

# Strategies for Tackling the Energy Crisis

## Guidance for Lighting Authorities

Produced by the ILP Technical Committee December 2022

*With thanks to Allan Howard (WSP) and David Lodge (CU Phosco) for compiling.*

### Introduction

As the impact of the energy crisis starts to affect the spending on energy for road and street lighting, Local Authorities are starting to question when and what lighting must be provided. This document pulls together and summarises the relevant legislation and the impact this has on decision-making; on installing and maintaining lighting, dimming and switching off strategies.

### Comments received at the Committee:

“Energy crisis is the top of Agenda in Local Authorities”

“We are on the brink of a financial emergency”

“Typical energy costs rising from 16.5p up to potentially 60p a unit”

“Immense pressure to reduce costs and a lack of knowledge and experience on Councils in decision making”

### Power to Light

A Highway Authority has a power (ability), not a duty (obligation), under the Highways Act 1980 [Section 97 Lighting of Highways] (or in Scotland the Roads (Scotland) Act 1984) [Section 35 Provision of lighting by roads authorities] to provide and maintain road lighting. Similarly, the local Lighting Authority, usually the Parish, Town, District or Borough Council have the power to provide and maintain footway lighting.

In exercising its powers, with respect to the extent, operation and maintenance of its road lighting, a Highway Authority should act reasonably. If it acts in a way that no reasonable Authority would act, then the decision of that Authority could be subject to review in the Courts.

## What If The Worst Happens?

Section 17 of the ***Crime and Disorder Act 1998*** requires that safety dimension of all work is taken into account.

It is important that the correct lighting Standards and industry best practice guidance are followed.

Should any road death occur then the incident will be investigated by the police under the ***Road Death Investigation Manual***. The Manual requires an assessment of the road infrastructure, and checks on its compliance with the standards applicable at the time of construction. Failure to meet the standards could lead to the Authority being legally challenged.

## Hierarchy of Documentation

When assessing the infrastructure, the investigation will consider all applicable documents in hierarchy order, which is normally taken as follows (listed in order of consideration).

1. Acts of Parliament
2. Regulations
3. HSE Approved Codes of Practice
4. HSE Guidance Notes
5. British / European Standards and Codes of Practice
6. Industry Codes of Practice and Guidance, with no order of precedence including:
  - a) ILP Professional Lighting Guides (PLG)
  - b) ILP Technical Reports (TR)
  - c) ILP Guidance Notes (GN)
7. An Organisation's own strategy and policy documents.

## Managing Risk

A Client commissioning any project must comply with the requirements of the ***Construction Design and Management Regulations*** – see the ILP's CDM guidance document<sup>1</sup>.

No duty-holder should appoint a Designer, CDM Co-ordinator, Principal Contractor or Contractor unless they have taken reasonable steps to ensure the organisation, or individual, is competent to carry out the duties for which they are being appointed. This applies to any lighting designer, or a local councillor making demands on the Lighting Authority.

The principle of managing health and safety at work is the identification of hazards and the management of risk, to eliminate or minimise the possibility of injury. This is covered under the ***Management of Health and Safety at Work Regulations*** (MHSWR).

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<sup>1</sup> <https://theilp.org.uk/publication/guidance-note-4-cdm-2015-overview/>

## Switching Off Street Lighting

While there is a power, not a duty, to provide street lighting, to remove street lighting the Lighting Authority must show that the risks resulting in the installation of the lighting are no longer present. For example, lighting of a dangerous stretch of road might be reviewed and removed if the road arrangement is revised, to reduce the danger. Lighting provided to reduce crime, or the fear of crime, might be reviewed and removed if actions have been taken to reduce the risk of criminal behaviour in that location. If a Local Authority does remove or turn off the lighting, then they should ensure the road is suitable as an unlit road, including the provision of white lane markings and that it adheres to the reflective signage performance requirements.

## Switching Off Every Other Street Light

Options considered to reduce energy have also included partial switching off of street lighting. BS 5489-1: 2020 section 4.3.4 advises on variable / adaptive lighting and states, with respect to switching off sources:

*"If switching light sources off is the method used to vary the lighting level, the uniformity requirements should be met."*

Uniformity will not usually be achieved when switching off every other light, as the height to spacing ratio of lighting columns rarely allows the column spacing to be doubled.

Only the dimming of all street lights on a section of road will meet the section 4.3.4 requirement. Current research from Professor Steve Fotios, at Sheffield University, advises that uniformity is of higher importance than average illuminance for pedestrians to feel safe and secure when walking the streets, which suggests adapting the lighting levels, rather than switching off luminaires, is the most appropriate energy saving adjustment.

## Reducing the Lighting Class

Reviewing, and where appropriate reducing the lighting class can be an effective method of reducing energy consumption. It should be noted that BS 5489: 2020 effectively reduced the required lighting levels. This change removed the need for calculating the impact of S/P ratios on the standard lighting level requirements reflecting the change of light sources from sodium light sources to white light from LEDs.

Any further reduction in lighting class should be based on a site-specific lighting level risk assessment, in accordance with the Standard.

## Energy saving

It should be remembered that due to charging structure restrictions, the full energy savings may not be proportionate to the changes applied on site.

## Departures

Further reduction in energy consumption could be achieved by selecting light levels that are below those recommended by the Standards. This is known as a departure from Standards.

When considering a departure from Standards, it is important to protect both the Authority and decision makers in terms of legal liability. A suitable departure risk assessment should be completed and that those involved in that risk assessment should be competent, and understand the implications of the departure on safety and liability.

It is recommended, either before, or as part of the departure risk assessment, to review the Authority's documents and lighting policy (if available – some authorities follow the DMRB) and to update these where necessary. This will ensure that the decisions taken in the risk assessment are based on current and appropriate guidance and policy.

Some Authorities have a *Departures from Standards* process. Check if one exists and follow it, or consider developing one with your Authority, to ensure due process.

## Bibliography

### **For the full range of ILP Guidance documentation**

<https://theilp.org.uk/resources>

### **ILP PLG08 2016 Guidance on the application of adaptive lighting within the public realm**

<https://theilp.org.uk/publication/plg08-guidance-on-the-application-of-adaptive-lighting-within-the-public-realm>

### **ILP GN04 CDM 2015 Overview**

<https://theilp.org.uk/publication/guidance-note-4-cdm-2015-overview>

### **ILP Advice for considering switching off street lights in the public realm**

<https://theilp.org.uk/publication/switch-off-2015>