apse membership resources

Briefing 22-28 **July 2022**

Street Lighting: Trend analysis 2020/21

This briefing provides details on the performance information available from APSE's performance networks service looking at performance indicators and current policy issues for councils who deliver Street Lighting services. This briefing is based on the last full year's figures so it is a reflective analysis and, where appropriate, takes into account the impact of Covid-19.

Key issues

- The average cost of maintaining a street light continues to fall, (including replacements) is £57.15
- Energy cost per lamp continues to fall, mirroring the change to LED and now stands at £29.88. Time to rectify faults by the regional electricity supplier however continues to deteriorate – now standing at 20.54 days and only 75% within agreed timescales
- Overall investment (capital & revenue spend) is rapidly declining, now at £51.53 per light, a 38% decrease over the last 5 years.

Overview

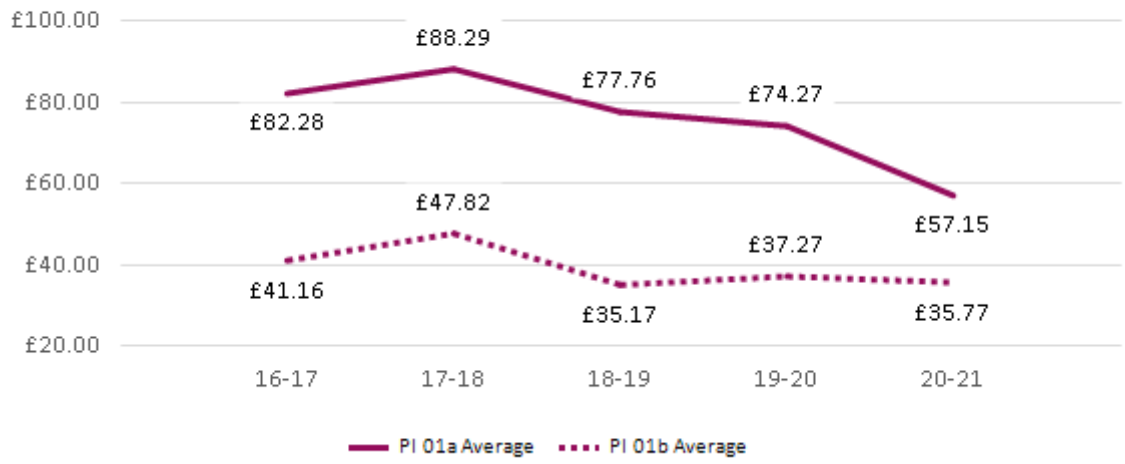
The APSE performance networks performance indicators for street lighting cover the cost, productivity and quality elements of the service. This analysis aims to provide participating authorities with an overview of service trends, what this infers and what further activity and analysis individual authorities and the APSE roads/highways, winter maintenance and street lighting benchmarking group could consider. The analysis in this summary is based on averages across all family groups.

Cost measures

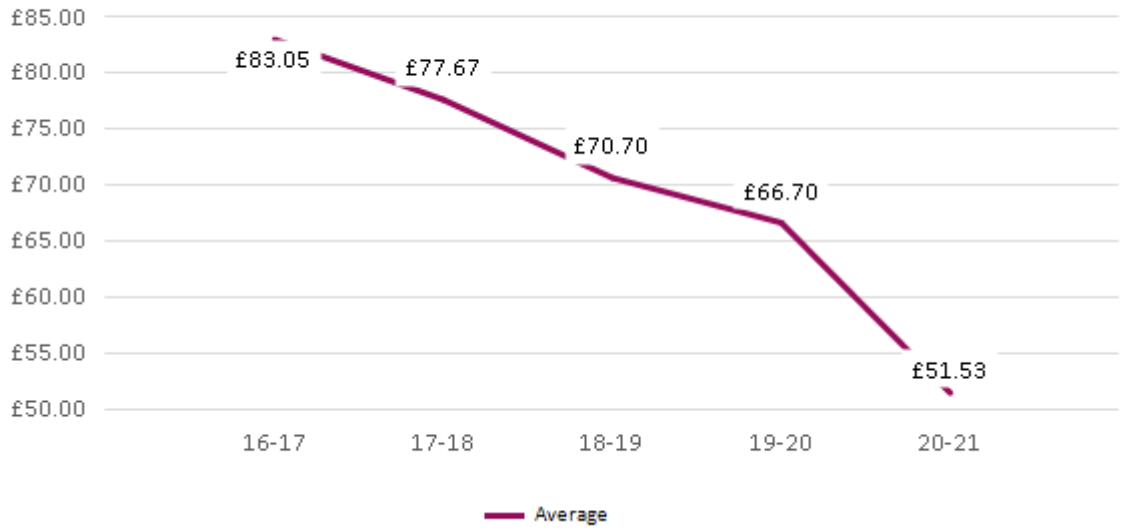
Headline figures:

In 2020/21, the average cost for maintaining a single street light PI 01a was £57.15. The average figure for investment in street lighting infrastructure was £51.50 per light. These are dramatic falls seeing a 35% reduction on average maintenance cost since a high in 2017-18 and similar in investment. The long-term benefits of investing in LED lighting infrastructure with its vastly improved reliability are clearly showing in what is a continuing positive downward trend

PI 01a Average cost of maintaining a street light
PI 01b Average cost maintaining a light (excluding bulk replacement)



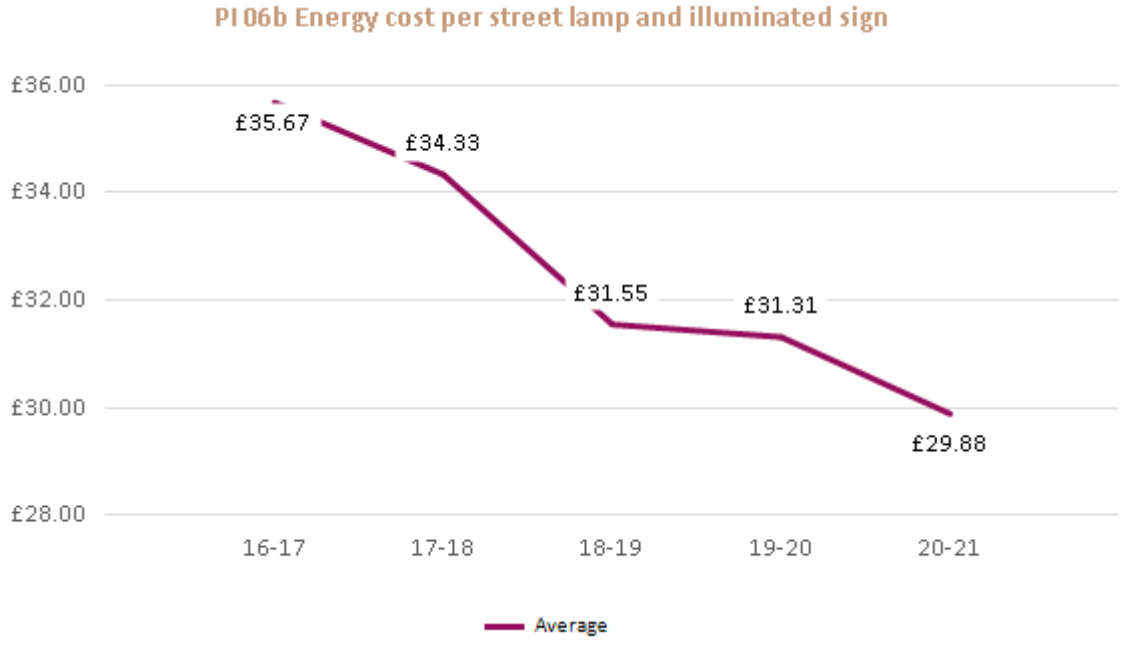
PI 01c Total investment in infrastructure per street light (using capital and revenue spend)

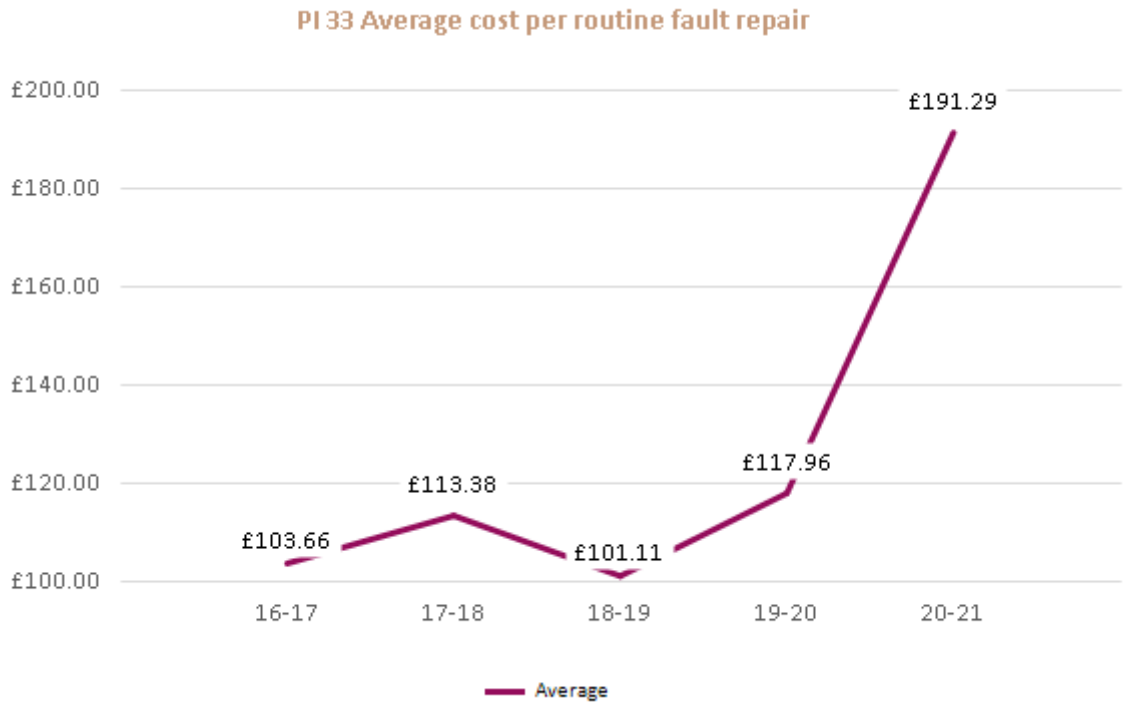


Headline figures cont.

The total energy cost PI 06b was £29.88 to maintain a street light/illuminated sign. This is a continued decline and 16% lower over the 5-year period. However, it also highlights that the change to LED lighting has seen electricity suppliers charging more, through increasing for example the utilities element with electricity pricing, and this decrease should therefore have been substantially higher.

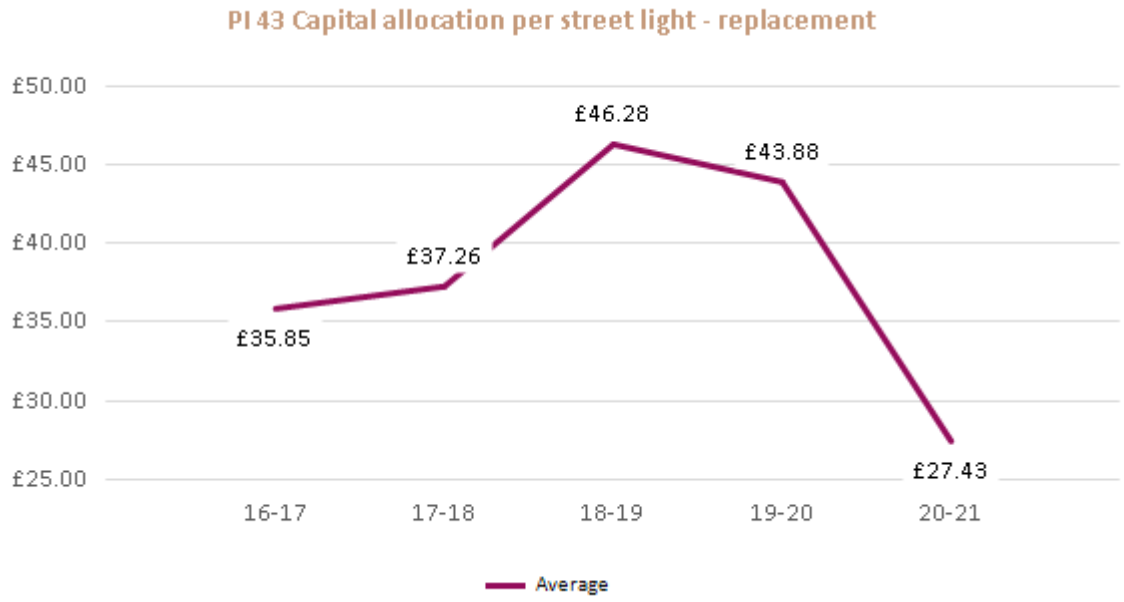
The average cost per routine repair PI 33 was £191.29. This huge 89% increase would normally flag a warning, however it's purely the vastly reduced number of repairs whilst the service has to maintain a base level of technicians etc.

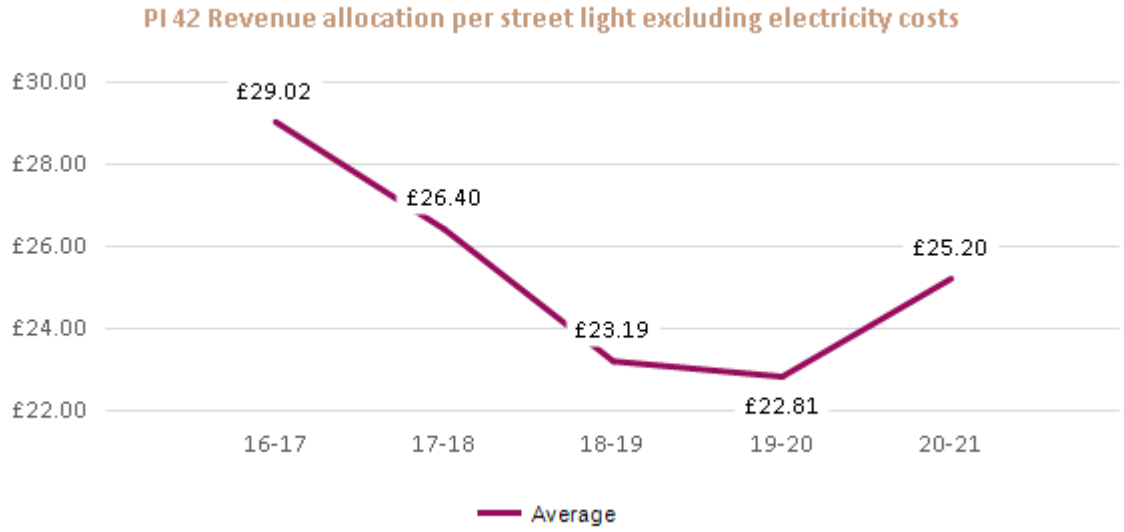




Investment:

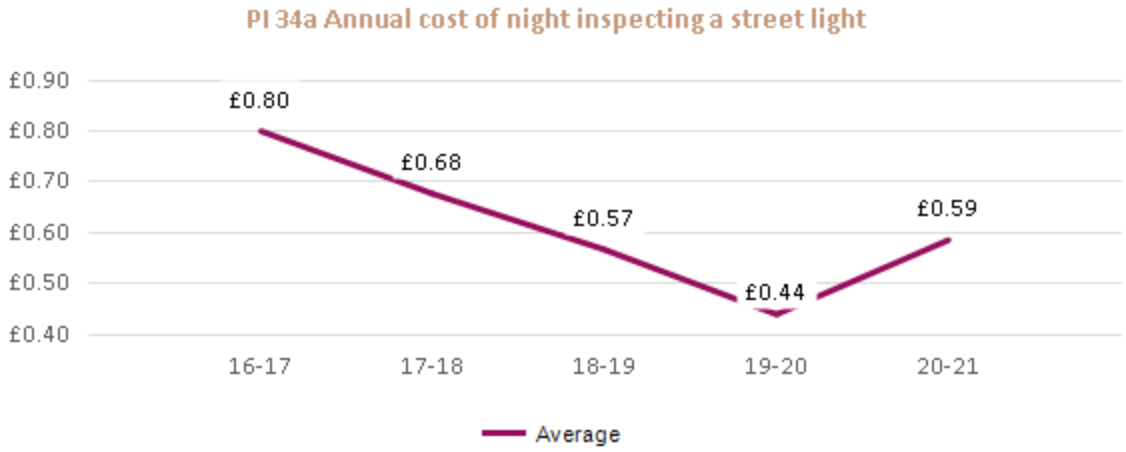
The total investment in infrastructure per street light can be broken down into an average investment of £27.43 in capital expenditure (PI 43) and £25.20 in revenue expenditure (PI 42). The average investment in capital allocation is exhibiting a significant downward trend having fallen 40% over the past 2 years whilst the revenue investment has slightly increased this year. This reflects the investment in LED lighting coming to an end as the older lighting stock is near 100% replaced and the concentration on revenue for future maintenance.





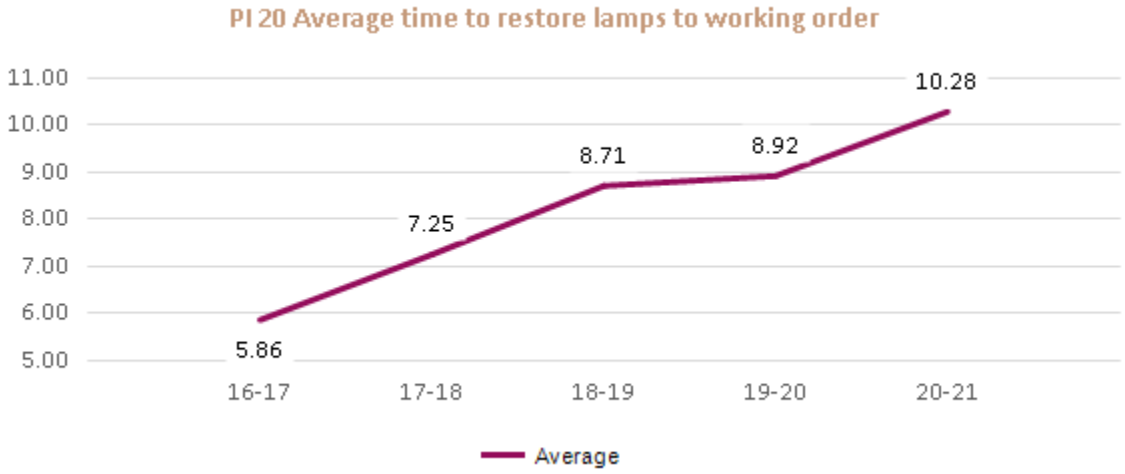
Costs of inspection:

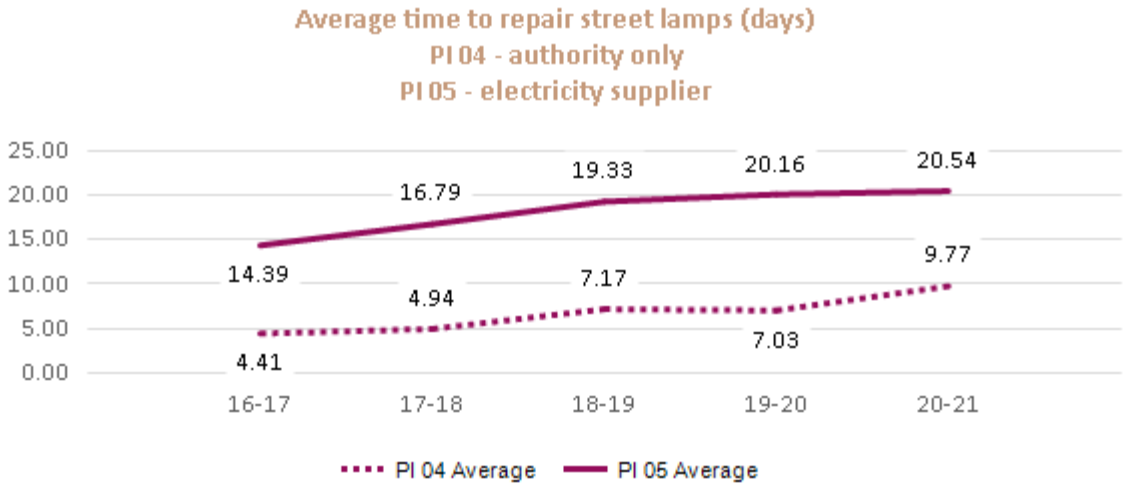
With the advent of Central Management Systems (CMS), significantly fewer authorities use night inspections as they can monitor lights centrally. For those who continue, there has been a continued reduction to the annual cost, although there is a move upward in 2020-21 which may be related to Covid. The annual cost of night inspecting a street light (PI 34a), has fallen by 26% over the last 5-year period down to £0.59.



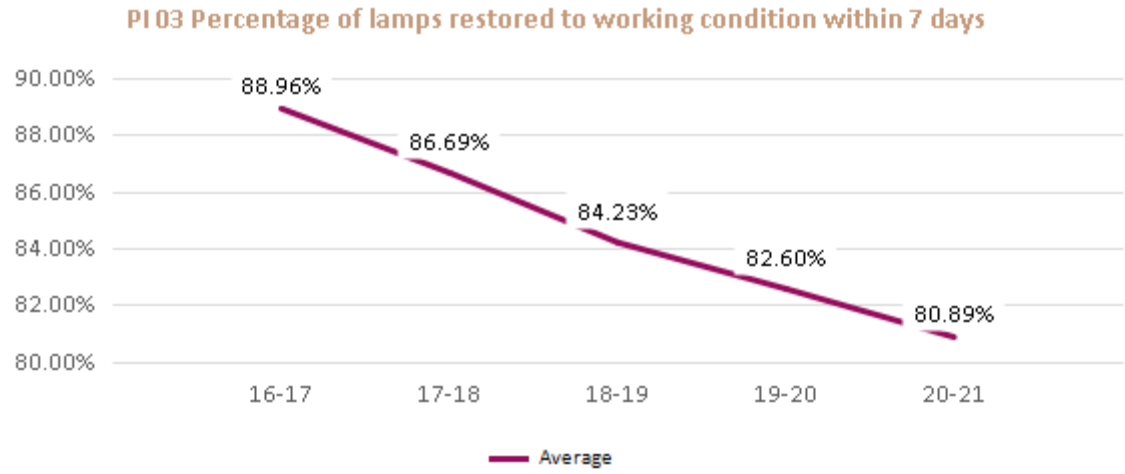
Productivity

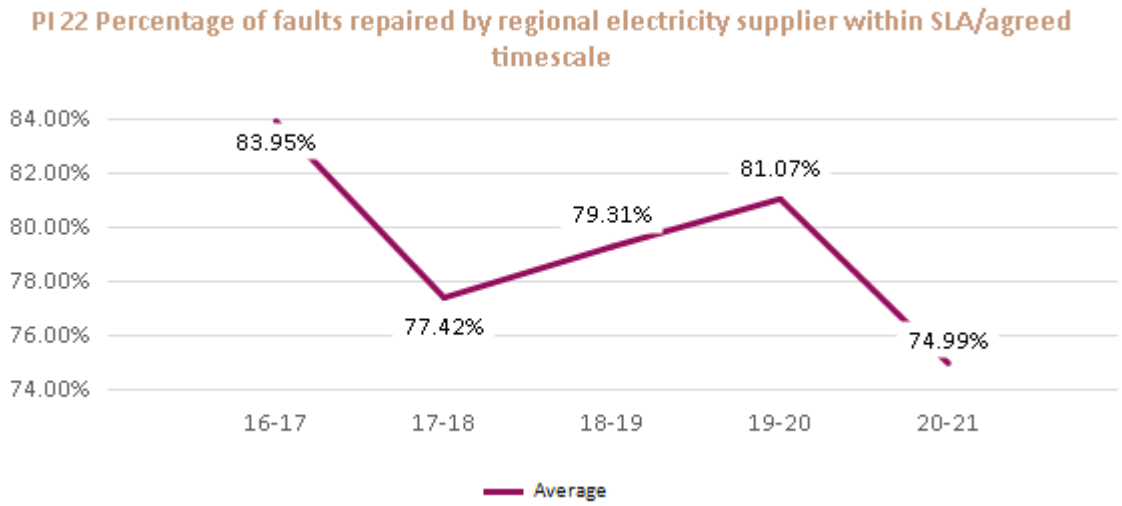
This year, we have seen a further increase in the average number of days taken to restore a lamp to working order to 10.28 days. The first graph (PI 20) gives an overall picture of the data submitted this year and the second (PI 04 & PI 05) shows how this measure differed for those repaired by authorities and those repaired by electricity suppliers. Worryingly the trend is upward for both authorities and electricity suppliers. This should be seen in the context of significantly fewer repairs but is none the less not good for the long term. Given the increase does not appear from the trend lines to relate to the pandemic and has been stepped over a number of years, it appears that authorities have taken the opportunity from LEDs to reduce the lighting crews.





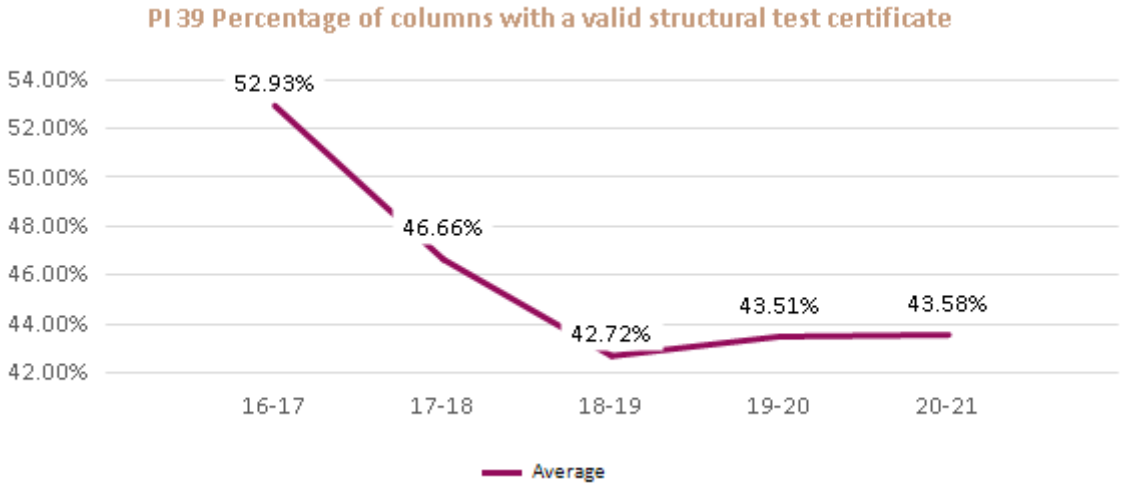
Alongside this, we have seen a reduced percentage of lamps restored to working condition within 7 working days and the percentage of faults repaired by the regional electricity supplier within the SLA/agreed timescale has similarly reduced to 74.99% (PI 22).

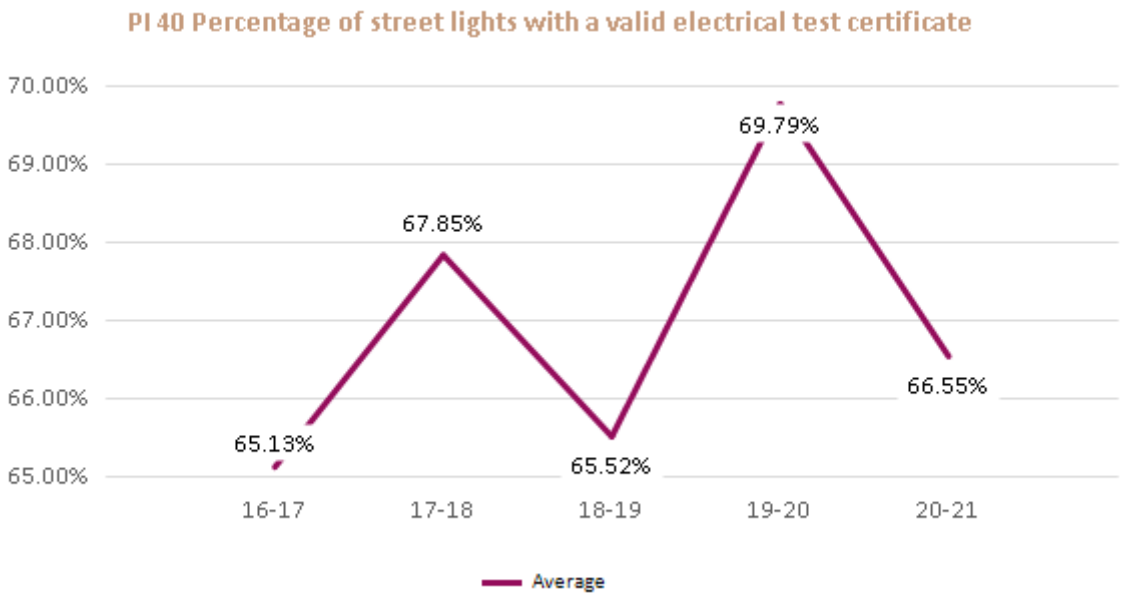




Quality

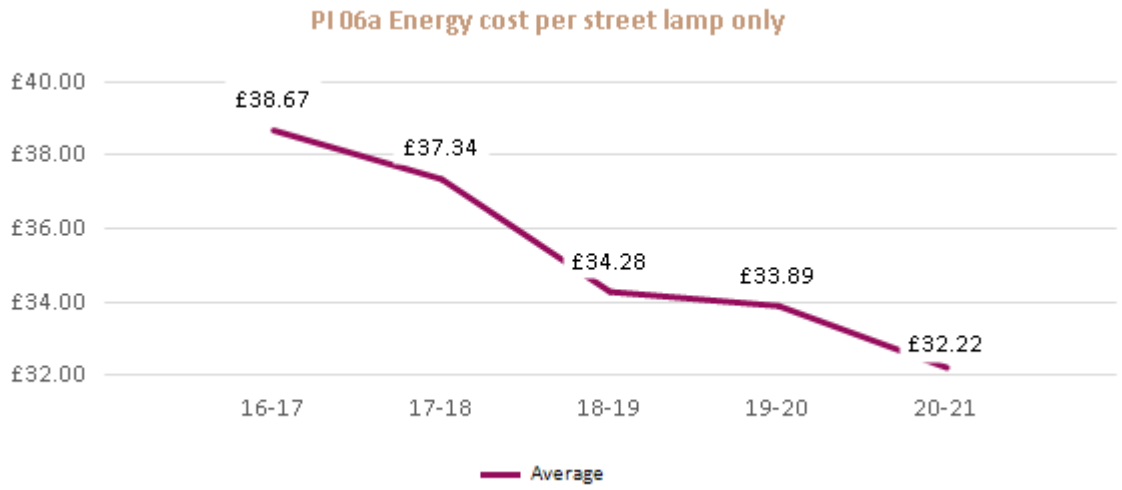
PI 39 "percentage of columns with a valid structural test certificate" has marginally increased this year to 42.58%. In parallel, PI 40 "Percentage of columns with a valid electrical test certificate" has also fallen to 66.55%. Over the last 3 years there has been a slight improvement but both indicators are historically low.

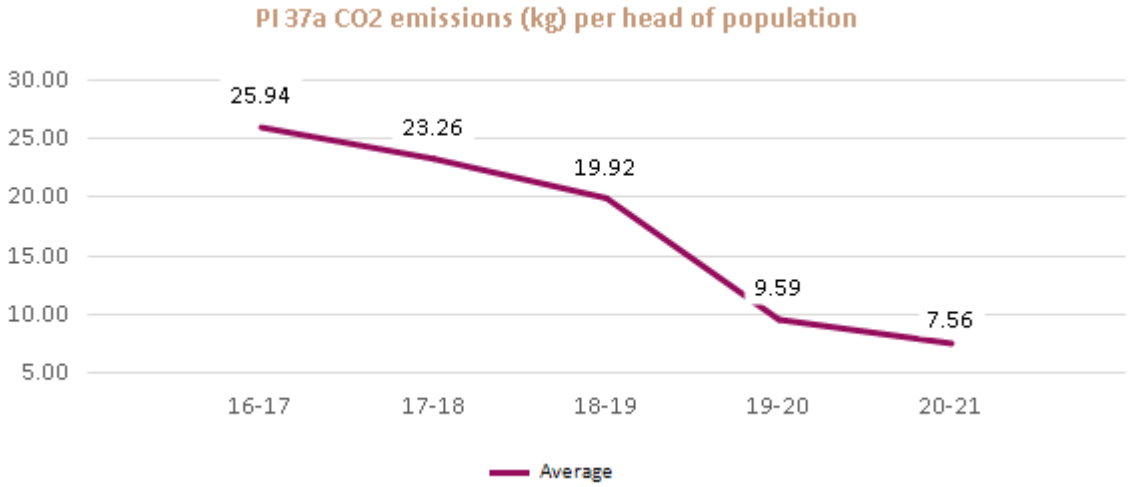


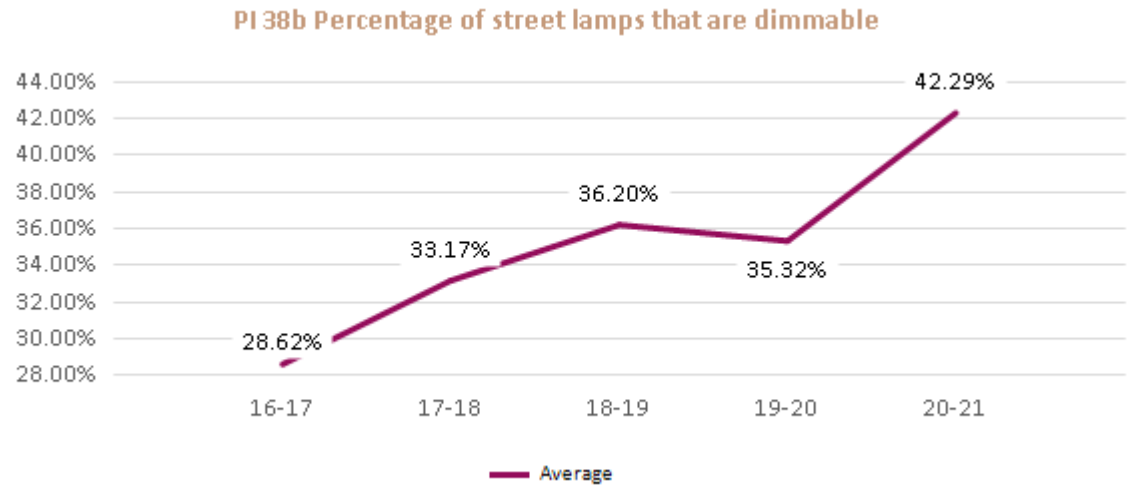


Environmental

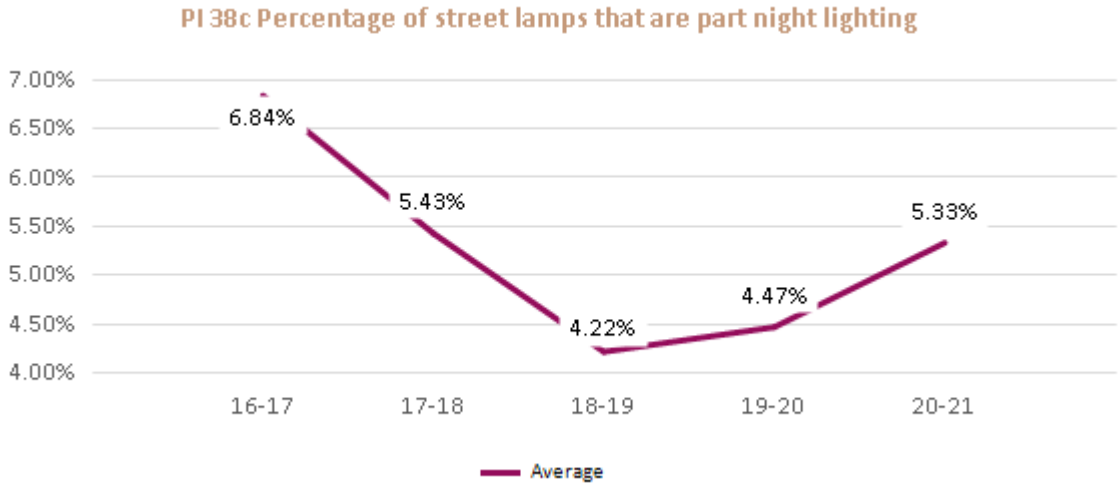
Most Councils have adopted a target of net zero by 2030 or in some cases sooner. The indicators show that Councils have made a good start with street lighting. Whilst energy cost per street lamp (PI 06a) has fallen by 17% to £32.22, CO2 emissions per head (PI37a) have fallen by 71% to 7.56kg. Had electricity remained around the same price, one would have expected a similar fall in cost but this as shown above has been impacted by an increase in the non-power related charges within electricity bills as well as more recent significant price increases which show no signs of decreasing.

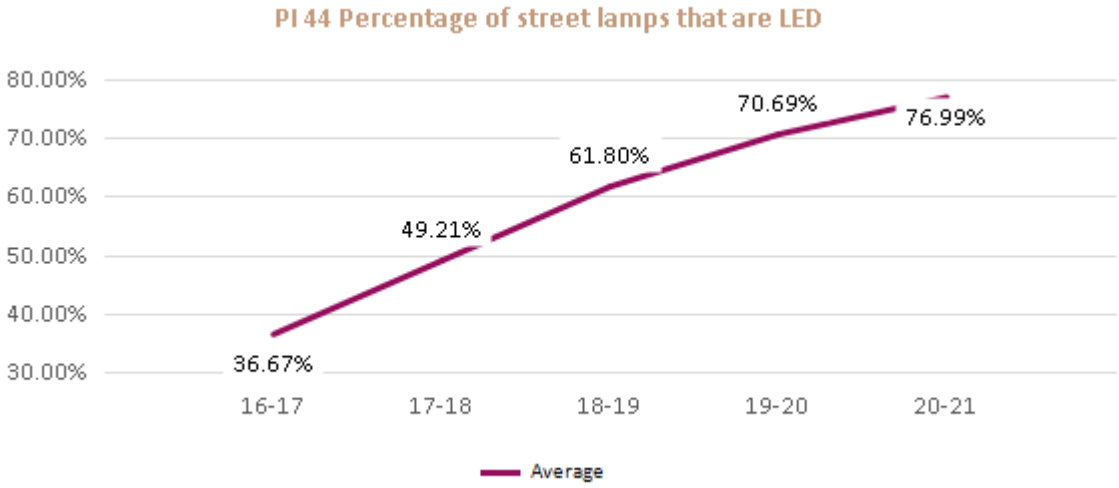




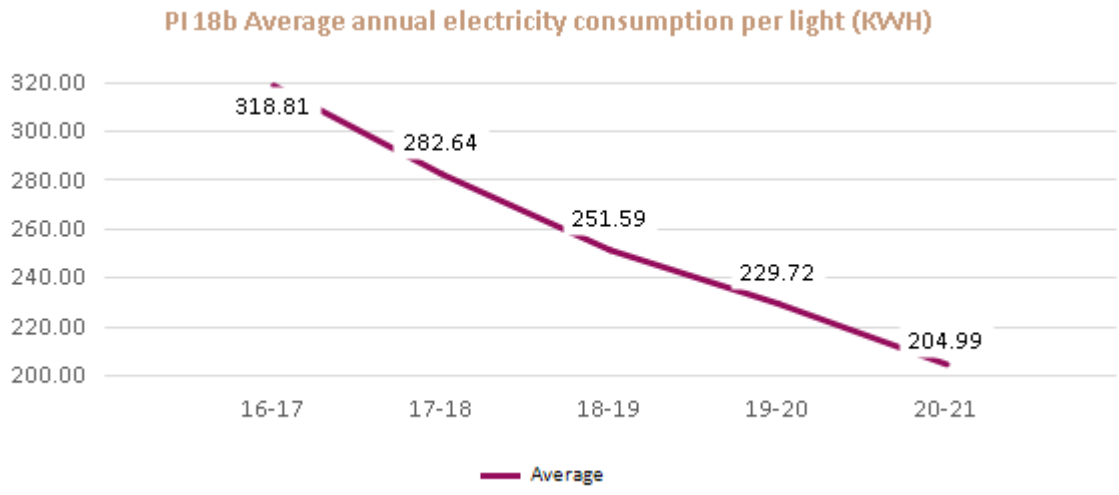


LED lights allow for significantly more control and 76.99% of street lights are now LED (PI 44) allowing 42.29% (PI38b), to be dimmable. This allows to reduce energy consumption even further during the early morning. Similarly, 5.33% are part lit (PI 38c), often off between midnight and 5am.





The steady replacement of traditional lights by LED has continued with the average annual electricity consumption per light (PI 18b) falling by 36% over the last 5 years to 204.99 KWh. One might expect this to level off in future years but currently the trend remains downward.



APSE local authority energy collaboration

APSE Energy is working with many local authorities who are seeking faster progress on the sustainability and energy agenda. Climate Emergency Declarations are prompting them to develop action plans and engage widely with stakeholders. APSE Energy and our 120 member local authorities have a joint vision of the municipalisation of energy, so increasing the role of the local authorities within the local energy sector. In other words, the public and community, as well as private, ownership and managerial control of local energy generation, distribution and supply as well as the delivery of energy efficiency works. APSE Energy provides capacity to its members to enable them to keep up to date with this rapidly developing agenda, has an advocacy role to promote the work of councils in this sector and can help with consultancy support for specific projects including street lighting projects. APSE Energy members have significant expertise within the energy sector and sharing this expertise is a function of the group.

For more information on APSE energy, contact Phil Brennan pbrennan@apse.org.uk or Charlotte Banks at cbanks@apse.org.uk.

Street lighting officers, managers and service directors will also benefit from attending APSE's Highways, Street Lighting and Winter Maintenance Advisory Group which is free to APSE member councils and you can sign up to attend this group using this link .APSE members attending the APSE Annual Seminar on the 14-15 September will also be able to select a strategic forum as part of that seminar on Highways, Street Lighting and Active Travel.

Rob Bailey
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