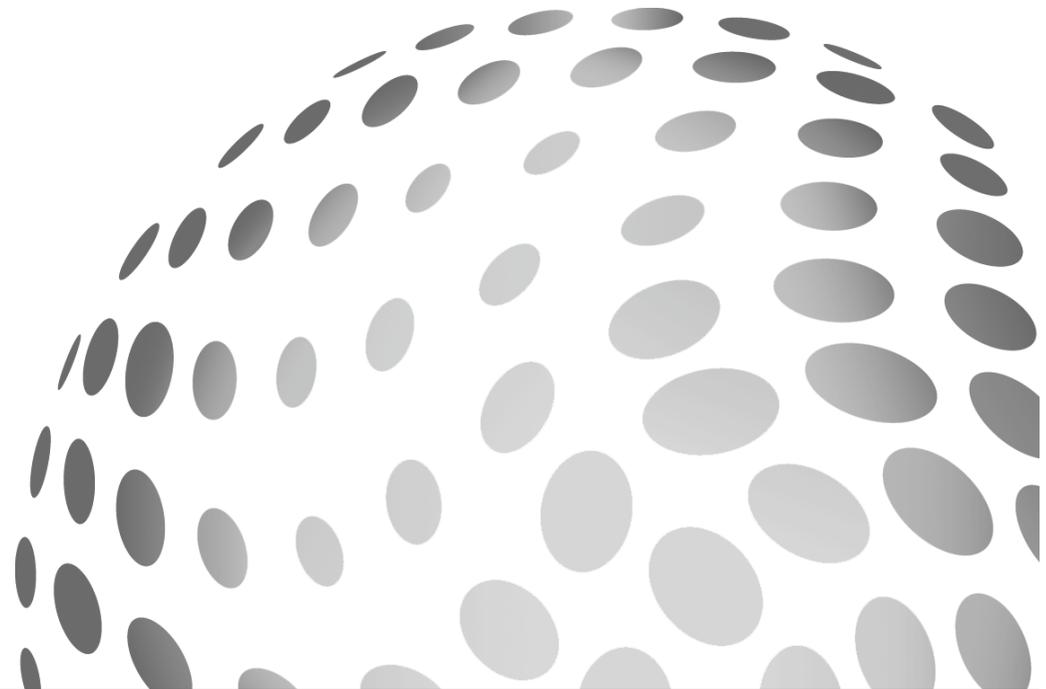
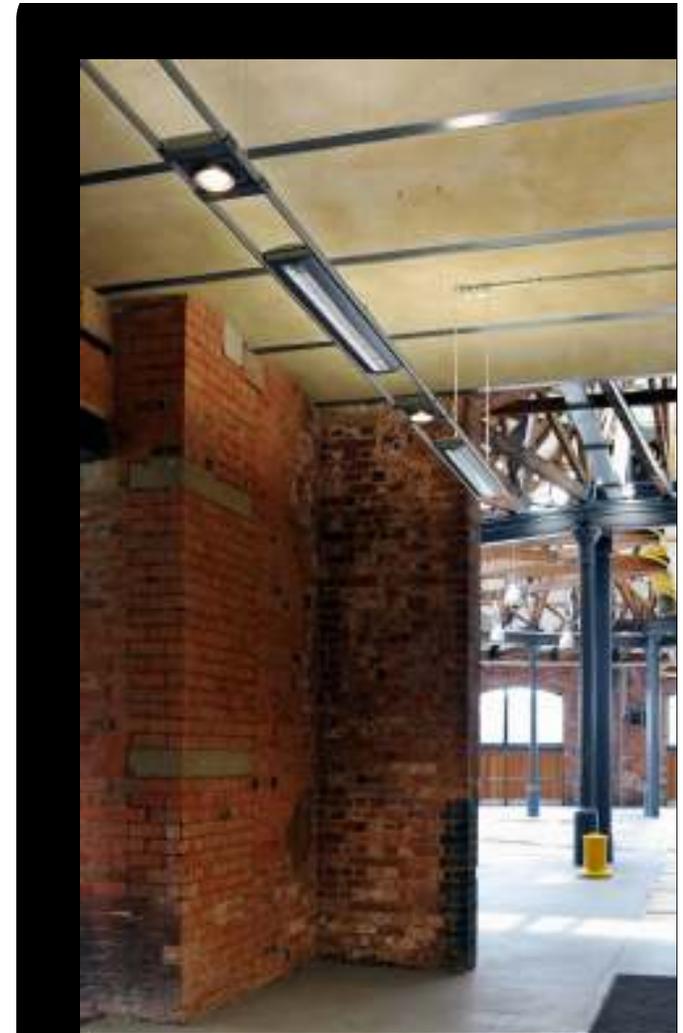


NEW ENHANCED CAPITAL ALLOWANCE EXPLAINED



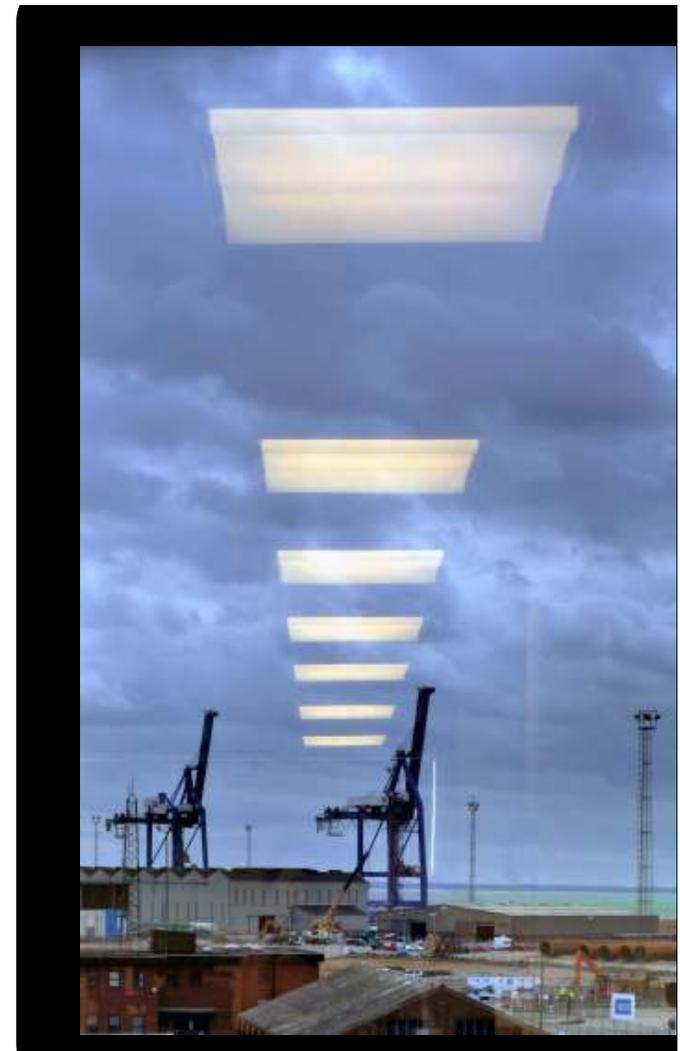
NEW ENHANCED CAPITAL ALLOWANCE EXPLAINED

- The benefits and new requirements of the scheme
- The additional benefits of using energy efficient schemes.
- How to overcome some of the barriers that prevent uptake of the ECA
- An industrial case study that successfully claimed the allowance
- An office lighting case study currently updating to LED which will meet the new requirements



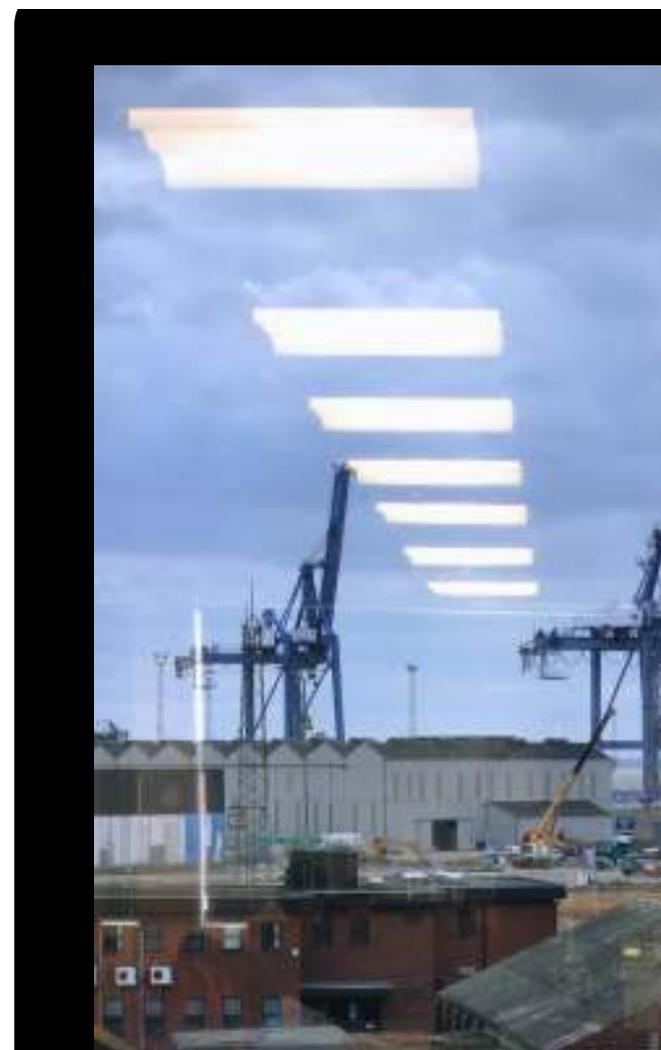
ENHANCED CAPITAL ALLOWANCES (ECA's) ARE A STRAIGHTFORWARD WAY FOR A BUSINESS TO IMPROVE ITS CASH FLOW THROUGH ACCELERATED TAX RELIEF.

- The scheme encourages businesses to invest in energy saving plant or machinery specified in the Energy Technology List (ETL) to help reduce carbon emissions, which contribute to climate change.

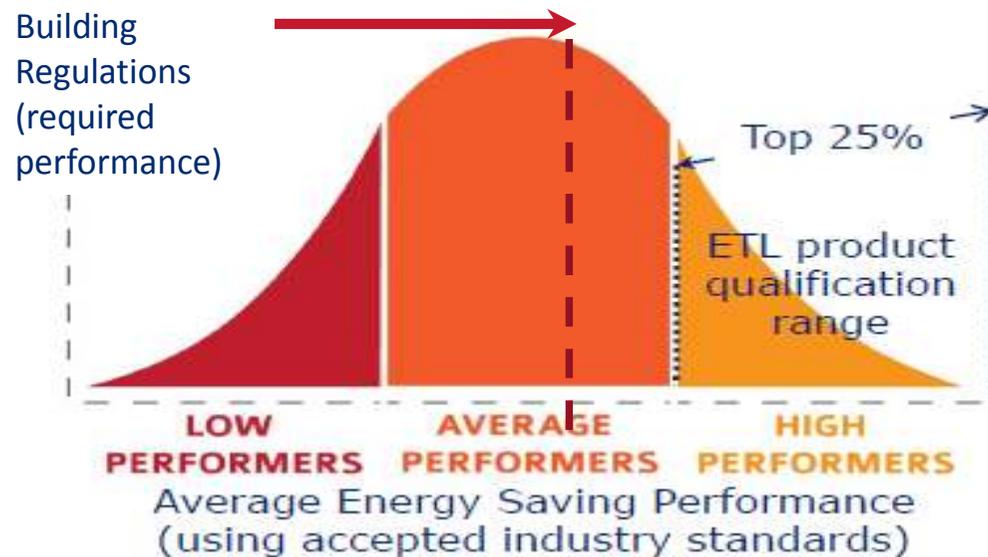


THE ENHANCED CAPITAL ALLOWANCE (ECA) SCHEME IS A KEY PART OF THE GOVERNMENT'S PROGRAMME TO MANAGE CLIMATE CHANGE.

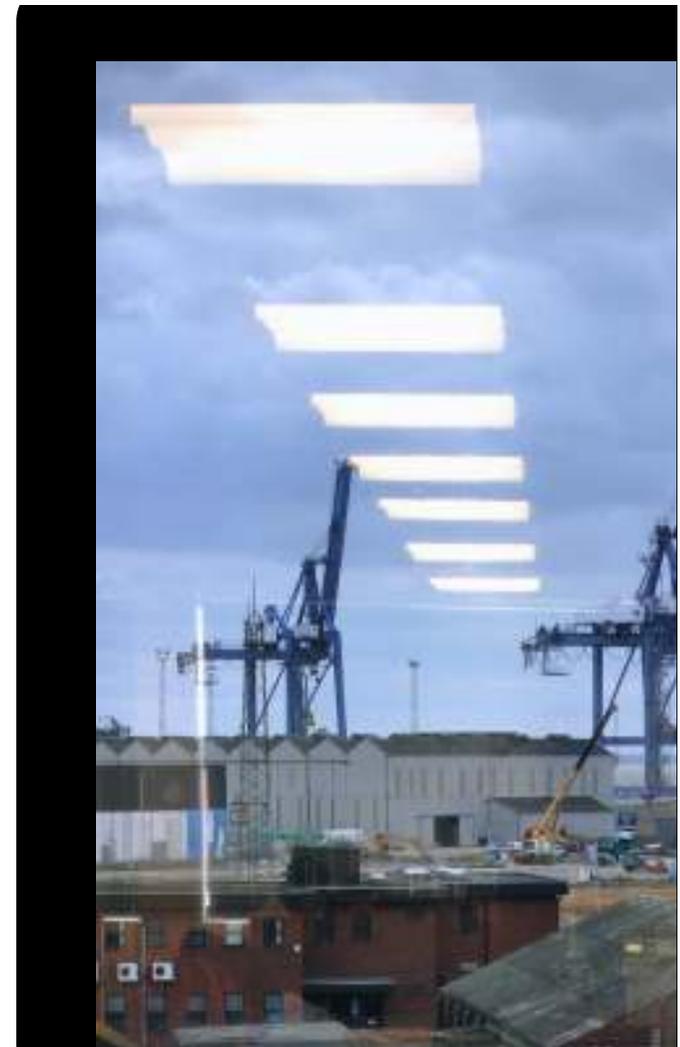
- ECA scheme only covers expenditure on energy efficient plant and machinery
- Businesses can write off 100% of qualifying investments against corporation tax in the year in which they make the investment
- First year cash flow boost designed to help address the higher purchase price of the more energy-efficient plant and machinery to enable the business to benefit from lower on-going energy bills
- ECA criteria is used to specify energy efficient lighting
- The aim is to support 'best practice' lighting (top 25%)



THE ENHANCED CAPITAL ALLOWANCE (ECA) SCHEME IS A KEY PART OF THE GOVERNMENT'S PROGRAMME TO MANAGE CLIMATE CHANGE.



- The aim is to support 'best practice' lighting (top 25%)



WHATS ON THE LIST

The **ENERGY TECHNOLOGY LIST (ETL)** is a register of products that are eligible for 100% tax relief under the ECA scheme for energy saving technologies. The Carbon Trust manages the list and promotes the ECA scheme on behalf of the government.



The **ETL** comprises two lists:

Energy Technology CRITERIA List (ETCL)

Energy Technology PRODUCT List (ETPL)

The **ETCL** defines the performance criteria that equipment must meet to qualify for ECA support.

The **ETPL** is the list of products that have been assessed as being compliant with **ETCL** criteria.

However, lighting equipment is an exception to the rule and is not listed on the **ETPL**;

Lighting which meets the appropriate criteria in the **ETCL** can qualify for an Enhanced Capital Allowance.

BENEFITS OF PURCHASING ENERGY TECHNOLOGY LIST PRODUCTS

...and other benefits.



- Reduced payback period on purchases
- Reduced running costs (e.g. utility costs, materials, maintenance) though increased efficiency
- Reduced energy consumption means lower energy bills and lower Climate Change Levy and CRC payments
- If you qualify for CRC there are also strong brand and reputation drivers associated with improving efficiency
- Reduces carbon footprint – a positive publicity message for stakeholders
- Provides certainty that the chosen product should perform well

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THERE ARE 3 CATEGORIES I WILL CONCENTRATE ON TODAY

High Efficiency Lighting Units (luminaires)

A combination of a light fitting (or luminaire), one or more lamps, and associated control gear.

White Light Emitting Diode (LED) Lighting Units

LED lighting units consist of one or more white LEDs, a light fitting (or luminaire) and associated electrical drive units. LED replacement lamps are not eligible for support.

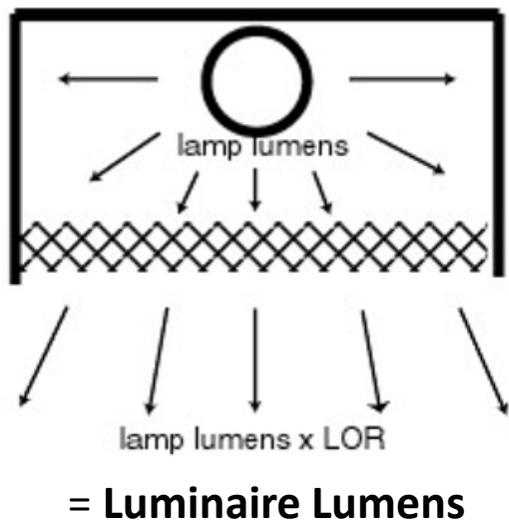
Lighting Controls,

Including time switching, presence detection and daylight sensing.
(both switching and dimming)

ECA - ELIGIBILITY CRITERIA

Lumininaire Efficacy

$$\text{Luminaire efficacy} = \frac{\text{Luminaire lumens}}{\text{Circuit watts}}$$



LED luminaires are photometered in
Luminaire Lumens

ECA - ELIGIBILITY CRITERIA

Category	Minimum luminaire efficacy (in luminaire lumens per circuit watt)		
	Without control	With control	2014 Part L
Amenity, accent and display lighting	60	60	22
General lighting Using downlighting 	65	60	60 (42 with max control factors)
General lighting Using uplighting 	80	75	60 (42 with max control factors)
General lighting Using up/down 	80 – (15 x DLOR/LOR)	75 – (15 x DLOR/LOR)	60 (42 with max control factors)

ECA - ELIGIBILITY CRITERIA

All products must:

- Have a luminaire efficacy that is greater than, or equal to, the thresholds set out above, when tested after 100 hours of continuous operation.
- Have a power factor that is greater than, or equal to, 0.7 at all levels of product light output.

In addition:

- General lighting units installed indoors must comply with the glare and angular exclusion zone recommendations in paragraph 94 of HSG 38 (1997).
- Individual control gear must have a standby power not exceeding 0.5 Watts when the lighting unit incorporates an electronically addressed dimming or switching circuit. If the product is not fitted with an automatic switching or dimming circuit, the product must not consume power when it is switched off.
- Fluorescent and compact fluorescent lamps in all categories, and all lamps used in amenity, accent and display lighting units must have a colour rendering index that is at least Ra 80. All other lamps must have a colour rendering index of at least Ra 20.
- If the product incorporates dimming control it shall be tested at its highest light output level.

ECA - ELIGIBILITY CRITERIA

All products must:

- Have a luminaire efficacy that is greater than, or equal to, the thresholds set out below, when tested after 100 hours of continuous operation
- Have a power factor that is greater than or equal to, 0.7 at all levels of product light output.

In addition:

- General lighting units installed indoors must comply with the general recommendations in paragraph 10 of HSG 38 (1997).
- Individual control gear must have a standby power not exceeding 0.5W. If a lighting unit incorporates an electronically addressed dimming or switching gear, or is fitted with an automatic switching or dimming circuit, the product must be tested when it is switched off.

• Fluorescent and compact fluorescent lamps in all categories, and all lamps used in amenity, accent and display lighting units must have a colour rendering index that is at least Ra 80. All other lamps must have a colour rendering index of at least Ra 20.

- If a product incorporates dimming or control gear, it must be tested at its highest light output level.

Skip to the interesting bit.....

HIGH EFFICIENCY LIGHTING UNITS

Eligibility Criteria

In addition:

- The luminaire, lamps and control gear must be CE marked.
- Where products incorporate fluorescent or compact fluorescent lamps, they must be controlled by non-dimmable 'warm start' or 'dimmable' (regulating) type, high frequency (HF) electronic control gear.
- Where products incorporate compact fluorescent lamps, they must not incorporate the control gear in the lamp cap.
- Where products incorporate high intensity discharge lamps rated below 200W, they must use electronic control gear.

In addition, lamps and control gear must comply with the relevant performance standards BS EN 60901:1996, BS EN 60081:1998, BS EN 60929:2011, or be ENEC marked.

Where products include light emitting diode(s) as well as another lamp type, they must also comply with the relevant parts of the White Light Emitting Diode Lighting Units criteria.

WHITE LIGHT EMITTING DIODE (LED) LIGHTING UNITS

Investments in white light emitting diode lighting units can only qualify for Enhanced Capital Allowances if the products meet a number of eligibility criteria set out in an 'Energy Technology Criteria List' (ETCL). The individual products purchased do not need to be named on the Energy Technology Product List.

The unit must provide a minimum amount of light (lumens), with at least 90% of its initial light output after 6000 hrs of use (an indicator of product lifetime).

The unit as a whole must also have a minimum luminous efficacy (lumen per watt) which is the total amount of light (emitted from the whole unit including any optical components NOT just the LED chip itself) divided by the electrical power used by the whole unit including the control unit (driver). Inefficient LED units that provide less light than required for their wattage are not eligible.

There are also criteria relating to colour quality, electrical quality (power factor) of the control unit (driver) and standby power consumption. In addition the fittings and control units (drivers) must be CE marked for safety.

WHITE LIGHT EMITTING DIODE (LED) LIGHTING UNITS

The supplier of the LED unit should provide confirmation that the unit conforms to all the required standards and criteria (preferably in the form of a certificate) that can then be used to support an ECA claim.

NEW ECA EXPLAINED

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TRILUX

WHITE LIGHT EMITTING DIODE (LED) LIGHTING UNITS

Eligibility Criteria

To be eligible, products must:

- Include one or more solid-state LED devices, luminaire and associated electronic control gear.
- Be capable of producing white light. White light is defined in Annex 2, paragraph 3b of EC Regulation 245/2009 “Implementing Directive 2005/32/EC of the European Parliament
- Use electronic control gear that complies with the following standards:
 - BS EN 61347-2-13:2006, “Lamp control gear. Particular requirements for dc. or ac supplied electronic control gear for LED modules”.
 - BS EN 62384:2006 (as amended), “DC or AC supplied electronic control gear for LED modules. Performance requirements”.
- Be CE Marked.

WHITE LIGHT EMITTING DIODE (LED) LIGHTING UNITS

Eligibility Criteria

Performance criteria

All products must:

- Have a luminaire efficacy (i.e. lighting efficiency) that is greater than, or equal to, the thresholds set out in the table below, after 100 hours of continuous operation.
- Be able to provide a light output (in lumens) after 6000 hours of continuous operation that is not less than 90% of their initial light output (in lumens).
- Have a colour rendering index that meets the requirements of Section 2.1 of Commission Regulation (EU) no 1194/201 (implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for directional lamps, light emitting diode lamps and related equipment)
- Have a power factor that is greater than, or equal to, 0.7 at all levels of product light output.

WHITE LIGHT EMITTING DIODE (LED) LIGHTING UNITS

Eligibility Criteria

Performance criteria

In addition:

- General lighting units installed indoors must comply with the glare and angular exclusion zone recommendations in paragraph 94 of HSG 38 (1997), “Lighting at work” (ISBN: 9780717612321).
- Individual control gear must have a standby power not exceeding 0.5 Watts when the lighting unit incorporates an electronically addressed dimming or switching circuit. If the product is not fitted with an automatic switching or dimming circuit, the product must not consume power when it is switched off.
- Amenity, accent and display lighting units to be installed indoors must have a minimum light output of at least 100 lumens after 100 hours of continuous operation. All other luminaires must have a minimum light output of at least 200 lumens after 100 hours of continuous operation.

LIGHTING CONTROLS

Different types of control are appropriate for different applications. Time controls are appropriate in places with fixed operating hours. For example, a time switch can be used to switch off the lighting in a shop or restaurant outside opening hours.

Occupancy switching using presence detection can give substantial energy savings in intermittently occupied spaces such as warehouses and some display areas.

Absence detection, where switching on is done manually but switching off happens automatically, is effective in daylight spaces and is also eligible for ECA support.

LIGHTING CONTROLS

For daylight detection or photoelectric control, the lighting is switched or dimmed in response to incoming daylight.

Dimming generally saves more energy and will be less obtrusive to the occupants when compared to switching.

Switching control usually incorporates some form of time delay, or a gap between the illuminances at which lamps are switched on and off to prevent over-frequent switching. Lamps are switched or dimmed as individual luminaires or in groups, depending on daylight penetration in the space.

For example, the row of lamps nearest a window wall would normally be controlled separately from the remainder of the lighting.

LIGHTING CONTROLS

Eligibility Criteria

Time Controllers

To be eligible under this category of Lighting Controls:

- The product must automatically switch the lighting off, or dim it down, at predetermined times of the day or week, or after a predefined interval.

Where automatic dimming controls are used, they must be capable of reducing the power consumption of the controlled lamps by at least 50%.

Where fluorescent lighting is being dimmed, it must incorporate high frequency dimmable ballast and electronic control gear. Other forms of lighting may incorporate either mains frequency or high frequency dimmable ballasts and associated controls.

1. The product may also be set to automatically switch on the lighting at predetermined times.
2. Products may incorporate the facility for local users to manually switch on and off lighting in a local area and thus to override the predetermined lighting levels at that particular time. However products that allow local users to locally override subsequent predetermined times for the lighting to be automatically switched off, or dimmed down, are not eligible.
3. If the product is designed to control any form of heating, ventilation or air conditioning (HVAC) equipment then, it must be listed under the HVAC Zone Controls part of the Energy Technology Product List (ETPL).

LIGHTING CONTROLS

Eligibility Criteria

Presence detectors with associated switching controllers

To be eligible under this category of Lighting Controls:

- The product must automatically switch off the lighting, or dim it down, after the area has become unoccupied.

Where automatic dimming controls are used, they must be capable of reducing the power consumption of the controlled lamps by at least 50%.

Where fluorescent lighting is being dimmed, it must incorporate high frequency dimmable ballast and electronic control gear. Other forms of lighting may incorporate either mains frequency or high frequency dimmable ballasts and associated controls.

1. The product may also automatically switch on the lighting when the space becomes occupied. Alternatively local users may manually switch on the lighting at the start of occupancy.
2. Products may incorporate the facility for local users to manually override the presence detector/controller and to switch the lighting off at any particular instance. However products that allow local users to override the ability of the presence detector/controller to automatically switch off the lighting, or dim it down are not eligible.

LIGHTING CONTROLS

Eligibility Criteria

Daylight detectors with associated switching controllers

To be eligible under this category of Lighting Controls:

- The product must monitor the availability of daylight and automatically switch the lighting off when sufficient daylight is available to illuminate the area.
1. The product may also automatically switch on the lighting when daylight has fallen below the required level. Alternatively local users could be allowed to switch on the lighting manually, when daylight has fallen below the required level.
 2. Products may incorporate the facility for local users to manually override daylight detector/controller and switch the lights off at any particular instance. However products that allow local users to override the ability of the daylight detector/controller to automatically switch off the lighting are not eligible.

LIGHTING CONTROLS

Eligibility Criteria

Daylight detectors with associated dimming controllers

To be eligible under this category of Lighting Controls:

- The product must monitor the availability of daylight and automatically dim the electric lighting to the level just needed to sufficiently illuminate the area.
- The product must be able to reduce the power consumption of the lamps being controlled by at least 50% through dimming.

1. The product may also automatically switch on the lighting when daylight has fallen below the required level. Alternatively local users could be required to switch on the lighting manually, as and when needed.

2. Products may incorporate the facility for local users to manually override the dimming controller at any particular instance and to set the lighting to a lower level than it would be under automatic control, or switch it off. However products that allow local users to override the ability of the daylight detector/controller to automatically dim the lighting are not eligible.

WHAT ARE THE BARRIERS TO CLAIMING ECA?

- Loss-making companies can now also realise the tax benefit of their investment in ETL qualifying technologies with Payable ECAs by surrendering losses attributable to ECAs in return for a cash payment from the Government.
- The amount payable to any company claiming payable ECAs will be expressed as 19% of the loss that is surrendered. So if a company surrenders a loss of £100,000, the Payable ECA it will receive is £19,000.
- Payable ECAs will, however, be capped. The maximum credit claimable is limited by the total of the company's PAYE and National Insurance payments for the year in which the claim is made or, if greater, £250,000.

JOHN GUEST CASE STUDY



Founded by John Guest in 1961, the family owned company has grown to become the world leader in push-fit plastic fittings for the plumbing and heating industry

JOHN GUEST CASE STUDY



JOHN GUEST CASE STUDY



JOHN GUEST CASE STUDY



JOHN GUEST CASE STUDY

For a capital outlay of £57,000
plus installation costs

144 tonnes CO2 p/a
£20,000 per year in energy costs
76% energy reduction



Trilux Luminaires for Enhanced Capital Allowance Scheme

Under the terms as detailed in the "Energy Technology Criteria List – White Light Emitting Diode Lighting Units July 2008, revised 2012", the following Luminaires / Lighting Control comply for the Enhanced Capital Allowance Scheme;

Liventy Flat 600 OT LED3900nw ETDD 01
Nextrema LED4000nw ET CS
Inperla C2 HR LED2000nw ET 01
BEG PIR & Daylight detection lighting controls

For use as

1) Amenity, accent and display lighting units	Yes / <u>No</u>
2) General interior lighting units	
General interior lighting units using downlighting	<u>Yes</u> / No
General interior lighting units using uplighting	Yes / <u>No</u>
General interior lighting units using combined up and down lighting	Yes / <u>No</u>
3) Exterior area lighting units	Yes / <u>No</u>
4) Exterior floodlighting units	Yes / <u>No</u>

On the following Project;
Ryness / John Guest
Purchase Orders -
33563 – 129514
33610-- 129737

TRILUX LIGHTING LIMITED - TRILUX HOUSE, WINDLEVEY - BARNUM ROAD/STAGE - CHELMSFORD - Essex SS8 0BQ UK
Tel: +44 (0) 12 45 46 34 53 - Fax +44 (0) 12 45 46 35 46 - enquiries@trilux.co.uk - www.trilux.co.uk
Registered in England. Registered office: Trilux House, Windlevey, Barnum Road, Stage, Essex, UK. 12454634

NEW ECA EXPLAINED
HELEN LOOMES
2013/2014
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TRILUX HOUSE CASE STUDY

Refurbishment of our own offices

All of the offices
have now had the
luminaires replaced
by LED products
that are daylight
and presence linked



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TRILUX HOUSE CASE STUDY



TRILUX HOUSE CASE STUDY



NEW ECA EXPLAINED
HELEN LOOMES
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TRILUX HOUSE CASE STUDY

Alternatively lit to EN12464
with free standing uplights



NEW ECA EXPLAINED
HELEN LOOMES
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TRILUX HOUSE CASE STUDY



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TRILUX HOUSE CASE STUDY



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TRILUX HOUSE CASE STUDY



NEW ECA EXPLAINED
HELEN LOOMES
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TRILUX HOUSE CASE STUDY

Total expenditure on changing to LED

Luminaires	£25,000
Installation costs	£ 5,000
Total	£30,000

Therefore we will claim 23% on our end of year tax return = £6,900

QUESTIONS AND DISCUSSION.

