

Street Lighting LED Replacement Project



North
Northamptonshire
Council

Current Street Lighting

- The current lighting Asset is maintained by Balfour Beatty under a PFI Contract ending in 2036
- Between 2011 and 2016 Balfour Beatty replaced the lighting with new assets and a new much lower lighting standard
- Countywide since 2011 energy usage has reduced from 29.2m kWh annually to 8.6m kWh in 2022
- Over the same period energy costs have risen from 8.4p/kWh to 33.9p/kWh and were forecast to rise to over 50p/kWh from October 2022, however the recent Government intervention has capped this until April 2023. There is no provision for capping beyond then and we expect prices to rise by up to 40%
- In 2011 the County Council reduced its lighting budget by £2m and switched off nearly 50% of lights
- The two Unitary Authorities jointly receive a PFI Credits Grant of £5.184m annually. The net Authorities budget is currently £6.103m
- Pre switch-off, the lighting budget was £5.864m. The post switch-off budget was £3.864m and energy accounted for £2.393m. Had we done nothing, energy alone today would be £12.4m (current uncapped £3.6m) excluding adoptions!
- Through the PFI Contract replacing the asset, we have avoided substantial cost increases.

Current Street Lighting

Here are some images of the current street lighting lanterns provided through the PFI



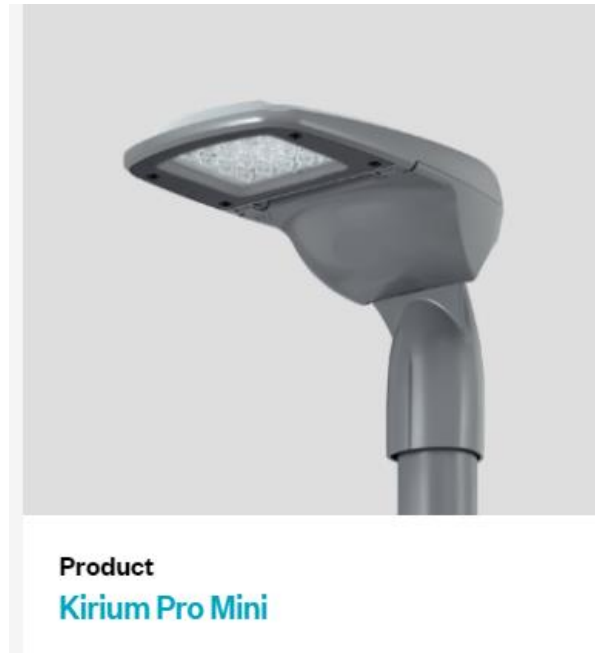
Proposed LED Street Lighting

- The proposal is to replace existing with LED alternatives (unless already LED)
- For NNC, current energy costs for those existing units is £1.16m and there is a budget pressure of £361k (post energy cap) from recent energy cost increases
- Converting to LED will reduce energy usage by two-thirds
- The conversion programme will take 120 weeks to complete and if the programme could commence in April 2023, over the next 3 financial years we could avoid £1.08m of additional costs above current budget and save £350k below current energy budget (Year 1 would broadly be to budget on energy)
- Although we currently procure Green Energy and so lighting is effectively Carbon Zero, the energy reductions upon completion would be equivalent to 500.8 tCO₂e saved annually based on current generation factors
- For NNC, the energy currently used by Highway Street lights represents 29.5% of the Council's entire annual usage through the LASER contract (excludes Kettering area which is procured through ESPO) – Overall probably 20-25% of the Council's energy use

Proposed Street Lighting

Here are some images of the proposed street lighting lanterns to be provided through the PFI

Isaro Pro



Alternative Street Lighting Solutions FAQ's

- Is it possible to reduce our energy consumption by using solar signs and lights? Whilst lanterns with integrated solar panels are available at comparable prices, they are generally fixed power output and will not light throughout the night in the winter, so are unsuitable for all highway locations. We would require units with separate solar arrays to harvest enough energy to run throughout the year. Unfortunately these units have a large windage area and most of our lighting columns are not strong enough to support them. Material costs could be 10-12 times that of the proposed LED lanterns and that would increase to 15-20 times the cost if a new column was needed. This is not a viable solution.
- Can we change lighting levels if we feel that the current standards are too low? No, increased lighting levels would require more columns to be installed. Current levels are the minimum allowed.
- Can we re-illuminate roads where lighting has been removed? This would require additional capital and increase energy usage (£114k / km Capital and £10k / km Revenue).
- Could part-night lighting be considered in some areas? This is possible and included in current Policy. Whilst not currently a proposal, the Centrally Managed System would allow this to be easily trialled and reversed if required. Many authorities adopt this currently.

