EUROPEAN LAMP COMPANIES FEDERATION

CELMA

Federation of National Manufacturers Association for Luminaires and Electrotechnical Components for Luminaires in the European Union

The European Lighting Industry
Response to the Commission's Consultation Working Document

July 2010

The European Lighting Industry welcomes the consultation Working Document from the Directorate General of Energy of the European Commission to the members of the EcoDesign Consultation Forum on possible measures targeting the energy efficiency of lighting in the tertiary sector.

The tertiary sector lighting in the EU counts for 1.6 billion lighting points (luminaires)[1] with an annual Business As Usual (BAU) electrical energy consumption of 200 TWh (2005) to 222 TWh (2020). The magnitude of this energy consumption can be halved by prudent design, installation and operation of a lighting installation. In the working document (dated July 5th 2010) the European Commission proposes two possible measures option A and option B.

The European Lighting Industry is calling the European regulators to address lighting at the "lighting system"[2] level by complementing the existing EcoDesign Legislation for tertiary lighting sector products with a new harmonised EU Lighting System Legislation[3] (LSL).

An harmonized EU Lighting System Legislation represents the best opportunity for the European Commission and Member States to achieve their 20% energy saving target by 2020. End-users will benefit from better lighting quality and lower energy cost, while holding costs in the lighting value chain.

The European Lighting Industry does not support Option A as it is not energy use related and ignores the importance of lighting

The European Industry believes that option A ignores the importance of light and lighting. It is divisive and not practical for implementation and questions whether the claimed energy savings can be achieved. It also feels that the measure will be complicated and costly to implement by the industry and the savings would not justify the additional required investments.

---

[1] **Luminaire** (as defined in (EC)245/2009 regulation)
Means an apparatus which distributes, filters or transforms the light transmitted from one or more light sources and which includes all the parts necessary for supporting, fixing and protecting the light sources and, where necessary, circuit auxiliaries (e.g. ballasts) together with the means for connecting them to the supply, but not the light sources themselves.

[2] **Lighting system**
Means a lighting installation comprising equipment for lighting solutions (light sources, circuit auxiliaries (e.g. ballasts), luminaires and lighting control devices) required for the lighting scheme.

[3] **Lighting System Legislation**
Provides requirements for the design, installation, operation and maintenance of energy efficient quality lighting systems in the tertiary lighting sector.

The European Lighting Industry supports Option B as addressing Lighting at System Level is the most valuable option

The European Lighting Industry supports option B as the most valuable alternative and is calling the European regulators to address lighting at the system level by complementing the existing EcoDesign Legislation for tertiary sector lighting products with a new harmonised EU Lighting System Legislation (LSL).

Addressing lighting at system level is about ensuring correct design, installation and operation of the lighting system where significant energy savings can be made. This is a measure beyond EcoDesign, targeting the energy efficiency of lighting in the tertiary sector.

With a harmonised EU Lighting System Legislation the quality of lighting will be secured by addressing the needs of particular systems before choosing a proper combination of products and controls to achieve the efficiency requirements at design level. Employing LSL based lighting installations will make significant saving in the energy used for lighting. The energy savings can be made without sacrificing the importance of lighting quality and when the complete stock of existing installations have been renovated this can result in up to 40% energy savings that is a yearly saving potential compared of BAU of 80 to 90 TWh. Such savings could be made sooner if the legislation would contain means to accelerate the refurbishment rate of inefficient stock installations economically.

Option A: as presented in the Working Document

Option A is about addressing luminaires at product level when "placed on the market"[4] with EcoDesign requirements and energy labelling of tertiary lighting sector luminaires.

If less light is lost inside the luminaire, a lamp providing less light (and thus consuming less electricity) will be sufficient to provide the same level of illumination.

Projected energy saving potentials from the Commission

- Measures could increase optical efficiency of tertiary sector luminaires by 15-20%;
- Leading to a yearly saving potential compared to BAU of 30 to 45 TWh after 2030-2050.

European Lighting Industry Position on Option A

The European Lighting Industry is not in favour of regulating the optical efficiency of tertiary sector lighting luminaires at product level because:

- Standalone energy efficiency requirements of luminaires can have negative impacts on the quality of light;
- It is important to note that market competition has been driving the energy efficiency of luminaires for many years, the industry is continuously improving the luminaire design and efficiency by using lamps with higher efficacy, more efficient electronic ballasts and better designed optical systems;
- For over five years all stakeholders in CEN/TC 169 "Light & Lighting" have attempted to develop an energy efficiency rating or classification for tertiary lighting luminaires under Mandate 268 dated 6 April 1998 from the European Commission. Due to the great variety in lighting requirements with a comparable number of different luminaire types, no workable solution could be found so far.

[4] **placed on the market** (as defined in 2009/125/EC)
Means making a product available for the first time on the Community market with a view to its distribution or use within the Community, whether for reward or free of charge and irrespective of the selling technique.

In the EU there are more than 1000 luminaires producers placing on the market millions of uniquely differentiated luminaires each year. To establish manageable and fair comparison of near like for like products from different producers it is necessary to create some form of groupings. In their latest considerations the lighting industry attempted to squeeze this massive variation into some 60 family groups of product types with allowing for variation for flux distribution and lamp type usage. The luminaires in each group have been designed to fulfil the lighting requirements of the market segment for which they are destined.

These design requirements not only put constraint on the luminaire construction but also often lead to restrictions on its lighting performance namely light distribution and efficiency. The variants are also affected by the precision of the design, the quality of material employed and the manufacturing process together these have a major impact on the product cost. The industry attempted to take account of these many influencing factor. The differentiations of products within each family, however, appear too numerous to permit the creation of a suitable and acceptable classification system.

The European Lighting industry is strongly against introducing an Energy label on luminaires based on the optical efficiency because:

- Energy labelling of tertiary luminaires will not work;
- An energy label on luminaires is of no added value since all relevant information for energy efficiency is already available from the photometric datasheet (as suggested in Annex 5 of 245/2009 Regulation);
- The concept of the luminaire efficiency has to be related to its proper use and therefore it is not possible with a single energy efficiency labelling to give all the needed information to the user;
- It is not useful to provide energy efficiency labelling on the luminaire since the characteristics are part of the product information available for the lighting stakeholders and the energy efficiency labelling cannot ensure the correct information to the user;
- Lighting solutions are pulled by the demand side and not pushed by the product side, products are offered for selection by a professional knowing the environment in which luminaires have to find their place by the design considering both the quality of light and efficiency;
- With a professional lighting designer, energy efficient luminaires will be considered as it is an essential part of the design process (which is covered in Option B);

Option B: as presented in the Commission's Working Document

"Option B is about addressing lighting at the system level (beyond EcoDesign)" – "lighting in the tertiary sector, the use-phase (put into service) energy efficiency is to a large extent determined by the design of the entire system in the context of each particular installation."

Efficient luminaires are too often "put into service"[5] in poorly designed and operated lighting installations, resulting in bad lighting conditions and wasted energy.

The Commission's Working Document suggests

- A need for lighting system legislation to gain the maximum energy saving;
- Possible instruments for implementation are Energy Performance of Buildings Directive (EPBD) and Energy Services Directive (ESD);
- It would require a different approach to design, installation and enforcement;
- That lighting designers and installers to address needs of particular systems and choosing a proper combination of products and controls to achieve energy efficiency requirement;
- With efficiency requirements defined as a cap on average number of kWh/m2/year, possibly factoring in also the illumination level provided by the system;

[5] **put into service** (as defined in 2009/125/EC)
Means the first use of a product for its intended purpose by an end-user in the Community.

- The verification performed under the supervision of Member State authorities on the work carried out by designers and installers of lighting systems.

Projected energy saving potentials from the Commission

- Legislation on lighting systems could lead to up to 40% energy savings;
- Yearly saving potential compared to BAU: 80 to 90 TWh in 2030-2050.

European Lighting Industry Position on Option B

The European Lighting Industry strongly supports the approach of option B because:

- It recognises the importance of light and lighting at the design stage;
- It addresses the lighting system at use phase when it consumes energy;
- It recognises the importance of installation and operation the fully functioning lighting system;
- It will give freedom to early exploitations of innovative lighting technologies;
- It will yield the maximum potential energy saving without damaging the lighting requirements of places;

In order to achieve this to the full potential the European Lighting Industry would propose an EU harmonised Lighting System Legislation covering specifically lighting systems in the tertiary lighting sector. Since the requirements of the lighting solutions and energy saving are the same across EU Member States, such binding Lighting System Legislation would avoid the risk of 27 divergent national criteria, which would be unnecessary, costly and time-consuming. Furthermore such diverse criteria would hamper the free movement and increase the costs to manufacturers and end-users of designs, supply and installation of lighting equipment across member states.

Overview of the draft Lighting System Legislation:

- the selection of the right criteria for the lighting task;
- the design of the right lighting to meet lighting and energy saving criteria and based on EN standards;
- the verification of the lighting design;
- the installation of the lighting system according to the lighting design;
- the commissioning, sign-off and hand over to the user of the lighting installation;
- the maintenance, service (schedule defined the design) and operation of the installation by the user.

A more detailed draft proposal of the “Lighting System Legislation” is in preparation.

Further Information

Presentation of the European Lighting Industry
The European Lighting Industry is represented at European level in Brussels by the organisations CELMA for the luminaires and components for luminaires and by the ELC for the light sources. CELMA and the ELC represent and defend in Brussels the interests of the European lighting producers.

CELMA is the Federation of National Manufacturers Associations for Luminaires and Electrotechnical Components for Luminaires in the European Union. CELMA represents 19 Manufacturers Associations from 13 EU countries with over 1.000 companies the majority of Small and Medium sized Companies (SME's), 107.000 people employed in Europe and generates 15 billion EUR annual turnover in Europe.

ELC is the European Lamp Companies Federation. ELC has 8 member companies, represents 50.000 people employed in Europe and generates 5 billion EUR annual turnover in Europe.

Kay Rauwerdink
Chairman CELMA/ELC Task Force Lighting System Legislation
e-mail: kay.rauwerdink@philips.com
Phone: +31 40 275 6079 - mobile: +31 6 2248 4705

Stéphanie Mittelham
CELMA Managing Director
e-mail: stephanie.mittelham@celma.org
Phone: +32 2706 8712
www.celma.org

Jürgen Sturm
ELC Secretary General
e-mail: jurgen.sturm@elcfed.org
Phone: +32 2706 8608
www.elcfed.org