

# EU legislative instruments for lighting

Driving energy efficiency in the lighting market  
30 January 2008



- Levels of legislation

- Product legislation (technical)
- System legislation (markets and installations)



# Energy Labelling – Directive 92/75

Energy		Washing machine
Manufacturer		
Model		
More efficient		<b>A</b>
<b>A</b>		
<b>B</b>		
<b>C</b>		
<b>D</b>		
<b>E</b>		
<b>F</b>		
<b>G</b>		
Less efficient		
Energy consumption kWh/cycle (based on standard test results for 60°C cotton cycle) <small>Actual energy consumption will depend on how the appliance is used</small>		0.95
Washing performance <small>A: higher G: lower</small>	<b>A</b> B C D E F G	
Spin drying performance <small>A: higher G: lower</small> Spin speed (rpm)	<b>A</b> B C D E F G	1400
Capacity (cotton) kg		5.0
Water consumption l		55
<b>Noise</b> (dB(A) re 1 pW)	Washing	5.2
	Spinning	7.0
Further information is continued in product brochures		

- Refrigerators and Freezers
- Washing Machines
- Tumble Dryers
- Washer Dryers
- Dishwashers
- Lamps
- Electric Ovens
- Airconditioners

Directive

94/2

03/66

95/12

95/13

96/60

97/17

98/11

02/40

02/31

Scope: filament lamps, CFLi, CFLni, LFL  
main exceptions: low voltage and reflector lamps



# ● Ecolabel for light bulbs

Commission Decision 99/568/EC amended by 2002/747/EC



- Scope: single-ended and double-ended light-bulbs (GLS, halogen, CFLi, CFLni, LFL, HIDs) – **except** CFLs with magnetic ballast, projector lamps, photographic lighting and solarium tubes.
- Ecolabel is awarded on a voluntary basis
- Award criteria: energy efficiency, lifetime, lumen maintenance, mercury content, switch on/off cycles, CRI, flame retardant content, packaging materials, user instructions



# Ecodesign of Energy-Using Products (2005/32/EC)

- Minimum requirements applicable to all products placed on the market
- Other environmental aspects addressed as well, life-cycle approach
- Based on Art 95, CE marking
- Framework Directive provides for product specific implementing measures (IM) or voluntary agreements
- 3 IM's so far, one on ballasts for fluorescent lighting (Directive 2000/55/EC) – may be revised soon, including setting other environmental requirements



## Scope I.

EuP DOES NOT deal with environmental impacts (e.g. climate change) but with the environmental aspects of the product which can be correlated to those impacts (e.g. energy consumption) and can be substantially influenced by *product design*.

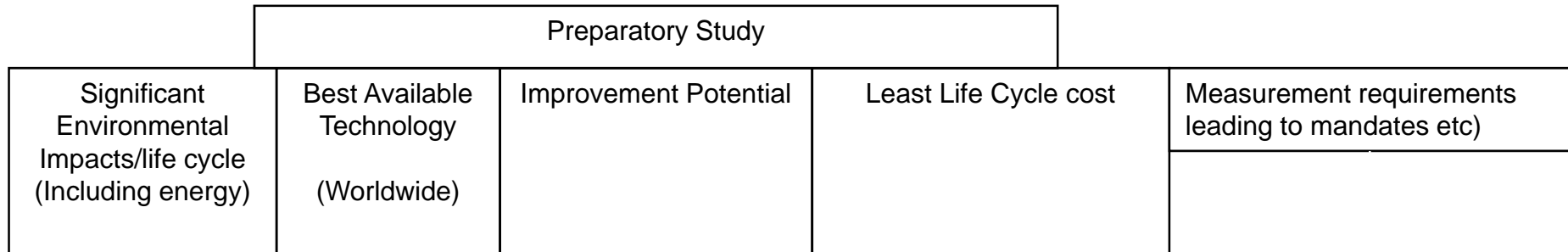
## ● Scope II.

- EuP addresses all environmental aspects (listed in Annex I) throughout the life cycle, from material selection to end-of-life management
- The eco-design requirements of implementing measures will address the significant environmental aspects of the examined product

# ● Adoption of implementing measures

- Product requirements introduced via implementing measures
- Working plan identifying candidate products
- Preparatory studies identifying environmental aspects
- Proposed draft implementing measures or voluntary agreements are first discussed with stakeholders in the Consultation Forum.
- Impact assessment precedes Commission draft measure proposals
- Implementing measures are adopted by the Commission assisted by a regulatory Committee
- Stakeholders participate throughout the whole process

# Integration of product labelling and ecodesign



**Specific Eco-Design Requirements**

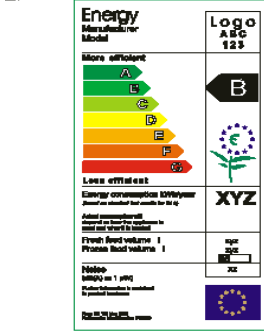
Maximum levels tolerated for "CE" marking

**Eco-Label**

top of the class



**Energy Label**



**Voluntary Agreements**

when ambitious compared with Business as usual and significant share of the market

EN Measurement Standards

- Revision**
- **5-10** years depending on product group and progress of technology but staged requirements possible
  - **Dynamic** but predictable to encourage improvement products while providing clarity on investments for Industry
  - **Consistent**
    - Thresholds to be maintained (A becomes D etc.)
    - Reward Development of 'good' products, compatibility of incentives

## ● Priority products in the Directive

- Article 16 of the Directive lists priority product groups to be addressed before the adoption of the Working Plan in July 2007
- Product groups identified in ECCP for high potential in greenhouse gas emission reduction
- List more or less specific: e.g. consumer electronics, but also electric motor systems
- Domestic and tertiary sectors equally addressed
- Standby losses explicitly mentioned
- Preparatory studies among these product groups and stand-by have been ongoing since first half of 2006
- All these studies are based on the Methodology for Ecodesign of Energy Using Products (MEEuP)



## Planning of ecodesign implementing measures

### Measures planned to be adopted by the Commission in 2008

- High-intensity discharge and street lighting products
- Fluorescent and office lighting products
- Stand-by and off-mode losses
- External power supplies
- Simple set top boxes

### Measures planned to be adopted by the Commission in spring 2009

- Domestic lighting products I (including incandescent bulbs)
- Televisions



## Planning of ecodesign implementing measures

### Measures to be submitted for vote in the Committee in 2008 and 2009

- Boilers
- Water heaters
- Washing machines, dishwashers
- Domestic refrigeration, freezers
- Commercial refrigeration
- Electric motors
- Circulators (originally under electric motors)
- Computers
- Imaging equipment
- Electric pumps (originally under electric motors)
- Industrial fans (originally under electric motors)
- Room Air Conditioners
- Domestic fans (originally under room air conditioners)

### Other measures (preparatory studies finishing in 2009)

- Complex set top boxes
- Laundry Driers
- Vacuum Cleaners
- Domestic lighting products II (reflector lamps and luminaires)
- Solid Fuel Small Combustions Installations



# ● Draft implementing measures for general lighting

Scope of the draft impl. measures	Lighting technology covered							
	GLS	HL	CFLi	CFLni	LFL	HID	Refl <sup>1</sup>	All <sup>2</sup>
HID and street lighting products								
Fluorescent and office lighting products								
Domestic light. prod. (also for other uses) <sup>3</sup>	3	3	3				3	3
<b>Total effect</b>								

<sup>1</sup> reflector lamps, including LEDs

<sup>2</sup> means common requirements applicable to all lighting technologies:

- » basic energy efficiency requirements for any technology
- » a revised energy labelling directive common to all lamps

<sup>3</sup> current intention, future proposal depends on preparatory study results



# Content of proposed measures

- Lighting system parts considered for each technology:
  - » lamps
  - » ballasts
  - » luminaires
  
- General lighting application areas covered at product level:
  - » Criteria are set for indication of suitability of all products (irrespective of technology) for
    - street lighting
    - office lighting
  
  - » Opening the door to installation requirements:
    - in other legislation than Ecodesign
    - requiring indication of suitability
    - for particular application areas (street, office etc. lighting)



## Current planning

For vote in the Committee in Spring 2008:


- Requirements on fluorescent and office lighting products and on HID and street lighting products

For opinion of the Consultation Forum in Spring 2008:

- Requirements on domestic lighting products (non-directional lamps: GLS, CFLi, HL)

For opinion of the Consultation Forum in 2009:

- Basic common requirements
- Revision of lamp labelling (98/11/EC) to include all technologies
- Requirements on domestic lighting products (directional lamps)
- Requirements on luminaires



# Directive on Energy End-use Efficiency and Energy Services (2006/32/EC)

## Objective

- To promote cost-effective energy efficiency in EU Member States through obligations and the removal of institutional, financial and legal barriers.
- To promote the development of a sustainable market for energy efficiency and energy services.



# Content

- sets 9-year 9 % indicative target (1% cumulative annual savings) for Member States measured from 1.1.2008 until 31.12.2016
- lists eligible national measures (including on lighting: e.g. new efficient bulbs and ballasts, digital control systems, use of motion detectors for lighting systems in commercial buildings)
- sets calculation methods for improvements, ways to set benchmarks
- requires voluntary agreements or other market transformation schemes from MS
- requires energy services / audits or financial contribution from energy providers
- authorizes funding mechanisms to be set up by MS
- requires MS measures under public procurement



# Public Sector Obligations

The Public Sector in Member States will be obliged to:

- fulfil an exemplary role;
- publish energy efficiency guidelines as assessment criteria in tendering for public contracts;
- select two mandatory measures from a list in Annex VI, requiring energy-efficient public procurement, energy audits and energy performance contracting.

# ● Public Procurement Requirements Picklist

- (a) to use financial instruments for energy savings, including energy performance contracting, that stipulate the delivery of measurable and pre-determined energy savings;
- (b) to purchase equipment and vehicles based on lists of energy-efficient product specifications of different categories of them to be drawn up by the authorities;
- (c) to purchase equipment that has efficient energy consumption in all modes, including in standby mode;
- (d) to replace or retrofit existing equipment and vehicles with the equipment listed in points (b) and (c);
- (e) to use energy audits and implement the resulting cost-effective recommendations;
- (f) to purchase or rent energy-efficient buildings or parts thereof, or replace or retrofit them to become more energy-efficient.

## ● Status of implementation

19 Member States have submitted their NEEAPs by 29 January 2008 (deadline was 30 June 2007).

Among them, good example for lighting is the **UK NEEAP**:

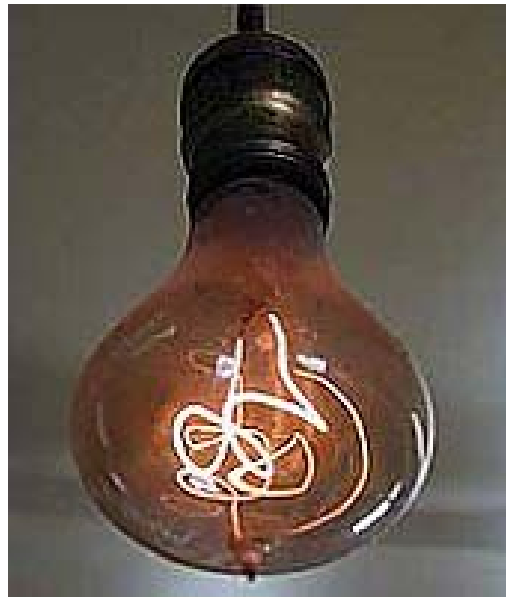
- rating system for sustainability (incl. lighting) in building regulations (Code for Sustainable Homes)
- voluntary agreement with major retailers on phasing out inefficient incandescent bulbs
- mandatory targets for energy suppliers for the promotion of energy efficiency improvements in households (Energy Efficiency Commitments)
- efficient lighting is part of the fuel poverty assistance programme
- assistance to third countries in obtaining aid for efficient lighting projects (Renewable Energy and Energy Efficiency Partnership)

# ● Energy performance of buildings

- Directive (2002/91/EC)
- Main elements:
  - » Common framework to calculate building energy performance (including lighting)
  - » Minimum standards to be set by Member States based on the framework
  - » Building certification system for visibility
  - » Regular inspections (not for lighting)
- Standards (including on lighting installations) have been developed by CEN under the auspices of the directive.



Thank you for your attention!



More information on ongoing activities:  
<http://ec.europa.eu/energy/demand/legislation/>