical staff and administrative support.

Luminaire replacement

This would be delivered by dedicated teams to install the luminaire replacement within a 2 year period. These teams are to be created by utilising the existing Street Lighting Civils

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operatives who have the appropriate training. This resource would be supplemented by additional employees from within Roads and Amenity Services.

Column Replacement

In this proposal, work would be carried out by the existing Roads Operations team members who are available following reductions in revenue and capital budgets in their area. Work would be spread throughout available teams depending where the columns need replacing. This work could then be programmed into the workload of the teams along with their other works.

The revenue maintenance programme would continue to be carried out by the existing technical staff and team. This ensures that day to day lighting matters can be dealt with by providing a clear distinction between the day to day work and project work. This also ensures that a full focus be given to the project. It is assumed that any civils work required as a result of normal lighting maintenance will be carried out by the roads operations teams for the duration of the project. Other duties normally carried out by the street squad e.g. Christmas Lights erection, will be delivered by external providers should there be insufficient internal resource to self-deliver.

Non-Cash Benefits

- In-house delivery maintains existing jobs within Argyll & Bute Council for the duration of the project thereby supporting the local economy
- Column replacement work carried out by roads operations, thereby allowing roads to maintain their workforce during the project which provides resilience for other Council services e.g. severe weather response

Risks

- Delivery in accordance with the timescales indicated stays with the council
- Recruitment of suitable staff, particularly the Project Manager/Engineer.
- Procurement and delivery of sufficient luminaires and columns as demand for these products grows due to other local authorities upgrading their street lighting network at the same time.

Option 2 - Design from framework/agency, internal management and external installation (over 2 year period).

Design and project management

In this proposal it is proposed that the Council would procure, through the existing framework, a suitably qualified Engineer to act as Project Manager / Designer. They would be supported by existing technical staff and administrative support. It should be noted that some of this resource could come from staff already employed by the Council.

Luminaire & Column Replacement

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In this proposal a tender would be let for the installation of luminaires and replacement of columns. These works would be managed by internal resource experienced in contract and site management to ensure that any risks associated with third party delivery are mitigated.

Non-Cash Benefits

- Design and Project Management remains under the control of the Council
- Partial transfer of delivery risk to a third party

Risks

- Delivery in accordance with the timescales
- Procurement and delivery of sufficient luminaires and columns as demand for these products grows due to other local authorities upgrading their street lighting network at the same time
- Increased need for contract supervision

Option 3 - External design and installation (over 2 year period) with contract management internal.

Design and project management

In this proposal the design and build is delivered by external provision. This would require a contract for the provision of design and installation, including uploading of revised asset data into the asset system (WDM) with internal resource being utilised to manage the contract and provide contract administration and management.

Luminaire & Column Replacement

In this proposal the luminaire and column replacement would be carried out by the designing contractor under a design and build arrangement.

Non-Cash Benefits

- Transfer of risk of non-delivery to a third party

Risks

- Procurement and delivery of sufficient luminaires and columns as demand for these products grows due to other local authorities upgrading their street lighting network at the same time

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Option 4 Hybrid proposal – design and project management from framework/agency, contract management in house. Helensburgh, Dunoon and Oban delivered external and remainder internal (over 2 year period).

In this proposal, that the areas with the bulk of the concentration of lighting (Helensburgh, Dunoon and Oban) would be delivered as per option 2 (luminaires and columns) above, with the remaining locations delivered as per option 1 above.

To get exact costings for the external delivery a tendering process would need to be carried out by the Council.

Non-Cash Benefits

- Partial transfer of risk of non-delivery to a third party
- Retain some jobs in-house e.g. installation on the islands
- Column replacement work passed to Roads Operations, thereby allowing them to maintain their workforce for other Council services e.g. Winter Maintenance

Risks

- Procurement and delivery of sufficient luminaires and columns as demand for these products grows due to other local authorities upgrading their street lighting network at the same time
- Difficulty in finding a private contractor willing to undertake this work

Option 5 – 1 Year Delivery Option

This option has been considered and discounted on the grounds that it carries too much risk in terms of the installation within the timescale due to the supply chain, availability of internal staff or external contractors and adverse weather conditions.

Option 6 – 3 Year Delivery Option

This option has been considered and in the opinion of the project group it is in the interests of the council to deliver this project as quickly as possible in order to take advantage of energy savings at the earliest date. Carrying out the project over 3 years would simply increase the costs of project management but the luminaire and column replacement costs remain the same.

A summary of options going forward are summarised in Appendix C.

Appendix C – Options Summary

Options	1 – Internal Management, Design and Build (with support...)	2 – Internal Management and Design, with External Build (with support...)	3 – External Management, Design and Build	4 – Hybrid of 1 and 2
Project Management	Project Management procured through Framework, supported by Technical Support Officer and full time Administrative Support.	As per Option 1 with the addition of an Electrical Inspector.	Contract for provision of Project Management and Design plus Installation supplemented by an internal Electrical Inspector and Administrative Support to carry out rigorous contract monitoring and update of asset management systems (WDM).	As per Option 2.
Luminaire Replacement	<p>Delivery via the creation of 2 Squads from existing employees who have appropriate training.</p> <p>Delivery within a 2 year period.</p> <p>Cost: £3.9m</p>	<p>Delivery via external contractor. Purchase of luminaires via Scotland Excel Framework and Tender for Contractor</p> <p>Delivery within a 2 year period.</p> <p>Cost: £3.9m</p>	<p>As per Option 2.</p> <p>Delivery within a 2 year period.</p> <p>Cost: £3.9m</p>	<p>As per Option 2 but contract for delivery would be only for areas of Helensburgh, Dunoon and Oban. The remainder delivered internally in line with Option 1.</p> <p>Delivery within a 2 year period.</p> <p>Cost: £3.9m</p>
Column Replacement	Delivery via the existing Roads Operations Squad augmented by the luminaire replacement squads (see	Delivery via external contractor. Purchase of columns via Scotland Excel Framework and Tender for	As per Option 2.	As per Option 2 but contract for delivery would be only for areas of Helensburgh, Dunoon and Oban. The

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	<p>above) once the luminaires are fitted (after year 2).</p> <p>Delivery within a 2 year period.</p> <p>Cost: £750k</p>	<p>Contractor.</p> <p>Delivery within a 2 year period.</p> <p>Cost: £750k</p>	<p>Delivery within a 2 year period.</p> <p>Cost: £750k</p>	<p>remainder delivered internally in line with Option 1.</p> <p>Delivery within a 2 year period.</p> <p>Cost: £750k</p>
Non Cash Benefits	<p>Full control of the project remains with the Council</p> <p>In-house delivery maintains jobs in Argyll and Bute thereby supporting the local economy</p> <p>Column replacement work passed to Roads Operations, thereby allowing them to maintain their workforce for other Council services e.g. Winter Maintenance during the project</p>	<p>Design and Project Management remains under the control of the Council</p> <p>Partial transfer of risk of non-delivery to a third party</p>	<p>Transfer of risk of non-delivery to a third party</p>	<p>Partial transfer of risk of non-delivery to a third party</p> <p>Retain some jobs in-house e.g. installation on the islands</p> <p>Some column replacement work passed to Roads Operations, thereby allowing them to maintain their workforce for other Council services e.g. Winter Maintenance during the project</p>
Risks	<p>Delivery in accordance with the timescale</p> <p>Availability of suitable staff</p> <p>Procurement and delivery of sufficient luminaires and columns</p>	<p>Availability of suitable staff</p> <p>Procurement and delivery of sufficient luminaires and columns</p>	<p>Additional contract management to mitigate against claims</p> <p>Procurement and delivery of sufficient luminaires and columns</p>	<p>Procurement and delivery of sufficient luminaires and columns</p>

Street Lighting Project – Full Business Case

Appendix D - Financial Summary of SFT Toolkit

Project assuming lanterns only installed	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25	31 Mar 26
Forecast electricity cost under 'do nothing' scenario	891,042	913,370	945,465	1,085,543	1,123,429	1,206,971	1,265,904	1,348,005	1,424,739
Assumed current budget	771,000	800,796	806,457	816,142	870,334	882,407	909,754	926,116	952,027
forecast electricity cost on completion of LED programme	299,254	329,050	334,711	344,396	398,588	410,661	438,008	454,370	480,281
Net saving against existing budget	471,746	471,746	471,746	471,746	471,746	471,746	471,746	471,746	471,746
less finance costs	(269,263)	(269,263)	(269,263)	(269,263)	(269,263)	(269,263)	(269,263)	(269,263)	(269,263)
Unallocated Savings	202,484	202,484	202,484	202,484	202,484	202,484	202,484	202,484	202,484
Contribution to Service Choices	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000
Funds available to fund prudential borrowing for column replacement	52,484	52,484	52,484	52,484	52,484	52,484	52,484	52,484	52,484
Cost pressure that will be avoided	120,042	112,574	139,009	269,400	253,095	324,564	356,150	421,889	472,711