

# Research into the current and future European regulation of theatrical stage lighting products

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## Summary

Blackwood Environmental Consulting was commissioned by the Association of Irish Stage Technicians (AIST) to carry out research into the likely timescales for the phasing out of certain theatrical lighting under EU regulations.

A study of existing and planned EU regulations showed no restrictions on the use of specialised theatrical stage lighting, although other lighting used in theatres may be affected by regulations on the use of non-directional household lighting.

## Introduction

In an attempt to tackle climate change, the Republic of Ireland is seeking to reduce demand for electricity by improving the energy efficiency of electrical products. Ireland has signed and ratified both the United Nations Framework Convention on Climate Change and its Kyoto Protocol, restricting Ireland's ability to emit greenhouse gases during the period 2008-2012.

Additionally, as a member state of the European Union, Ireland is also bound by the directives and regulations issued by the European Commission and approved by the European Parliament. The EU has a so-called "20-20-20" commitment, under which it will cut its emissions by 20% by 2020, as well as sourcing 20% of its energy from renewable sources over the same time frame.<sup>1</sup>

## Irish National Climate Change Strategy

In April 2007, the Irish Government published its National Climate Change Strategy 2007-2012,<sup>2</sup> setting out how Ireland will meet its Kyoto Protocol commitments. The Strategy identified a number of different opportunities to reduce overall greenhouse gas emissions across all sectors of the economy. Within the residential sector, the Strategy included a commitment to introduce an environmental levy on incandescent bulbs to close the price gap with alternative bulbs and to encourage consumers to switch to more energy-efficient lighting. Additionally, the Strategy required the public sector to introduce a mandatory programme of efficiency measures, including the sole use of energy efficient lighting in offices, schools, hospitals and other public buildings.

Following on from the Climate Change Strategy, John Gormley TD, Minister for the Environment, Heritage and Local Government, launched a consultation exercise on a proposed energy efficiency and performance standard for light bulbs in October 2008.<sup>3</sup> But during the course of the consultation, the European Commission published its own proposals for an EU-wide phasing out of incandescent light bulbs, to commence in September 2009.

Although the consultation paper had originally envisaged national standards delivering emissions reductions faster than the European proposals, the Irish Government later announced that the phasing out of incandescent lighting would not now take place via primary legislation, but would instead follow the timetable set out by the European Eco-Design Directive.<sup>4</sup>

### **European Eco-Design Directive**

As part of Europe-wide efforts to tackle climate change by improving the energy efficiency of energy using products, the European Commission introduced Directive 2005/32/EC on the eco-design of Energy-using Products.<sup>5</sup> The European Commission published its proposal in August 2003 and the European Parliament and the Council adopted a final text in July 2005.

The Eco-Design Directive is a framework directive that does not in itself introduce directly binding requirements for specific products, but does define conditions and criteria for setting subsequent regulations. In principle, the directive governs the regulation of all energy-using products (except vehicles), but so far the necessary supporting legislation has only been prepared for a small number of product groups.

To date, these product groups include electric motors, refrigerators and freezers, televisions, set top boxes, external power supplies and lighting products in the domestic and tertiary sector.<sup>6</sup> This final product group is the most relevant for our purposes.

### **European lighting regulations**

In March 2009, the European Commission published two sets of regulations designed to progressively remove from the market inefficient lighting products.<sup>7</sup>

The first regulation sets energy efficiency, functionality and product information requirements for household lamps, particularly incandescent bulbs, halogen lamps and compact fluorescent lamps.<sup>8</sup>

The second deals with lighting products typically used in office, street and industrial lighting, including fluorescent lamps, high-intensity discharge lamps and related ballasts, and luminaires.<sup>9</sup>

Starting in September 2009, it will be an offence to manufacture or to import lighting products that do not comply with the regulations. It will not be an offence for retailers to sell existing stock, or for non-compliant lighting products to continue to be used.

### **How these regulations apply to theatrical lighting**

Commission Regulation 244/2009 applies merely to non-directional household lamps, and does not apply to specialised stage lighting. It may, however, apply to lighting used in more general theatrical applications, including dressing rooms etc. The timescale for phasing out household lamps is shown in [Appendix 1](#).

Commission Regulation 245/2009 deals with tertiary lighting, and this is the regulation that could impact upon the manufacture and import of theatrical lighting products.

Annex I provides for a number of forms of lighting to be exempt from the terms of the regulation, including “lamps that are directional light sources as defined in Annex II”. Annex II goes on to define a directional light source as a light source “having at least 80 % light output within a solid angle of  $\pi$  sr (corresponding to a cone with an angle of 120 °).

However, theatrical lighting that is not intrinsically directional, but directional merely by virtue of the fitting in which it is used, may not be covered by this exemption.

Regulation 245/2009 also exempts “lamps intended for use in other applications than general lighting”, and a reasonable interpretation of this exemption would include theatrical stage lighting of a highly specialised nature. Specialised lighting products, therefore, are likely to be beyond the scope of regulation 245/2009.

### **Future regulations**

Even though specialised theatrical lighting appears not to fall within the scope of regulations 244/2009 and 245/2009, the Eco-Design directive does in theory cover all energy-using products. So it is possible that future regulations may be introduced that will include stage lighting products.

However, no timeline for the development and introduction of such regulations has yet been set out.<sup>10</sup> In practice, it is unlikely that specialised lighting products would be phased out until or unless alternative products were available that would satisfactorily perform the same function. In the absence of practicable low-energy stage lighting becoming available, the present products are likely to remain on the market for the foreseeable future.

### Appendix 1

An overview of which lamps are due to be phased out, and the timescales involved								
Beginning September	2009	2010	2011	2012	2013	2014	2015	2016
Clear incandescent	15w	15w	15w	Ban* on all clear incandescent lamps				
	25w	25w	25w					
	40w	40w	40w					
	60w	60w	60w					
	75w	75w	75w					
	100w	100w	100w					
Frosted incandescent	Ban* on all frosted incandescent lamps							
12 volt clear halogen (G4, GY6.35)	5w	5w	5w	5w	5w	5w	5w	5w
	10w	10w	10w	10w	10w	10w	10w	10w
	20w	20w	20w	20w	20w	20w	20w	20w
	35w	35w	35w	35w	35w	35w	35w	35w
	50w	50w	50w	50w	50w	50w	50w	50w
	75w	75w	75w	75w	75w	75w	75w	75w
	100w	100w	100w	100w	100w	100w	100w	100w
240 volt clear halogen (G9, R7S)	25w	25w	25w	25w	25w	25w	25w	25w
	40w	40w	40w	40w	40w	40w	40w	40w
	60w	60w	60w	60w	60w	60w	60w	60w
	75w	75w	75w	75w	75w	75w	75w	75w
	100w	100w	100w	100w	100w	100w	100w	100w
	150w	150w	150w	150w	150w	150w	150w	150w
	200w	200w	200w	200w	200w	200w	200w	200w
	300w	300w	300w	300w	300w	300w	300w	300w
	500w	500w	500w	500w	500w	500w	500w	500w
>750w	>750w	>750w	>750w	>750w	>750w	>750w	>750w	
Frosted halogen	Ban* on all frosted halogen capsule lamps							
12/240v reflector halogen lamps	Legislation to be determined by end 2009							
Compact fluorescent lamps	All CFLs need to be Energy Efficiency Class A							

**Allowed**  
**Banned\***

All wattages are indicative. The determining factor is lumen output.  
\*New lamps cannot be brought onto the market; existing stocks can still be sold and used.

Starting September		2009	2010	2011	2012	2013	2014	2015	2016
Clear incandescent	25w	E	E	E	C	C	C	C	B
	40w	E	E	E	C	C	C	C	B
	60w	E	E	C	C	C	C	C	B
	75w	E	C	C	C	C	C	C	B
	100w	C	C	C	C	C	C	C	B
12 volt halogen (G4, GY6.35)	5w	E	E	E	C	C	C	C	B
	10w	E	E	E	C	C	C	C	B
	20w	E	E	E	C	C	C	C	B
	34w	E	E	C	C	C	C	C	B
	50w	E	C	C	C	C	C	C	B
	100w	C	C	C	C	C	C	C	B
240 volt halogen (G9, R7S)	25w	E	E	E	C	C	C	C	C
	40w	E	E	C	C	C	C	C	C
	60w	E	C	C	C	C	C	C	C
	75w	C	C	C	C	C	C	C	C
	100w	C	C	C	C	C	C	C	C
	150w	C	C	C	C	C	C	C	C
	200w	C	C	C	C	C	C	C	C
	300w	C	C	C	C	C	C	C	C
	500w	C	C	C	C	C	C	C	C
	>750w	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compact Fluorescent Lamps		A	A	A	A	A	A	A	A

## Sources

- <sup>1</sup> European Commission, 2008. *Climate action*. Online. Available at: [http://ec.europa.eu/environment/climat/climate\\_action.htm](http://ec.europa.eu/environment/climat/climate_action.htm) [accessed 30th September 2009]
- <sup>2</sup> Department of the Environment, Heritage and Local Government, 2007. *Ireland – National Climate Change Strategy, 2007-2012*. Online. Available at: <http://www.environ.ie/en/PublicationsDocuments/FileDownload,1861,en.pdf> [accessed 30<sup>th</sup> September 2009]
- <sup>3</sup> Department of the Environment, Heritage and Local Government, 2008. *Energy Efficiency and Performance Standard for Light Bulbs - Public Consultation Document*. Online. Available at: <http://www.environ.ie/en/Publications/Environment/Atmosphere/FileDownload,18645,en.pdf> [accessed 30<sup>th</sup> September 2009]
- <sup>4</sup> Department of the Environment, Heritage and Local Government. *Ireland's plan of action on climate change – Frequently Asked Questions*. Online. Available at: <http://change.ie/en/About/FAQs/> [accessed 30<sup>th</sup> September 2009]
- <sup>5</sup> European Commission, 2005. *Directive 2005/32/EC of the European Parliament and of the Council establishing a framework for the setting of ecodesign requirements for energy-using products*. Online. Available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:191:0029:0058:EN:PDF> [accessed 30<sup>th</sup> September 2009]
- <sup>6</sup> European Commission, 2009. *Eco-design legislation*. Online. Available at: [http://ec.europa.eu/energy/efficiency/ecodesign/legislation\\_en.htm](http://ec.europa.eu/energy/efficiency/ecodesign/legislation_en.htm) [accessed 30th September 2009]
- <sup>7</sup> European Commission, 2009. *Press release - Commission adopts two regulations to progressively remove from the market non-efficient light bulbs*. Online. Available at: <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/411&format=HTML&aged=0&language=en> [accessed 30<sup>th</sup> September 2009]
- <sup>8</sup> European Commission, 2009. *Commission Regulation No. 244/2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for non-directional household lamps*. Online. Available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:076:0003:0016:EN:PDF> [accessed 30<sup>th</sup> September 2009]
- <sup>9</sup> European Commission, 2009. *Commission Regulation No. 245/2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for fluorescent lamps without integrated ballast, for high intensity discharge lamps, and for ballasts and luminaires able to operate such lamps*. Online. Available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:076:0017:0044:EN:PDF> [accessed 30<sup>th</sup> September 2009]
- <sup>10</sup> Conformance, 2009. *Energy Using Products Directive, Future Developments*. Online. Available at: [http://hucklow.gotadsl.co.uk/directives/ce\\_eup.php](http://hucklow.gotadsl.co.uk/directives/ce_eup.php) [accessed 30th September 2009]