



CABINET

Expansion of the Capital programme to fund the conversion of 6,000 sodium street lights to more energy efficient LED lights

The Council provides and maintains approximately 18,000 street lights across the borough. There is no statutory obligation for the Council to provide street lighting, but it does have a duty of care to road and footpath users and could face claims if it failed to provide adequate lighting which led to injuries and damage. Currently the council spends over £650k a year on electricity for street lighting, excluding the streetlights within the social housing estate which are paid from the Housing Revenue Allocation (HRA). In view of the need to make large efficiency savings and reduce the maintenance costs, of future streetlight budgets, the Energy Strategy Team have been working with the Streetcare Service to identify ways of reducing this sizeable annual electricity bill.

In the current financial climate, all local authorities with responsibility for highways have been looking at ways to reduce the substantial cost of lighting their roads, and have adopted a number of ways to do this. The conversion of existing light sources to modern Light Emitting Diode (LED) is becoming a popular choice amongst local authorities as a way to reduce long term energy costs, as the savings are substantial in both energy and maintenance costs.

The benefits of LED lighting are:

- LEDs use around 60% less energy than current light sources.
- The lifetime of LED street lights is usually 10 to 15 years, three times the life of current technologies adopted. The much less frequent need to service or replace LEDs means a greatly reduced maintenance cost.
- LEDs can easily be dimmed when less street lighting is needed, such as late at night, and at dusk or early dawn, again offering more savings opportunities.
- LEDs provide a white light which is closer to daylight and allows colours to be seen easily, White light also offers further advantages in that pedestrians feel more secure in their environment and driver reaction time is improved due to improved vision in low lighting situations (mesopic vision).
- LEDs switch on instantaneously, unlike other commonly used street lighting. LEDs do not have a problem restarting immediately following a brief power failure or if inadvertently turned off.
- LEDs do not contain mercury or lead making disposal of 'blown' lamps less problematic.

The Council's street lighting team have undertaken a number of small trials of various types of LED lights in selected residential roads across the borough over the past year. Following these trials a larger trial involving 200 of the best performing LED light

in five roads has now been completed. There have been positive responses from residents and Streetcare staff working in the trial areas who are pleased with the lighting improvements. The aims of the trials were to identify if LED lanterns would reduce street lighting energy costs whilst maintaining an acceptable street lighting level. The trials confirmed that the use of LED lighting has the ability to reduce cost whilst maintaining (and in some cases improving on) current lighting levels. Most available LED street lights come with a ten year guarantee and an average life of 15 years.

The Council currently spends £53.49 per street light, on residential roads, replacing the lantern components every three years, which for 6000 street lights equates to an annual cost of £106,980. Replacing these with LED lanterns will cost £80 per street light every **ten** years, which for 6000 street lights equates to an annual cost of £48,000 – a significant saving of £59,000.

The selected 6,000 streetlights are situated in residential roads across the whole borough. Not all residential roads are included in this project - only those which have been deemed to benefit from the changeover to LED lanterns at this time. The current proposal focuses on those roads which currently have sodium streetlights and the specific spacing between lighting columns which make the use of LEDs lights viable. Given the speed with which LED street light technology is progressing, following a successful implementation on residential roads, further investigations will be undertaken to find suitable LED lanterns for other roads and social housing streetlights.

Cabinet agreed to:

- a) Proceed to tender for the purchase of 6,000 LED lanterns and the conversion of 6000 sodium street lights, in residential roads.
- b) Apply for the maximum interest free loan available under the Salix Energy Efficiency Loan Scheme (SEELS) of £770,000 to part fund this project.

Cabinet RECOMMENDS to the Council that it add the funding of the scheme as set out in Appendix A to the Capital Budget for 2013/14