

FURTHER INFORMATION

Sources

The Institution of Lighting Engineers: Regent House, Regent Place, Rugby CV21 2PN. Tel: 01788 576492. www.ile.org.uk contains much useful information including free, downloadable leaflets.

Campaign for Dark Skies, a collaboration between the British Astronomical Association and the International Dark Sky Association, 38 The Vineries, Colehill, Wimborne, Dorset BH21 2PX www.dark-skies.org

Commission Internationale de L'eclairage (International Commission on Illuminations, CIE). See: www.cibse.org/cieuk/websit21.html for extensive publications list.

The Chartered Institution of Building Services Engineers (CIBSE)
22 Balham High Road, London SW12 9BS Tel 020 8675 5211. www.cibse.org
contains useful publications list.

Publications

Night Blight, Campaign to Protect Rural England (CPRE), 8 Southwark Street, London SE1 0SW. www.cpre.org.uk

Light Pollution Responses and Remedies, Bob Mizon ISBN 1-85233-497-5

BS 5489 Road Lighting (series of publications), British Standards Institution, 389 Chiswick High Road, London W4 4AL tel. 0181 996 7000. www.bsi-global.com

Lighting in the Countryside: Towards Good Practice: Countryside Commission and Department of the Environment (1997) Available online at: www.odpm.gov.uk

Seventh Report of Session (2002-2003) (Volume 1) of the House of Commons Science and Technology Committee on Light Pollution and Astronomy - makes recommendations for strengthening the planning system's treatment of light pollution. Available online through www.parliament.the-stationery-office.co.uk

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Cover photo: Sports pitches at King Edward VII School, Sheffield by Les Seaman



CPRE
PEAK DISTRICT & SOUTH
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A Planner's Guide to Light Pollution



The orange glow in the night sky obscures the stars and wastes energy and money! Interest in reducing light pollution is growing amongst the public and in government locally and nationally but not everyone knows what needs to be done, or what policy support there is to combat light pollution.

This leaflet offers some suggestions about how local authority planners can address the problem. It is written for planners and for the people who seek to influence planners. It briefly looks at the problem of light pollution; surveys national policy and legislation and gives good practice recommendations for planning policy and development control. A brief technical note summarises the things to look for in lighting schemes and this is followed by a list of information sources.

THE PROBLEM OF LIGHT POLLUTION

What is the phenomenon so aptly described as light pollution? How does it come about and how can we prevent it obscuring our night skies? In the main it is caused by badly designed street lights, domestic security lights and floodlights. Put simply it is excessive, badly designed or misdirected outdoor electric lighting.

There are three sorts of light pollution problem - Sky Glow, Glare and Light Trespass.

'Sky Glow' is the orange glow seen over towns and cities. The glow over urban areas is not always localised and can usually be seen for many miles around.

'Glare' consists of light shining in the eye preventing the illuminated scene from being seen properly (e.g. powerful security lights or floodlights which dazzle and make it difficult to see surrounding areas).

'Light Trespass' is unwanted light that shines from one property into another. It is also referred to as 'light spill'. Security lights are the most common culprit.

TECHNICALITIES - WHAT TO LOOK FOR

Outdoor lighting will always be necessary but it should be well devised and the minimum required for the purpose.

Street lighting

Low Pressure Sodium (LPS or SOX) lights, installed during the 1970s cause the orange 'sky glow' above urban areas. High Pressure Sodium (HPS or SON) lights are preferred for street lighting as they have smaller lanterns and are easier to direct. These can be of two types:

- a) Full cut-off lanterns are preferred for rural areas and sites adjacent to parkland and observatories as they enable the light to be targeted precisely with negligible spillage.
- b) Shallow bowl luminaries (with less than 60 mm projection) are recommended for general street lighting as these produce minimal upward light pollution, whilst giving good illumination of the local area.

An opportunity to improve existing lighting

In 2003, the Government made available £300 million in PFI (public finance initiative) credits for local authorities outside London to upgrade street lighting. This money may be spent over the next two to three years.

Domestic Security Lighting

500 watt security lights provide far too bright a light. For domestic purposes they are energy inefficient and liable to cause nuisance. (Compare with the brightest lighthouses which use only 1,000 watts!) The Institution of Lighting Engineers (ILE) recommends the use of 150 watt lamps in the same fittings or 6-11 watt compact fluorescent lamps which may be left on all night and emit a soft illumination.

Flood Lighting

Lights used should be properly installed and positioned to avoid light spill upwards into the sky or horizontally to adjacent properties or the countryside. 'Globe lighting' should be avoided as it creates maximum light pollution, emitting more light upwards than on the area to be lit! For sports facilities, days and hours of use can be forecast at the planning application stage by the applicant and if these are acceptable they can become conditions of planning approval. Churches are more attractive when lit from within, showing off stained glass windows and allowing them to be seen against a night sky.

urban fringe land and, in terms of outdoor activities, Green Belt land, subject to environmental considerations. However special justification will be needed if such development is proposed in the open countryside.

PPG 19:

Outdoor Advertisement Control summarises government policy on outdoor advertisements. It advises (paras 11 and 12) that local planning authorities should have regard to the effect of an advertisement (including its illumination) on the appearance of the building or on visual amenity in the immediate neighbourhood. It is clear that the level of illumination suitable in villages and the countryside is much lower than that in urban high streets. The cumulative impact on the distinctive character of the locality is relevant. In National Parks, AONBs and conservation areas, stricter controls usually apply to advertisements that elsewhere may be displayed without consent (para 25). The Institute of Lighting Engineers advises on the brightness of advert illumination in various areas in their Technical Report no 5. (See Information Sources below for contact details.)

Environmental Impact Assessments

The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 make it clear that light pollution must be considered when preparing environmental statements. Schedule 4 of these regulations lists the following in the information for inclusion in Environmental Statements:

- (1c) An estimate by type and quantity, of expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation etc.)
- (3) A description of the environment likely to be significantly affected by the development, including in particular, population, fauna... landscape and the inter- relationship between the above factors.
- (4) A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long term, permanent and temporary positive and negative effects resulting from:

...(c) the emission of pollutants, the creation of nuisances and the elimination of waste.

GOOD PRACTICE RECOMMENDATIONS

Planning Policy

In due course LPAs will be required to address lighting issues in their planning policies. (See National Planning Policy and Legislation above.) The following is an example of good practice within the area covered by the CPRE Peak District and South Yorkshire Branch. CPRE urges other local authorities to include a similarly strong policy in their development plans together with a commitment to issuing supplementary planning documents on lighting.

Doncaster Unitary Development Plan (adopted July 1998):

Policy ENV 66

The Borough Council will seek to minimise light pollution. Details of any external lighting scheme required as part of any development should be submitted as part of the planning application. Applicants will be expected to demonstrate to the Local Planning Authority that the scheme proposed is the minimum needed for security and working purposes and that it minimises potential pollution from glare and spillage, particularly to residential and commercial areas, areas of nature conservation importance and areas whose open and remote landscape qualities would be affected.

Development Control

The following good practice and suggested actions are summarised from the Seventh Report of Session (2002-2003) (Volume 1) of the House of Commons Science and Technology Committee on Light Pollution and Astronomy (to which CPRE gave evidence).

1. Local authorities must request lighting schemes from those seeking planning permission for new developments, or changes to existing schemes.
2. Lighting schemes must only include lights that do not shine above the horizontal.
3. Before planning permission is granted, a local authority should require the following details (together with any other lighting conditions that are appropriate).
 - i. The height, type, shape and luminance output expected of the luminaires.
 - ii. The minimum level of light required to perform the lighting task.

- iii. An impact assessment of the lighting
 - iv. Whether the light fitting minimises the amount of light spill above the horizontal, and whether it lights areas outside the boundaries of the property it is meant to illuminate. (For example, applications to install globe or sphere lighting should be rejected unless the light is shielded and directed downwards.
 - v. Whether the lighting scheme is in an area near to an astronomical observatory or nature conservation area that needs protecting. If so, local environmental groups and users of the observatory should be consulted before planning permission is granted.
 - vi. Will the lighting be on all night or will it be timed to go off at say 11.00pm or midnight? It is relevant to impose conditions relating to the type of lights, their position and the timing required in order not to contribute to energy wastage - while at the same time ensuring security.
 - vii. In areas of doubt the planning permission should be subject to tests on the lighting levels with the requirement that the lighting installations be changed if they are not satisfactory.
4. Every local planning authority should create a Supplementary Planning Document (SPD) on light pollution. These should be subject to public consultation. SPD should give Planning Officers the necessary powers to request information on lighting schemes and LPAs the power to reject non-compliant schemes.



*Left: Light pollution dominates the night sky over Sheffield and blots out our view of the constellation Cygnus .
Inset: The constellation Cygnus as seen from a dark sky in New Mexico, USA*

*Photos: Darren Swindells
Secretary, Sheffield Astronomical Society.*

NATIONAL PLANNING POLICY AND LEGISLATION

Planning Policy Guidance and Statements

Planning Policy Guidance (PPG) and Planning Policy Statements (PPS) list material considerations which may arise when considering planning applications. Those relevant to light pollution are listed below.

Although there is currently no policy guidance specifically on lighting, this will change when a further annexe to PPS23 is published (see below). The new Cleaner Neighbourhoods and Environment Bill, currently before Parliament, will make light pollution a statutory nuisance and CPRE hopes this will greatly strengthen current controls. In any case, local planning authorities (LPAs) can use planning conditions or obligations to protect the environment, where these are relevant to the development proposed.

PPS 23:

Planning and Pollution Control permits (Appendix A) planning authorities to take account of the possible polluting impact of lighting in preparing local development documents. In due course support for combating light pollution will be strengthened with an expected new annexe on light pollution and a requirement for LPAs to have policies covering acceptable types of lighting.

PPS 1 (2005):

Delivering Sustainable Development gives guidance on the role of design considerations in achieving sustainable development and encourages planning authorities to guide development through supplementary planning documents (SPD) on design. Lighting is an issue that should be included in SPD.

PPG 15:

Planning and the Historic Environment indicates (para C.68) that there are some standard external fixtures that require listed building consent when they affect the character of a listed building. These fixtures include security and other floodlighting. Only undamaging and visually unobtrusive positions for such fixtures should be agreed.

PPG 17:

Planning for Open Space, Sport and Recreation gives guidance on the location of sport and recreation activities and advises that in the countryside great care should be taken to ensure that they are sensitive to their rural location. It indicates that recreational facilities may be an appropriate use for