



LED LAMP LIGHTING SCHEME	2 May 2017
TO: ENVIRONMENTAL SERVICES COMMITTEE	
FOR DECISION	

Linkage to Council Strategy (2015-19)	
Strategic Theme	Protecting and Enhancing Our Environments and Assets
Outcome	Our natural assets will be carefully managed to generate economic and social returns without compromising their sustainability for future generations.
Lead Officer	John Richardson
Estimated Cost:	£172,277.00

The purpose of this report is to request permission to progress this project to Stage 2 of the Capital Programme Management System. (Detailed Design and Procurement of a Contractor)

Background

The investment in compliant, energy saving LED Lighting Systems and Technology for existing and new Council Estates Buildings is directly in line with the Strategic Theme in the Business Plan for targeting the most advantageous projects from both carbon reduction and cost perspective to deliver energy efficiencies.

Due to the advancement in lighting technology annual running cost savings can be realised through the replacement of existing incandescent lamps with LED lamps technology.

LED lamps technology provide

- lower energy consumption and lower energy costs when compared to higher energy incandescent light sources,
- longer lifetime,
- improved physical robustness,
- smaller size,
- reduction in carbon emissions
- reduction in maintenance costs.

Further reductions in cost will also be realised by incorporating “smart” lighting control technologies where necessary i.e. presence, absence and daylighting sensors to hold off lighting when not required.

Options Appraisal

The outline Design proposals prepared in Stage 1 have now been developed by carrying out a detailed feasibility survey to identify Council owned buildings within the Causeway Coast & Glens Borough Estate which use a significant amount of electricity for lighting and which would

benefit from re-lamping with new energy efficient LED lamps, new lighting controls and in some cases new lamp fittings where required to maximise energy efficiency.

The buildings identified were;

- Roe Valley Arts and Cultural Centre
- Ballymoney Town Hall
- Joey Dunlop Leisure Centre
- Coleraine Leisure Centre
- Roe Valley Leisure Centre

Programme:

Detailed surveys for each of the buildings was carried out which included the following:

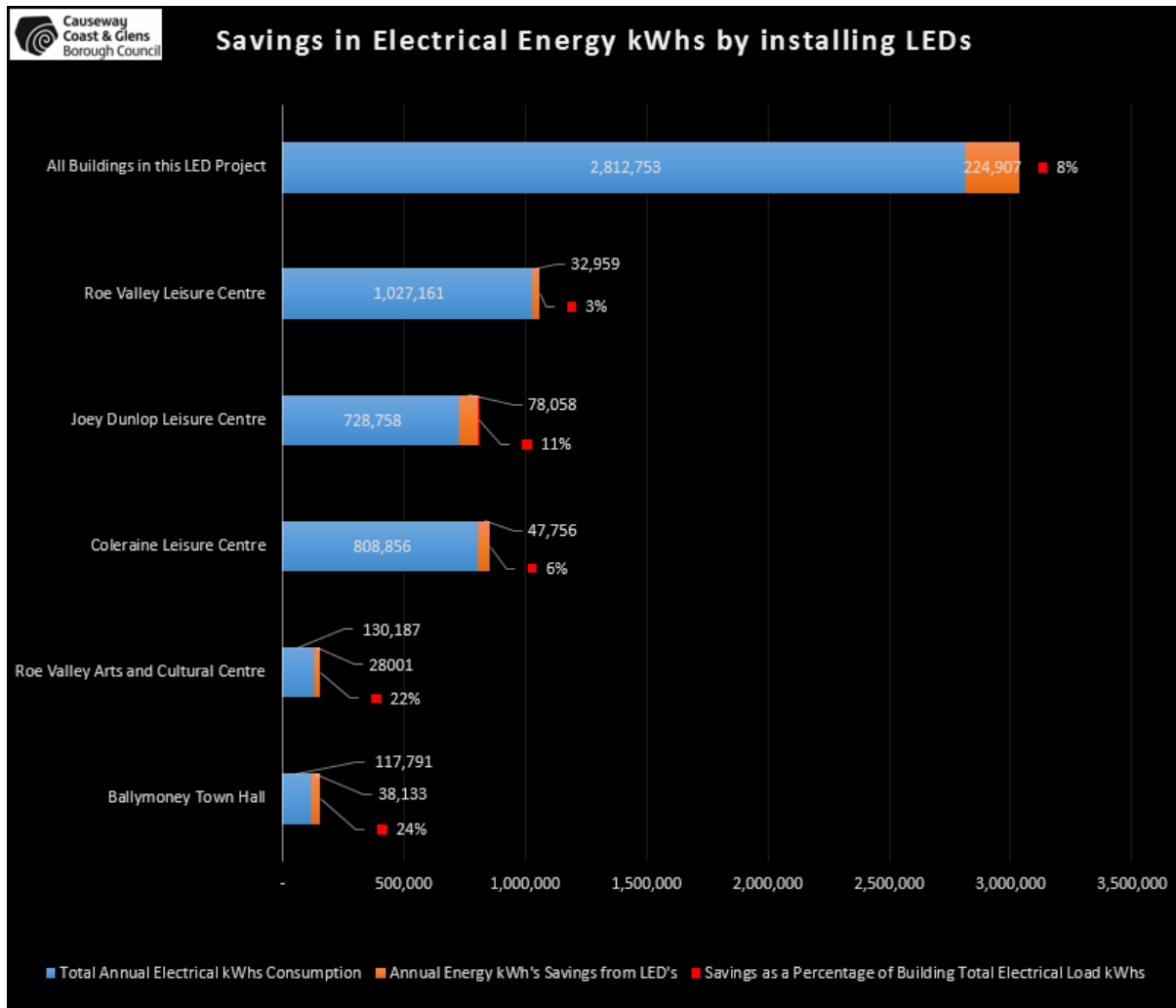
- A condition report on the existing light fittings, bulbs and controls.
- Recording existing light levels with illuminance meter readings.
- Designing new lighting layouts using LED lamps and controls to ensure compliance with current lighting standards.
- Cost estimates for the proposed replacement light fittings and controls.
- Calculation on the payback time to re-coupe the expenditure against energy savings. (The payback calculations includes a maintenance factor).
- Calculation of the Energia LED lighting scheme funding which offers 20% towards the cost of replacing old fittings with LEDs.
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A summary of the costings are listed in the table below.

LED LAMP REPLACEMENT LIGHTING				
Building	Estimated Annual Energy Saving (kWh)	Estimated Cost £	Grant £	Payback in Year
Ballymoney Town Hall	38,133	26,959.00	3,671.00	4
Roe Valley Arts and Cultural Centre	28001	41,298.40	8,249.60	11
Coleraine Leisure Centre	47,756	40,003.40	5,014.60	6
Joey Dunlop Leisure Centre	78058	47,383.00	6,202.00	5
Roe Valley Leisure Centre	32,959	43,760.00	3,990.00	3
Total	224,907	199,404	27,127	
Average in Year				6

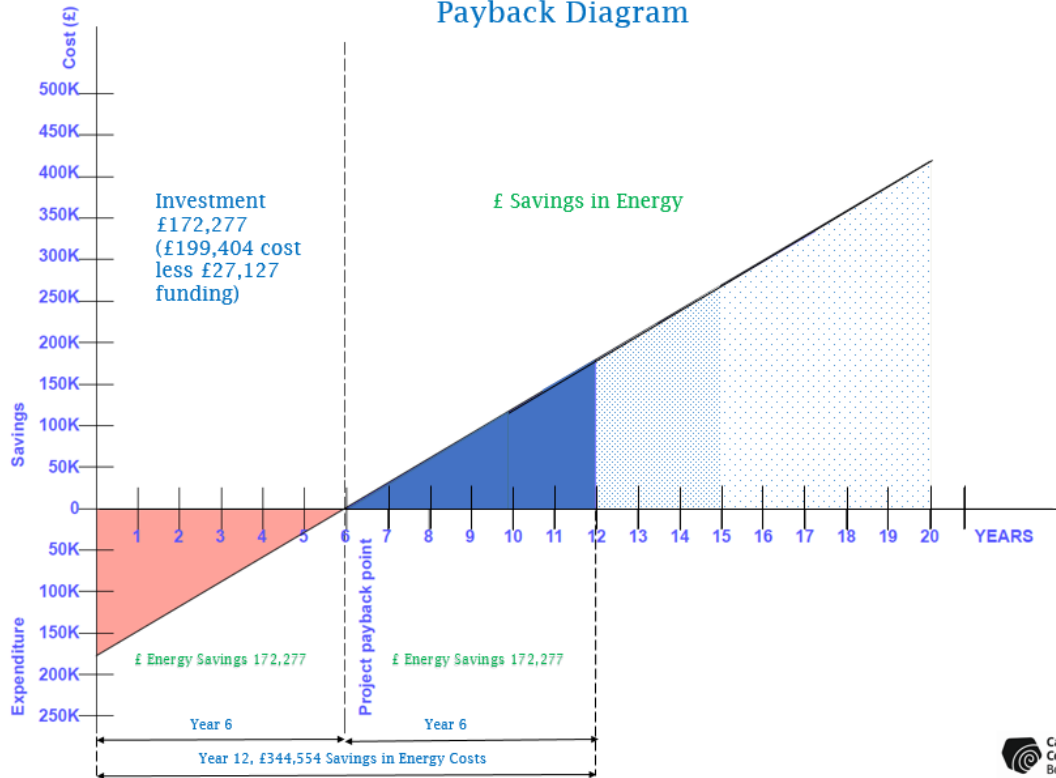
On the basis of the estimates the total estimated expenditure would be £199,404.00 of which £27,127.00 would be funded by the Energia LED Lighting Scheme. The average payback period for the overall project would be in year 6 post the completion date of the installation. A

comparison of the quantum and relative percentage of the annual electrical savings in kWhs set against the typical annual electrical consumption for each building and for the full set of buildings is illustrated below.

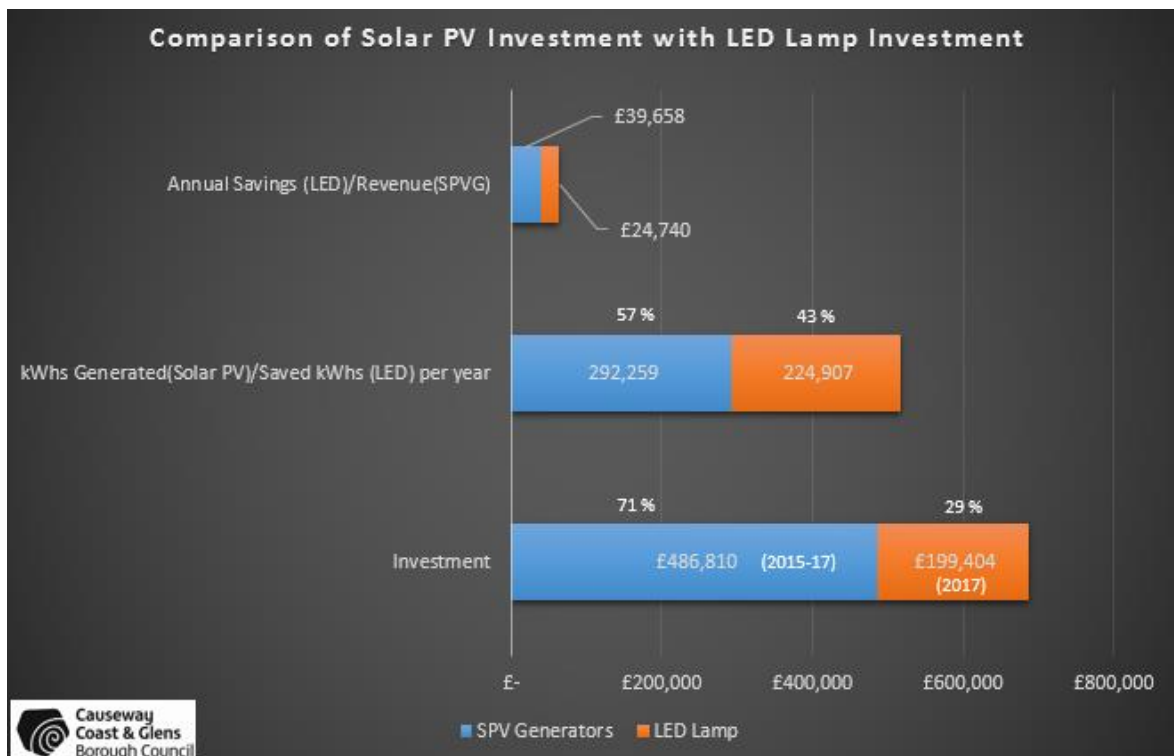


The following diagram illustrates the LED Lamp Technology Payback Diagram which describes the financial savings in energy when comparing LED energy consumption to traditional incandescent lamps technology.

LED lamp Technology Payback Diagram



The following diagram illustrates the comparison between the 2015-17 CC&G investment in Solar PV Generators at 18 locations with the proposed investment in LED Lamp Technology at 5 locations as follows;



Recommendation:

It is recommended that Members consider the above proposal and approve the progression of this project to Stage 2 of the Capital Programme Management System. (Detailed Design and Procurement of a Contractor) with an estimated cost of £172,277.00.