

# Regulatory Drivers

## Impact of Energy using Products Regulations

NB: now known as Energy related Products (ErP)

June 2010



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- Part 1
  - Directive 2009/125/EC – Ecodesign Requirements for Energy-related Products (ErP)
  - ErP Implementing Regulations already in force
- Part 2
  - ErP Implementing Regulations in process
  - LEDs – developing standards to meet the legislation and satisfy the market
  - Lighting Systems Legislation (LSL – an industry initiative)



# Background

## EU policy measures

- The EU is committed to reducing its overall emissions to at least 20% below 1990 levels by 2020 and with at least 20% of EU energy consumption coming from renewables by 2020.
  - known as the 20:20:20 strategy
  - Strong political drive across the EU (& other regions of the world)
- Some EU directives can be applied flexibly by Member States e.g. WEEE
- Others apply across the EU as law (e.g. EuP – now ErP.)



## Background

### **Q: Objective of the ErP Directive & Implementing Regs?**

A: To significantly reduce the energy consumed by electrical devices as part of an overall strategy to protect the environment by reducing CO<sub>2</sub> emissions.

ErP does this by setting Minimum Energy Performance Requirements (MEPRs)

### **Q: What is the actual benefit for the environment?**

A: Over 1/3 of the electricity used worldwide for lighting could be saved. These savings of over 900 billion kWh of electric power would lead to a reduction in global emissions of more than 450 million tons of CO<sub>2</sub>



# Background

## **UK Climate Change Act 2008**

- “The world’s first long term legally binding framework to tackle the dangers of climate change”
- Two key aims:
  - To improve carbon management and help the transition towards a low carbon economy in the UK e.g. CRC.
  - To demonstrate strong UK leadership internationally.
- In making this commitment the Government created a requirement on itself to achieve targets, above the EU targets (at this stage).

**UK Building Regulations** (linked to EPBD) – covered in other slots





# PART 1: EU Directives and recent legislation

## Part 1

- Directive 2009/125/EC – Framework
- ErP Regulations already in force
  - Non-Directional Light Sources (DIM 1)
  - Tertiary Lighting (TIM 1)
    - Tertiary = anything other than Domestic

# Eco-design Regulation – DIM 1 (244/2009 & 859/2009)

## Scope & some terms:

- **Covers Lamps mainly used in Domestic market e.g. incandescent, Halogen, CFLi.**  
**Progressive implementation from Sept 2009 (later presentation).**
- **Mechanism used = Minimum Energy Performance Requirements (MEPR's):**
  - Progressive implementation via several steps over several years
  - Aim = ensure replacement, more energy efficient, solutions are available
  - Nothing is banned, but has to reach the MEPR's
- **'Domestic lighting'**
  - The term can be misleading as the Regulation actually phases out certain technologies e.g. incandescent lamps independently from their application (products mainly used in domestic lighting but not only) unless they can meet the MEPRs (no bans as such)
- **'Placing on the market'**
  - All finished stocks in the market (through customs) can be sold
  - As a result existing stock at each step can be sold
  - ELC interpretation of term [www.elcfed.org](http://www.elcfed.org)

# Tertiary Lighting Sector **TIM 1** (245/2009)

The legislative framework for general lighting

	<b>General Lighting</b>			
	CFLni LFL	HID	GLS, HL, CFLi	other lamps
Basic requirements	-	-	IM on general lighting products* = DIM 1 + DIM 2?	
<b>Technology specific requirements</b>	<b>IM on tertiary sector lighting products = TIM 1</b>		-	-

Lighting system parts considered for each technology ; lamps, ballasts, luminaires.

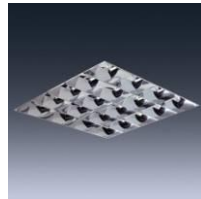
IM on tertiary lighting covers products primarily used in non-domestic applications e.g. office and street lighting, but applies to those products if used in Domestic.

Progressive implementation from 13<sup>th</sup> April 2010 (see later presentation)

# Tertiary Lighting Sector Implementing Measure for Luminaires & Components

## What is a Luminaire?

An apparatus which distributes, filters or transforms the light transmitted from one or more light sources and which includes all parts necessary for supporting, fixing and protecting the light sources and, where necessary, circuit auxiliaries together with means for connecting them to the supply, but not the light sources themselves.



# Tertiary Lighting Implementing Measure – Luminaires & Components

## Examples

- A lamp holder with flex is a luminaire.
- A remote control gear box feeding a lamp housing is part of the luminaire.

## Exemptions

- Emergency lighting luminaires including internally illuminated emergency signs
- Luminaires designed for use in explosive atmospheres
- Luminaires on, or built into, machinery
- Luminaires covered by the Medical Devices Directive (e.g. bed head systems, etc)
- Luminaires integrated into other equipments (e.g. furniture, toys, etc)

## Note

- A wall mounted dimmer control panel is not part of the luminaire



## Part 2:

- ErP Implementing Regulations in process (DIM 2)
- Initiatives to promote LED adoption LEDs e.g. development of Standards and Regulations
- Lighting Systems Legislation (LSL – an industry initiative)

## DIM 2 – work-in-progress!!

- Started initially as Directional light sources e.g. reflectors (complements DIM 1 non-directional light sources). The project now includes:
  - Non-Directional light sources
  - Domestic Luminaires
  - Commercial (Tertiary) luminaires
- Objective is to set Minimum Energy Performance Requirement for these products as well.

## DIM 2 work in progress

- Non-directional light sources – some of the issues:
  - Range of beam angles and how best to define
  - 90; 120 or 180 cone degree
  - How to measure domestic luminaires?
  - Extension of LED definitions to cover developments such as LED modules

## Current status

- VITO, consultants to the EU published an extensive report in October 2009 for comments.
- European lighting industry made responses, including highlighting need for more definitions to cover LED developments such as e.g. modules.
- DEFRA, the Swedish Energy Agency and the European Council for an Energy Efficient Economy (eceee) have made a recent response and a discussion on that took place 9<sup>th</sup> June.





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(Contract/TREN/07D3/399-2006/507-72102)  
 Preparatory Studies for Eco-design Requirements of EoPs

Final report  
**Lot 19: Domestic lighting**  
 Contact Vito: Paul Van Tichelen, paul.vantichelen@vito.be

Study for European Commission DG TREN unit D3, contact: Andras Toth


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Project performed in cooperation with:





2009/ETE/R/069  
 October 2009



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## Current status – Directional Lamps

- CELMA and ELC submissions covering:
  1. Directional LED Lamps including retrofit types
  2. LED modules for General Lighting
  3. LED lamps replacing linear fluorescent
  4. Request to exclude LED luminaires due to definition issues
  
- Defra/MTP have submitted comments to EU on some of the above papers.
  
- We anticipate:
  - The EU will issue a proposal on Directional Lamps July
  - A Consultation Forum on that proposal in September
  - Regulatory Committee by end 2010 and coming into force mid-end 2011. We assume a phased implementation
  - On luminaires (domestic & tertiary) planning less clear and possibly dealt with separately to avoid delays to Directional Lamps

## Current status - luminaires

- **Domestic luminaires:**
  - No conclusion yet on how to deal with them; a reference document from the Commission on the evaluation of proposals related to a Voluntary agreement.
  - How to measure photometrics?
  - Draft CELMA guide Version 3 (provided under the Eco-design Directive) as an input to the process.
- **Commercial luminaires:**
  - CELMA currently developing some tables covering indoor and outdoor luminaires to submit to the EU in respect of minimum energy performance requirements.
  - A proposal from the EU could then follow in September with a Consultation Forum for Tertiary Sector luminaires possibly being held towards the end of 2010.
  - This would mean possible Implementing Measure late 2011

## LEDs - IEC standards progress to date

	<b>Safety</b> (mandatory)	<b>Performance</b>
LED Control Gear (drivers)	IEC 61347-2-13, Published 2006	IEC 62384 Published 2006
LED Lamps	IEC 62560 Edition 1, Publication Expected 2010	IEC 62612/PAS Publicly Available
LED Modules	IEC 62031 Edition 1, Published 2008	Draft standard expected for April 2010 Public Available Specification (PAS) expected in 2010
LED Luminaires	IEC 60598 Edition 1 & 2, Published 2008	Draft under Preparation (based on IEC 62612, plus additions)

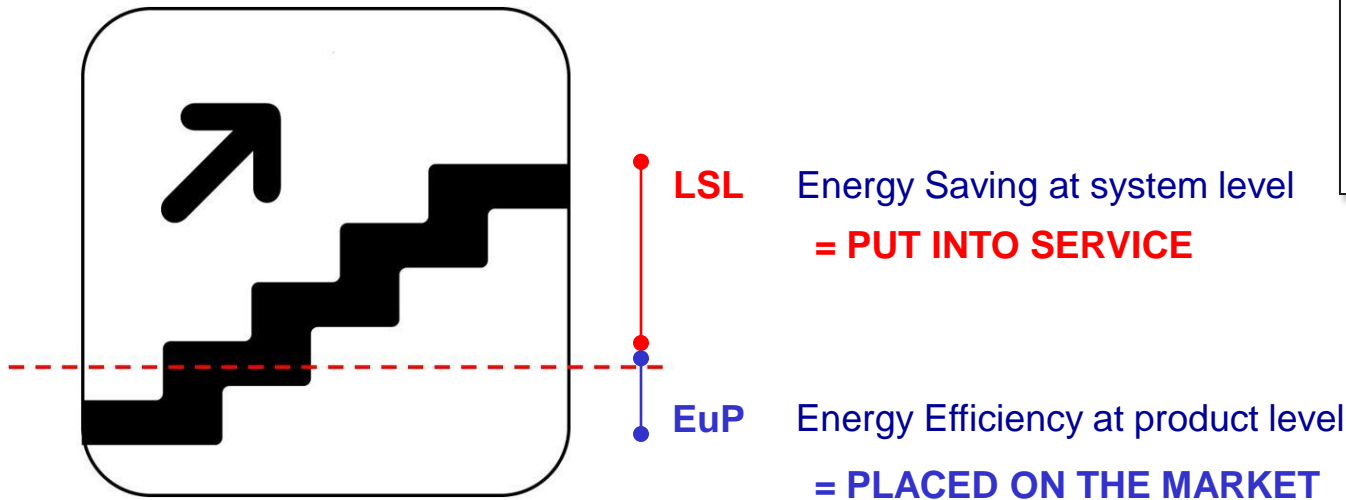


## Summary re DIM 2 and LEDs

- The European Industry strongly supports the future EcoDesign Regulation for directional household lamps part 2 (DIM2)
- The industry wishes that this future Regulation will cover LED lamps and modules for ALL applications, not only for the household ones.
- National regulations like our Building Regulations – Approved Documents L1 and L2 are also defining minimum efficiency thresholds

# Tertiary lighting sector and Lighting Systems Legislation Proposal

- **Regulation 245/2009** – Efficiency requirements of products in the Tertiary Lighting Sector
- Applied to lighting products placed on the market
- Products; not dependent on installation
- No restriction on numbers or how they are used
- **Lighting Systems Legislation (LSL)** offers even greater energy savings



## Lighting System Legislation (LSL) Summary

- **Role** – putting into energy efficient service ErP approved lighting products
  - fit in existing design processes and national legislation
  - designer's freedom to explore new techniques and innovative solutions
- **Achieve** – energy efficient lighting schemes in the tertiary sector
  - lighting requirements for design, installation, operation and maintenance of energy efficient installations (**measured by LENI**)
  - specify methodology for control and approval of lighting systems
- **Applies to** – new design schemes  
refurbishment design schemes  
auditing existing installations
- **Plans** – 2010: mandate to the European Commission  
2013: publication in the Official Journal (OJ)
- **Benefit** – LSL estimated to triple the benefits of EuP/ErP
- **The lighting industries' contribution to climate change**



Thank you

