

Case Study

Croydon University Hospital

- Customer: Croydon Health Services NHS Trust
- Project Value: £713,333
- Energy Savings: 2,453,033 kWh P/A
- Energy Savings: £206,054.78
- Payback: 3.46 Years

PROJECT OVERVIEW

As part of the NHS Energy Efficiency fund for LED lighting program Energys Group has delivered the LED upgrade program at Croydon University Hospital. This project was won through a successful competitive tender process.

The objective of the Croydon program was to upgrade lighting - across the whole site. The project is on a large scale: Over 6,000 fittings were replaced utilising a combination of Energys' standard LED range; and LED with built-in controls where appropriate.



PRODUCTS USED & ENERGY ADVANTAGES

Energys Group's range of LED luminaries with built-in lighting controls (daylight harvesting, occupancy sensing, constant light output) we selected for this project. This technology operates on a fitting-by-fitting basis.

This offers users two major energy advantages:

- Users are able to benefit from the very latest lighting controls without the need for an extremely expensive controls system. Each fitting operates independently which means that, if desired, users can have a single fitting with controls without any additional cost.
- By operating independently, each fitting responds directly to its specific environment. This means that responses to room/space occupancy (or absence) and responses to natural lighting are both immediate and optimal. This delivers significant improvements in energy savings.

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PROJECT METHODOLOGY & SURVEY

Key to the success of this project, was the Concept Design. At the heart of this was our preparation of a detailed business case for the proposed LED upgrade. This included:

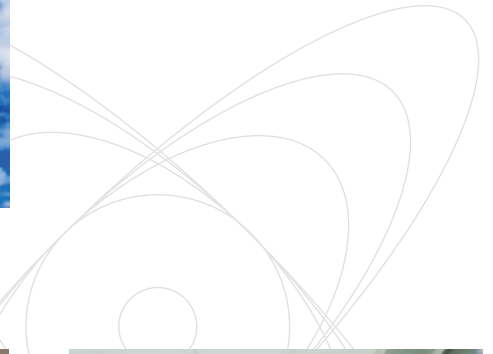
1. review of the existing lighting
2. proposed upgrade
3. energy savings and performance improvements
4. operational impact and project costings



Before Energys LED upgrade



- **Collection of base level data:** Detailed site information was provided by the NHS Trust. However, to ensure that we had a complete picture prior to project commencement, we undertook a site-wide survey of the hospital. The detailed survey enabled us to get a truly complete picture of the hospital including, existing light levels, lighting types, ceiling types and conditions, controls, working environments, site layout and gain valuable information from the onsite facilities team.
- **Communication & Engagement:** Engaging with the onsite facilities team during the tender was a critical part of the process. This enabled us to really understand their goals and priorities for the programme and ensure that the Concept Design for the tender response highlighted the case for LED upgrade. The key findings and reported benefits to the hospital including the large energy savings, maintenance savings and operational benefits enabled the application for funding to be approved.
- **Highlighting Operational Benefits:** The detailed, board-level report Energys Group supplied to the Trust also highlighted that real energy savings and operational benefits could be realised. This resulted in additional funds being allocated by the Trust to ensure that the complete hospital could be upgraded to LED.



After Energys LED upgrade



An example of this was a very specific set of RAMS produced for ward areas. Due to the exceptionally sensitive nature of the ward areas, the RAMS were produced with input from both the onsite facilities team, our Projects Team and also guidance from several Ward Charge Nurses to ensure they offered the optimum patient and staff protection, whilst ensuring the most efficient installation methodology.

As the project progressed, the COVID-19 pandemic hit the country. As a result, Energy Group had to swiftly develop a set of very specific working practices. With the work continuing throughout the hospital we produced a COVID-19 Working Policy and a hygiene guidance document which were both integrated into updated RAMS. This, in conjunction with our excellent working partnership with the onsite facilities team, ensured that the programme continued with no delays whilst maintaining the safety of patients, hospital staff and our delivery team.

TECHNICAL SPECIFICATION

A key outcome of the survey - and in particular the Technical Review Meeting - was our approach to the technical specification details of the proposed replacement LED technology. This process brought into sharp focus the performance of the previously installed LED lighting; the quality and performance had already started to diminish.

As a result, a third phase of work was agreed. This required us to replace all of the older LED luminaires. Once replaced, the Trust was able to get full benefit from our high-performance luminaires and controls – and enabled the full extent of the savings targets to be realised.

SAFE WORKING & ENGAGEMENT

A key feature of our Concept Design was the provision of detailed Risk Assessment Method Statements (RAMS).

This NHS Trust Hospital has extremely high patient traffic and a large number of departments are all located on one extensive - but compact - site.

When completing the RAMS it was key to understanding the different requirements by department and the impact that this had on the patients and staff. As the installation was taking place across the complete site, this included every type of scenario from general circulation areas to specialist wards.

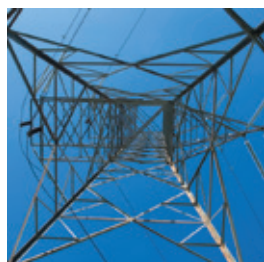
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OUTCOMES

- Our successful tender response enabled the NHS Trust to secure funding to complete the LED upgrade across the complete hospital.
- Energys Group delivered - to time and budget - a site-wide LED upgrade programme across a fully operational NHS Hospital, even under exceptional circumstances.
- Energy Savings are estimated to be 2,453,033 kWh P/A - which equates to financial savings of £206,054.78 P/A.



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