

Reducing Light Pollution from Premises

in the South Devon Area of Outstanding Natural Beauty



Introduction

This Information Sheet is primarily aimed at businesses and provides both information and practical advice on exterior lighting. Other organisations that own or lease premises with exterior lighting may also find elements of this information sheet useful.

What reducing light pollution can do for your business

Light pollution is essentially 'wasted' light, not being used for the purpose it was intended and could unnecessarily be costing your business money. For an explanation of the different forms of light pollution see the AONB Information Sheet '[Light Pollution in the South Devon Area of Outstanding Natural Beauty](#)'.

Making simple changes to your existing exterior lighting to reduce 'wasted' light can:

- reduce the potential for legal action against you under private or statutory nuisance laws
- enhance your environmental credentials
- help to reduce your energy bills
- help create a positive, welcoming impression to your customers
- improve the local environment

The Clean Neighbourhoods and Environment Act 2005 and how it affects your business

This Act brought light pollution and obtrusive lighting under the scope of the Environmental Protection Act 1990. This means that artificial light can now be categorised as a **statutory nuisance** under certain circumstances. In practical terms this means that if light from your business premises falls onto another's property, (particularly where this is a residential property) you could be causing a statutory nuisance.

Where alleged instances of lighting nuisance have been reported to the local Council, the affected property owners must first demonstrate that they have taken steps to resolve the problem themselves before the Council itself will take action.

Glare, sky-glow and light trespass from a wall mounted light.

South Devon AONB Unit.



The local Council must then take reasonable steps to investigate complaints of such nuisances. Once satisfied that a statutory nuisance exists or may occur or recur, the Council has powers to issue an **Abatement Notice** against the person responsible for the nuisance or the owner or occupier on the premises from which it emanates. This will usually give the lighting owner a reasonable period within which to rectify the problem.

It is also possible for the persons aggrieved by the nuisance to take private action in a Magistrates' Court under common law.

To ensure you do not become liable for a statutory nuisance you should be using the 'best practicable means' to control all your exterior lighting and be fully aware of the effect of your lights.

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Environmental Credentials

Reducing the impact of your business's activities on the local environment and reducing your overall CO₂ emissions, by eliminating 'wasted light', will improve your environmental performance as well as saving you money.

If your business already has an Environmental Management System (EMS), for example ISO 14001:2004, you can include lighting the next time you undertake a review. The **External Lighting Audit** in this Information Sheet can be used as part of that review.

Examples of policies that could be included in your Environmental Policy:

- All new or replacement external lights will be of a full cut-off design with a zero upwards light ratio
- Car park lighting will be switched off outside of business hours
- Any exterior security lights will be fitted with motion sensors

Reducing energy bills

Considering all of your external lighting: Does it External lighting circuits should use photo-cells to turn lighting on at sunset but also use timing circuits to turn lighting off after business hours, allowing time for staff to leave the buildings or site.

Any light that falls outside the area you intended to light, or light which goes upwards, is 'wasted light' because it is not being used for the task it was installed for. However you are still paying for it. By eliminating the amount of wasted light you can reduce the amount of energy you use and cut your bills.

Example:

If you are currently operating exterior lighting that uses globe lanterns over the bulbs, these shed 50% of the light they emit upwards. This element of the lighting performs no useful function and simply lights the night sky. If the light is under-mounted on a lighting bracket or uses a similar mounting position, another significant proportion of the light may be prevented from lighting the floor area directly underneath the light. This both creates an area of darkness directly underneath the lantern and again wastes an additional percentage of the light source, potentially up to 15%. Assuming a worse case scenario the remaining 35% of the light output is diffused outwards in a radial pattern. Very little falls where it is really needed, maybe 10%. A more directional light with better optics can use a bulb with a much lower rate of energy consumption giving significant energy bill savings over a period of years. Costing less really can contribute to reducing environmental pollution.

Customer appeal

Research has shown that lighting has an effect on how friendly and welcoming customers find business premises. This is particularly important for premises open during hours of darkness that are reliant upon passing trade.

Good lighting practice that results in no glare has been found to influence decisions on whether to stop or not. Harsh lighting that creates both shadows, areas of over brightness and is difficult to look at creates an unwelcoming impression. Even lighting with the minimum required level of brightness lighting only the area required creates an appealing business setting. Consider seeking the advice of a qualified lighting engineer to create a solution for your premises.

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In Summary, Good Lighting Practice is:



- Picking the right lighting luminaire for the right task,
- Fitting lighting with the most appropriate type and wattage of bulb to give the minimum required level of brightness,
- Ensuring lighting is both installed and adjusted in the correct way,
- Operating lighting for the minimum required time.

Environmentally Responsible Disposal of lighting equipment

You may find that following your premises audit, bulbs or light fittings need replacement. This task raises a number of issues in its own right. You may decide for example to postpone bulb replacement until your existing bulbs or fittings fail at the end of their life to avoid the disposal of still useful resources. If this is the case you should weigh up the cons of early disposal versus the pros of installing new equipment that should be both more efficient, less polluting and less costly to operate. The end decision is yours and should take into account all facets.

The Waste Electrical and Electronic Equipment (WEEE) Regulations apply to both bulbs and light fittings. For advice on environmentally responsible disposal options, contact the Waste Services section of your local Council.

Where can I find out more?

Other fact sheets in the Dark Skies and Nightscapes Information Sheets series providing more detail on ideas for action and the South Devon AONB Management Plan, containing the policy framework for the protected area, can be accessed from www.southdevonaonb.org.uk.

A range of other websites and publications provide useful information including:

- Guidance notes for the reduction of light pollution (2005) [Institute of Lighting Engineers](http://www.instituteoflightingengineers.org.uk)
- Statutory Nuisance from Insects and Artificial Light (2006) [DEFRA](http://www.defra.gov.uk)
- [Clean Neighbourhoods and Environment Act 2005](http://www.cleanneighbourhoods.org.uk)
- Home & Commercial "Security" Floodlighting [Campaign for Dark Skies](http://www.darkskies.org.uk)
- CELMA Guide on Obtrusive Light (2007) [European Lamp Companies Federation](http://www.europeanlampcompanies.com)
- [Environmental Management Systems](http://www.environmentalmanagement.com)
- [Campaign to Protect Rural England](http://www.campaigntoprotectruralland.org.uk) light pollution webpages containing a selection of useful background information including the report *Night Blight*.

Acknowledgements

This Information Sheet was prepared by Vicky Tanner-Tremaine www.crimsonbeetle.co.uk on behalf of the South Devon AONB Unit.

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External Lighting Audit

Use this question sheet to conduct an audit of your exterior lighting.

What?	Answer		Why?	How?	Notes	Date Done
	Yes	No				
1. Do you have exterior lighting?			Exterior lighting can cause sky glow, glare, scenic intrusion and light trespass, all forms of light pollution.	Look carefully at your exterior lighting needs. Could you reduce the number of exterior lights you have on your property?		
2. Do they light the area which they are intended to light?			Any light falling outside the area you need to light, is wasted light.	Check this by comparing the area they are <i>intended</i> to light with the area they <i>actually</i> light.		
3. Do you have exterior security lighting?			Poor security lighting creates dark shadows in which criminals may hide and blinds those off the property, who might notice them.			
4. Are lights activated by a motion detector?			A motion detector means lighting is only on when it is needed.			
5. If activated by a motion detector, can the lights be activated from anywhere outside the boundary of your premises?			Security lighting should only be activated by movement from <i>within</i> the boundary of your premises. Otherwise it could annoy neighbours.	Check where lights can be activated from. Adjust motion detectors so that lights are only activated from within the boundary of your property. Ideally, purchase lights which can be used with motion detectors that can be aimed separately to the lights themselves.		

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What?	Answer		Why?	How?	Notes	Date Done
	Yes	No				
6. Do you have car park lighting?			Lighting is only needed whilst your customers and staff need to use the car park	Fit a timer so that lights are switched off outside business hours.		
7. Do any of your lights cast light outside the boundary of your premises?			Light falling outside your boundary is light trespass and could constitute a statutory nuisance	Adjust the angle of lights, or fit shades to prevent light falling onto other people's land.		
8. Do you have any backlit, or neon advertising signs?			These signs cast light above the horizontal and contribute to sky glow and may cause glare	Switch these off outside business hours. Replace them with solid signs, lit from above.		
9. Are any signs lit from below? Is the light angled so that all the light falls onto the sign surface?			Light fittings which point upwards often cast wasted light into the sky, causing sky glow.	Alter the angle of your light so that all the light falls onto the sign surface. Ideally replace the light with one that lights the sign from above.		
10. Could signs be lit from above?			Lights pointing downwards generally emit less light above the horizontal.	Replace upward lights with down lighters.		
11. Do any lights shine onto a building surface, and it does this reflect the light?			Matt surfaces and dark colours reflect less light.	When repainting the exterior of your premises in lit areas use matt paint and use darker colours where possible.		
12. Do you leave any of your exterior lights on overnight?			It may not be necessary to have all exterior lighting operating continuously or at the same intensity through the night.	Fit photocells to restrict exterior lighting to the hours of darkness or Fit a timer so that lights are switched off or dimmed outside business hours.		
13. Do any of your lights create glare?			Glare can make it difficult or uncomfortable to see.	Change to a lower watt bulb, shade or louvre the lights.		

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Additional sheet for recording ideas

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