

Energy using Products (EuP)* - resulting technology developments

* now known as Energy related Products (ErP)



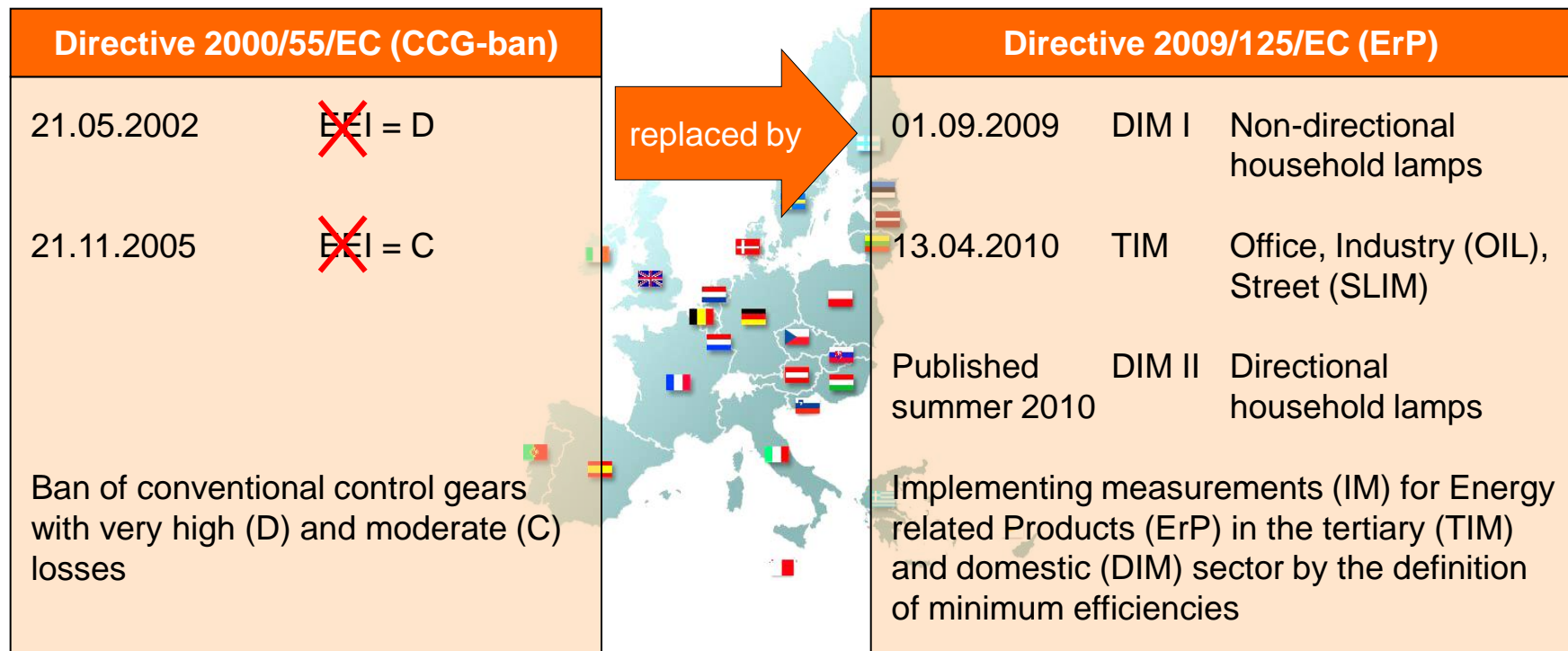
June 2010

Content

- Non-Directional light sources (DIM 1)
- Tertiary lighting (TIM 1)
- Directional light sources (DIM 2)
- Luminaires




Origin of Directive 2009/125/EC* – Ecodesign Requirements for Energy-related Products (ErP)

Based on the Kyoto targets for CO₂-reduction from 1997 EU defined energy saving requirements for the lighting industry.







* Successor of Directive 2005/32/EC Energy using Products (EuP)

Ecodesign Regulation 244/2009 & 859/2009 (DIM I): Impact on Non-directional Household Lamps

	Sep. 2009	Sep. 2010	Sep. 2011	Sep. 2012	Sep. 2013	Sep. 2014	Sep. 2015	Sep. 2016
Incan- descent clear 	15 W 25 W 40 W 60 W 75 W > 100 W	15 W 25 W 40 W 60 W 75 W 100 W	15 W 25 W 40 W 60 W 75 W 100 W	15 W 25 W 40 W 60 W 75 W 100 W	Phase out of all clear incandescent lamps			
Frosted lamps 	Incandescent Halogen 240V G9 Halogen 12V capsule Halogen Ceram, T, BT Halogen 240V ECO							
Special 					Oven lamps Fridge lamps			
Directional household lamps	Implementation measure on directional light sources to be decided by summer 2010							

Review
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Ecodesign Regulation 244/2009 & 859/2009 (DIM I): Impact on Non-directional Household Lamps

	Sep. 2009	Sep. 2010	Sep. 2011	Sep. 2012	Sep. 2013	Sep. 2014	Sep. 2015	Sep. 2016
Halogen G9 clear 	25 W 40 W 60 W 75 W	25 W 40 W 60 W 75 W	25 W 40 W 60 W 75 W	25 W 40 W 60 W 75 W	<div style="border-left: 1px dashed black; padding-left: 10px;"> <p style="text-align: center;">Review EU Commission</p> </div>			
Halogen G9 ECO clear* 								
12V Halogen Capsule clear 								
12V Halogen Capsule ECO clear 								

* Exception: socket G9 remains class C after 2016

Review
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Ecodesign Regulation 244/2009 & 859/2009 (DIM I): Impact on Non-directional Household Lamps

	Sep. 2009	Sep. 2010	Sep. 2011	Sep. 2012	Sep. 2013	Sep. 2014	Sep. 2015	Sep. 2016
Linear Halogen clear 	60 W	60 W						
	100 W	100 W						
	150 W	150 W						
	200 W	200 W						
	300 W	300 W						
	500 W	500 W						
Linear Halogen p15 clear* 	750 W							
	1000 W							
	1500 W							
	2000 W							
Linear Halogen ECO clear** 								

* Lamps > 12.000 lm (Art.1.c) not part of DIM I
 ** Exception: socket R7s remain class C after 2016

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Ecodesign Regulation 244/2009 & 859/2009 (DIM I): Impact on Non-directional Household Lamps

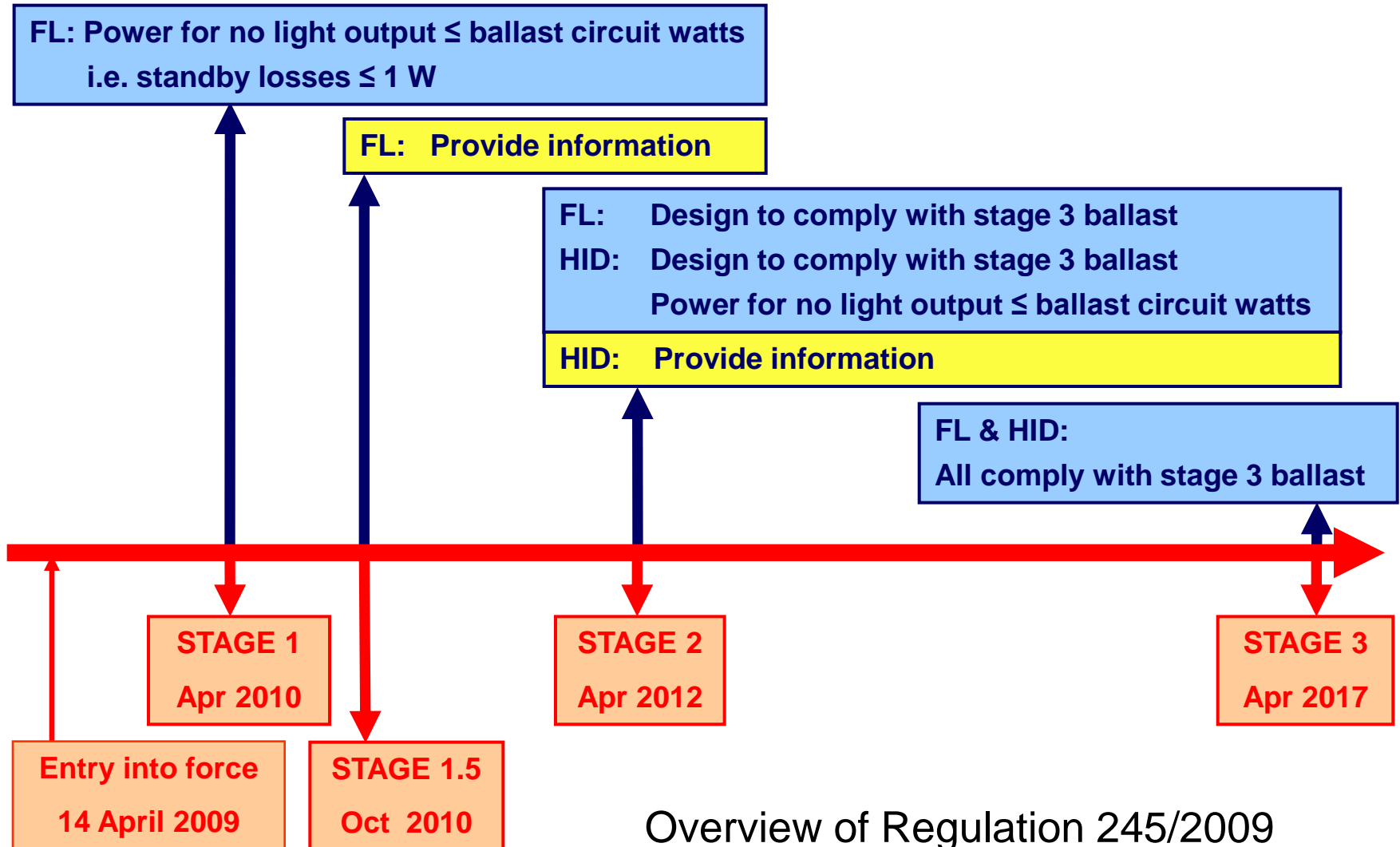
	Sep. 2009	Sep. 2010	Sep. 2011	Sep. 2012	Sep. 2013	Sep. 2014	Sep. 2015	Sep. 2016
Halogen Ceram ECO clear 	Green						Green	
Halogen T clear* 	Green						Green	
Halogen BT clear 	Red						Red	
HALOGEN ECO Classic clear 	18 W	Green	Green	Green	18 W**	Red		
						28 W	28 W	Green
	42 W				42 W	Green		
	52 W				52 W	Green		
	70 W				70 W	Green		
	105 W				105 W	Green		

* Lamp for special purpose

** Alternative planned

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Tertiary Lighting Sector IM for Luminaires & ballasts



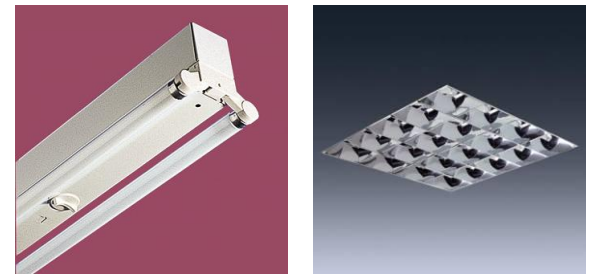
Overview of Regulation 245/2009

Tertiary Lighting Sector IM for Luminaires & Ballasts

Luminaire & Ballast energy performance requirements: First stage

(One year after this regulation comes into force)

- a. **Luminaires for fluorescent lamps without integrated ballast:** – The power consumption of the luminaire must not exceed the sum of the ballast power consumption of the incorporated ballasts when the lamps emit no light. This means that the parasitic power consumption of the luminaire in an “off lamp” state must not exceed the power value permitted for the ballasts, which = 1w per ballast
- b. Ballasts at least B2 for existing lamps
- c. A3 for new lamps



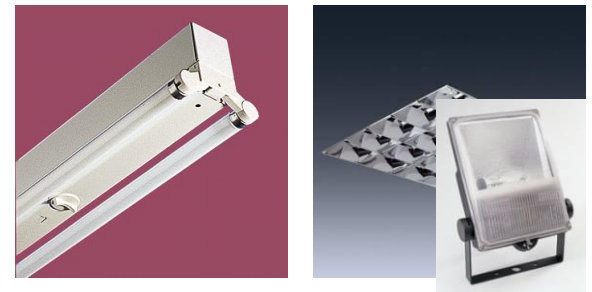
Tertiary Lighting Sector IM for Luminaires & Ballasts

Luminaire & Ballast energy performance requirements: Stage 1.5

(18 months after this regulation comes into force – Sept 2010)

Luminaires for fluorescent lamps without integrated ballast:

- a. Additional information has to be provided on product packaging and on free-to-access websites.
- b. LIF is currently developing proposals for pictograms.



Tertiary Lighting Sector IM for Luminaires & Ballasts

Luminaire & ballast energy performance requirements: Second stage

(Three years after this regulation comes into force = April 2012)

- a. Luminaires for fluorescent and HID lamps except those with > IP4X – shall be compatible with ballasts complying with 3rd stage requirements = mostly will be electronic only. (The luminaire design is to accommodate the stage 3 ballasts without further changes or delays)

Standby power for Fluorescent must not exceed 0.5w per ballast

- b. The power consumption of HID lamp luminaires must not exceed the sum of the ballast power consumption of the incorporated ballasts when the lamps emit no light. This means that the parasitic power consumption of the luminaire in an “off lamp” state must not exceed the power value permitted for the ballasts

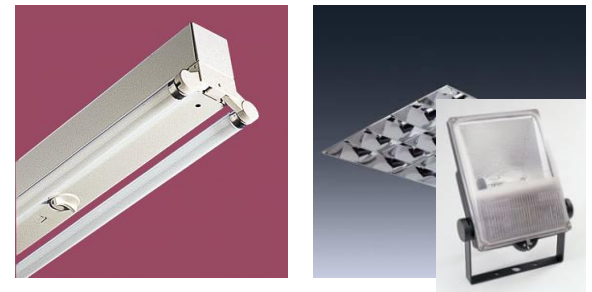
EE1 = A3

Tertiary Lighting Sector IM for Luminaires & Ballasts

Luminaire & Ballast energy performance requirements: Stage 3






(April 2017)

- FL Ballast minimum energy performance requirements mean that, with some exceptions, only electronic ballast will be able to comply i.e. A2/A2 BAT for non-dimmable & A1 for dimmable
- HID Ballast A2



Ecodesign Regulation 245/2009 (TIM)

Impact on Low Pressure Discharge Lamps*

	Apr. 2010	Apr. 2011	Apr. 2012	Apr. 2013	Apr. 2014	Apr. 2015	Apr. 2016
T8 FLTube 	T8 BASIC halophosphate T8 BASIC halophosphate U-shape						
	T8 triphosphor T8 triphosphor U-shape						
T12 tube 	Phase-out T12		EU phase out T12				
Circular 	T9 BASIC halophosphate Circular						
	T9 triphosphor Circular						
CFL 2pin** 							
CFL 4pin 							





*Changes due to amendment possible

**Phasing out of 2pin lamps from 13/04/17

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Ecodesign Regulation 245/2009 (TIM)

Impact on High Pressure Discharge Lamps*

	Apr. 2010	Apr. 2011	Apr. 2012	Apr. 2013	Apr. 2014	Apr. 2015	Apr. 2016
SON-E 	SON-E STANDARD SON-E/I SON-E 4Y > 70W SON-E 4Y ≤ 70W SON-E/I 4Y ≤ 70W SON-E SUPER 4Y		SON-E STANDARD SON-E/I SON-E 4Y > 70W				
SON-E Plug-in	SON-E Plug-in ≥ 210W SON-E Plug-in 110W SON-E Plug-in 68W				SON-E Plug-in ≥ 210W		
SON-T 	SON-T STANDARD SON-T 4Y SON-T SUPER 4Y		SON-T STANDARD SON-T 4Y				
MBFU 							
MBFT** 							

*Changes due to amendment possible

**Exception from EuP due to spectrum of lamp

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Ecodesign Regulation 245/2009 (TIM)

Impact on High Pressure Discharge Lamps

	Apr. 2010	Apr. 2011	Apr. 2012	Apr. 2013	Apr. 2014	Apr. 2015	Apr. 2016
Quartz Metal Halide clear 							
Quartz Metal Halide not-clear 							
Ceramic Metal Halide 							

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Next steps = DIM 2 proposals

- Further Implementation Measure(s) are in progress:
 - Directional light sources incl. LEDs
 - Domestic and commercial luminaires
- Same principle of setting Minimum Energy Performance Requirements but is more complex:
 - Range of beam angles (Lm/W in 90 degree cone)
 - How to measure domestic luminaires



Examples of LED modules

- High performance light engines – replaceable
 - Very high performance
 - Very good quality of light
 - Flexible optical solutions
- High performance light engines – lamp holder concept
 - Simple integration
 - Replaceable concept



Energy related Products (EuP) Resulting technology developments

Thank you

