

Cardiff City Council Lighting Feasibility - Case Study

THE CLIENT

Cardiff City Council

THE AIM OF THE PROJECT

The technical aim of the project was to deliver a detailed feasibility study for upgrading the existing lighting systems to LED type, ensuring that all final lighting solutions comply with Part L2B and CIBSE standards and that savings are successfully delivered.

HERE'S HOW WE DID IT.....

The study summarised the true understanding of the existing lighting systems at the 40 sites, the applicability of LED technologies and the likely savings associated. Saving opportunities were ranked allowing a potentially targeted approach to any implementation, leading with the most fruitful sites potentially first.

The study focused on upgrading the lighting using LED lamp technology and the incorporation of suitable lighting controls where appropriate. Consideration was also given to replacing existing with new T5 fluorescent fittings or using LED conversion kits.

Estimated savings were presented to Cardiff Council, enabling them make informed decisions on which sites to progress through to implementation.

1. RESEARCH

Enica conducted weeks of comprehensive research into the lighting market. This was done to fully understand the lighting products that were available and what costs would be expected.

2. SURVEYS

40 site surveys were conducted in order to obtain the current lighting levels of the buildings, current energy consumption via lighting of the buildings and what obstructions and risks were there to any kind of lighting refurbishment. This was important as some of the buildings were listed buildings that held historical relevance such as Cardiff City Hall and Cardiff Castle.

3. CALCULATIONS

Enica constructed its own lighting refurbishment calculation software in order to conduct the surveys, compile the data and output findings in the most efficient way. These calculations were based on CIBSE's Lumen Method and Part L2B of the Building Regulations. The software package would provide Enica with the correct lighting refurbishment system including the cost to refurbish, annual energy cost, maintenance and carbon emissions.

4. REPORT

The report detailed the findings of the calculations package for each of the 40 sites. These were copied into tables ranked using Net Present Value (NPV), which enabled the projects to be ranked by their value to Cardiff City Council over a 20-year period taking into account all costs and savings.