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COMMISSION OF THE EUROPEAN COMMUNITIES

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Draft

**COMMISSION REGULATION (EC) No ../..**

**Of [...]**

**implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for non-directional household lamps**

## EXPLANATORY MEMORANDUM

### 1. CONTEXT OF THE PROPOSAL

#### • **Grounds for and objectives of the proposal**

Directive 2005/32/EC of the European Parliament and of the Council lays down a framework for the Commission, assisted by a Regulatory Committee, to set eco-design requirements for energy-using products. Ecodesign requirements are requirements that the products covered by implementing measures must meet in order to be placed on the market with the aim of improving their environmental performance.

Article 16 of Directive 2005/32/EC states that “the Commission shall, as appropriate, introduce by anticipation (...) implementing measures starting with (...) lighting in both the domestic and tertiary sectors” in accordance with the criteria of Article 15 (in particular significant volume of sales and trade, significant environmental impact, significant potential for improvement and assessment of impacts).

A technical, environmental and economical analysis ("preparatory study") has shown that:

- (i) non-directional household lamps are placed in large quantities on the EU market;
- (ii) the environmental impact (energy use in the use phase, mercury content and mercury emissions) of non-directional household lamps in the EU is significant;
- (iii) there are wide disparities in the environmental performance of non-directional household lamps;

and cost effective technical solutions exist which could significantly improve the environmental impacts. Pursuant to Article 15 of Directive 2005/32/EC, non-directional household lamps shall therefore be subject to an eco-design implementing measure.

#### • **General context**

Although cost-effective solutions for improving the life cycle and environmental impact related to non-directional household lamps exist, market forces have resulted in the market penetration of products with environmental performance lower than it could be.

The market failure can be explained by the fact that energy-efficient lighting equipment (compact fluorescent lamps or "CFL") is usually more expensive at the time of purchase, even if it implies significant cost savings potential over the life cycle. The benefits are often unclear or irrelevant to the person making the purchasing decision. There are also functionality issues with some CFL that could cause disappointment in consumers and deter them from buying CFL.

The preparatory study estimated that a total of 4.2 billion lighting points equipped with incandescent lamps, halogens or CFLs had an annual electricity consumption of 112 TWh in 2007 in the EU-27. This corresponds to an annual spending of 15.2 billion Euro<sup>1</sup>, and annual 48.3 million tons of CO<sub>2</sub> emissions.<sup>2</sup>

Related mercury emissions of the installed base of lamps has been estimated to be 2.9 tons/year in 2007 emitted in the different life cycle phases of the lamps, including use-phase electricity generation and the assumed non-recycling of 80% of mercury containing compact fluorescent lamps.

Without taking appropriate countermeasures ("no action" specifically on non-directional household lamps) it is expected that electricity consumption in non-directional household lamps will rise to 135 TWh per year in 2020 and total mercury emissions will rise to 3.1 tons.

The main reason for this increase from 2007 is that the number of lighting points in tertiary sector lighting is expected to increase to 4.9 billion due to economic development (new buildings) and due to a demand for more light in existing installations.

It is estimated that the proposed ecodesign requirements would lead to a reduction of approximately 39 TWh of electricity consumption per year by 2020 in the Community' and to a reduction of approximately 1.6 tons of the mercury content of the installed lamp base in 2020.

There is a parallel preparatory process on an implementing measure on tertiary sector lighting products (launched as "office lighting" and "public street lighting"). Directional lamps (e.g. reflector lamps used in spots) are planned to be addressed in a separate implementing measure, for which the preparatory process is also ongoing. The same measure is planned to address luminaires and to prepare for a potential phaseout of lamps that would not meet at least energy class B, by first phasing out luminaires that require such lamps.

- **Existing provisions in the area of the proposal**

Directive on the Energy Labelling of Household Lamps (98/11/EC)

The Energy Labelling implementing Directive 98/11/EC covers mains-powered filament lamps (both incandescent and halogens) and fluorescent lamps of all types, even when marketed for non-household use. Notable exceptions are low voltage lamps and reflector lamps (many halogens and light emitting diodes or LEDs are thus exempted, and also a number of incandescent lamps and compact fluorescent lamps). The lamp manufacturers are responsible for displaying the energy label on the packaging. A black and white outline version of the label is tolerated due to the cost of colour printing on the packaging.

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<sup>1</sup> Average electricity price in the EU 2005: of 0.136 €/kWh

<sup>2</sup> Average specific EC emissions in 2003: 400g CO<sub>2</sub> per kWh (EURELECTRIC, Environmental Statistics of the European Electricity Industry, Trends in Environmental Performance 2003-2004); this figure is higher if e.g. mining related effects are taken into account (MEEuP: plus 10%)

The 98/11/EC Directive clearly rewards energy efficient compact fluorescent lamps by allocating an “A” (or in some cases B) class. At the other end of the scale, incandescent lamps are ranked in classes G, F or at best E. The efficiency of existing halogen lamps ranges from classes F to B. It is worth noting that class B is very wide, there is a substantial difference between the efficacy of the B-class halogens at the lower end and the B-class compact fluorescent lamps at the higher end.

In order to offer an appropriate comparison among household light sources, the method used to determine the energy class of non-directional lamps could be adapted to apply also to low voltage filament lamps and directional lamps, and their energy class could be indicated on their packaging following an amendment for that purpose of Directive 98/11/EC. In preparing such a measure, it could also be examined whether it is appropriate to redistribute the energy classes of the lamp energy label.

#### Regulation on voluntary Ecolabelling of light bulbs (2002/747/EC)

The voluntary Ecolabel on light bulbs was put in place in 1999 and last amended in 2002. Manufacturers may display the “EU flower” rewarding outstanding environment-friendly products if they comply with the requirements set out in the Ecolabel Regulation. Class A of the energy label is required as minimum energy efficiency level to qualify for the Ecolabel (thereby effectively restricting the Ecolabel to efficient fluorescent lamps); requirements are also set on the mercury content, the lamp lifetime and other performance parameters.

The Energy Performance of Buildings Directive (2002/91/EC) requires the Member States to set minimum energy performance requirements for new buildings or for major renovations of large buildings (at least 1000m<sup>2</sup>). However, the effect of this Directive on non-directional household lamps is likely to be limited. There are no lighting-specific requirements in the Directive and it is left to the Member States, or failing that, to the building planners to use or not the potential of energy efficient lighting systems in complying with the requirements. Also, lamps covered by this Regulation are primarily used in household lighting and are mostly selected and installed by non-professional end users.

The Energy End-use Efficiency and Energy Services Directive (2006/32/EC) requires the Member States to adopt national energy efficiency action plans and public procurement rules for increased efficiency. For both, lighting is a recommended but not mandatory area of action, which may target both indoor and outdoor lighting, set system level requirements or promote energy efficient products. The effect of system requirements on non-directional household lamps is limited as explained under Directive 2002/91/EC above. At the product level, Member States have little possibility to set minimum efficiency requirements in national legislation due to internal market rules, and other types of measures have been announced so far in the national energy efficiency action plans of a few Member States only. At the time of drafting of this document, the effect of Directive 2006/32/EC on non-directional household lamps is difficult to quantify but by all means limited.

The Directive on the Restriction of Hazardous Substances (2002/95/EC) regulates the mercury content of compact fluorescent lamps. There is consensus among Member States and stakeholders that the mercury content of lamps should be regulated within the framework of the RoHs Directive.

The Directive on Waste Electric and Electronic Equipment (WEEE, 2002/96/EC) regulates the way products (including lighting equipment) should be handled when they are discarded at end of life. As the WEEE Directive has specific and stringent requirements on recovery levels of discharge lamps, it does have the potential of improving the end-of-life impact of those lamps. However, it does not affect lamp design. Unfortunately, in practice recycling rates of compact fluorescent lamps are still extremely low across the EU<sup>3</sup>, as CFL recycling schemes have been only recently set up in many countries, and there is low public awareness of the need to recycle them.

- **Consistency with the other policies and objectives of the Union**

Directive 2005/32/EC is an important instrument to achieve the objective of 20% increase of energy efficiency by 2020, and its implementation is one of the priorities of the Energy Efficiency Action Plan. Furthermore, implementation of Directive 2005/32/EC contributes to the Community's binding target to attain a reduction of greenhouse gases by at least 20% in 2020, or 30% if there is an international agreement which commits other countries to comparable emissions reductions. The proposed implementing Regulation is a substantial contribution to this process. It is also consistent with the Sustainable Consumption, Production and Industrial Policy Action Plan.

## 2. CONSULTATION OF INTERESTED PARTIES AND IMPACT ASSESSMENT

- **Consultation of interested parties**

Stakeholders were consulted from the very beginning of the preparatory studies, and in the framework of the Ecodesign Consultation Forum as required by Article 18 of the Directive.

On 28 March 2008, a meeting of the Ecodesign Consultation Forum was held. Building on the results of the preparatory study, the Commission services presented working documents suggesting ecodesign requirements related to non-directional household lamps. About one month before the meeting, the working document was sent to the members of the Consultation Forum, and to the secretariats of the ENVI (Environment, Public Health and Food Safety) and ITRE (Industry, Research and Energy) Committees of the European Parliament for information. The working document was published on DG TREN's ecodesign website, and it was included in the Commission's CIRCA system alongside the stakeholder comments received in writing before and after the meeting.

A summary of responses and how they have been taken into account is available in the Impact Assessment.

- **Collection and use of expertise**

*Scientific/expertise domains concerned*

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<sup>3</sup> It has been difficult to obtain reliable statistics, but according to the survey of a large retailer, even among their eco-conscious consumers the CFL recycling rate is around 20%.

External expertise on non-directional household lamps was mainly gathered through a study providing a technical, environmental and economic analysis (in the following called "preparatory study"), which were carried out by consortia of external consultants<sup>4</sup> on behalf of the Commission's Directorate General for Energy and Transport (DG TREN).

#### *Methodology used*

The methodology followed the provisions of the Directive, in particular Article 15 and Annexes I and II. The technical, environmental and economic analysis followed the structure of the "MEEuP" ecodesign methodology<sup>5</sup> developed for the Commission's Directorate General for Enterprise and Industry and endorsed by the stakeholders.

#### *Main organisations/experts consulted*

The preparatory studies were conducted in an open process that took into account input from relevant stakeholders including manufacturers and manufacturing associations, environmental NGOs, consumer organizations, EU/EEA Member State experts and international organizations such as the International Energy Agency (IEA).

#### *Summary of advice received and used*

No potentially serious risks with irreversible consequences were raised by any stakeholder, nor were any identified during the preparatory work. The technical, market and economical analysis carried out in the framework of the preparatory study resulted in recommendations on ecodesign requirements on non-directional household lamps. These recommendations were used as a basis for suggesting possible ecodesign requirements to the Consultation Forum.

#### *Means used to make the expert advice publicly available*

The preparatory studies were given a dedicated website<sup>6</sup> where interim results and further relevant materials were published regularly for timely stakeholder consultation and input. Written submissions from stakeholders are listed in the final reports. The study website was promoted on the ecodesign-specific websites of the Transport and Energy DG and the Enterprise and Industry DG. The Commission hosted an open consultation meeting for stakeholders directly affected in Brussels on 23 November 2007 to discuss and validate the preliminary results of the study. The written submissions received through the Consultation Forum process are available in

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<sup>4</sup> EuP preparatory studies "Lot 19: Domestic lighting", by VITO, documentation available through the ecodesign website of the Commission's Directorate General Energy and Transport  
[http://ec.europa.eu/energy/demand/legislation/eco\\_design\\_en.htm](http://ec.europa.eu/energy/demand/legislation/eco_design_en.htm).

<sup>5</sup> "Methodology for the Ecodesign of Energy Using Products", Methodology Report, final of 28 November 2005, VHK, available on DG TREN and DG ENTR ecodesign websites:  
[http://ec.europa.eu/energy/demand/legislation/eco\\_design\\_en.htm](http://ec.europa.eu/energy/demand/legislation/eco_design_en.htm)  
[http://ec.europa.eu/enterprise/eco\\_design/index\\_en.htm](http://ec.europa.eu/enterprise/eco_design/index_en.htm)

<sup>6</sup> [www.eup4light.net](http://www.eup4light.net)

the Commission's CIRCA system. The minutes of the Forum meeting are available on the Transport and Energy DG 's website<sup>7</sup>.

- **Impact assessment**

An impact assessment was carried out pursuant to Article 15 (4.b) of Directive 2005/32/EC. Several options for improving the environmental impact of non-directional household lamps were considered.

Options 1 to 3 were discarded (more detail available in the accompanying impact assessment).

- Option 1: Repeal of existing legislation (Energy Labelling, Ecolabel, RoHS)
- Option 2: No EU action (Legislation currently in place would not be amended, no new legislation would be adopted.)
- Option 3: Self regulation.
- Option 4: Ecodesign implementing regulation on non-directional household lamps in combination with labelling showing their energy efficiency (Energy label) or environmental performance(Ecolabel)

Option 4 aims at improving the environmental impact of non-directional household lamps through a regulation setting minimum levels on energy efficiency and certain performance parameters related to additional environmental aspects. The requirements would in any case result in a phasing out of incandescent lamps and of the least efficient halogen lamps. Benchmarks would identify the lowest mercury content achievable in state-of-the-art lamps.

The examined sub-options varied in terms of further lamp categories to be phased out (such as efficient halogens) and in terms of speed of implementation.

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<sup>7</sup> Available on DG TREN's ecodesign website:  
[http://ec.europa.eu/energy/demand/legislation/eco\\_design\\_en.htm#consultation\\_forum](http://ec.europa.eu/energy/demand/legislation/eco_design_en.htm#consultation_forum)



**In the analysis of the sub-options, the impact assessment identified the following main issues of concern:**

Article 15 paragraph 5 of the Ecodesign Directive (2005/32/EC) requires the Commission to also look into other aspects than the environmental improvement potential before adopting ecodesign implementing measure, in particular that:

"(a) there shall be no significant negative impact on the functionality of the product, from the perspective of the user;

(b) health, safety and the environment shall not be adversely affected;

(c) there shall be no significant negative impact on consumers in particular as regards the affordability and the life-cycle cost of the product;

(d) there shall be no significant negative impact on industry's competitiveness"

From a consumer's perspective, quality and performance of lamps refer to:

- colour rendering
- lamp start and warm-up times
- lifetime
- aesthetics: bright point light sources are possible only with transparent (clear) glass lamps and are needed in certain lighting installations
- dimmability
- size for compatibility with luminaries

On these points, the functionalities offered by the most efficient lamps, Compact Fluorescent Lamps (CFL) differ from those offered by incandescent lamps and halogens, especially when these are of the clear (transparent) type, which does not exist in CFL technology.

Mercury content is needed for the high efficiency of CFLs. It is considered that the decrease of mercury emissions resulting from energy savings (reduced production of electricity) outweigh the need for mercury in the lamps. The mercury content in CFL lamps remains to some extent a concern (leaking mercury) when not properly disposed.

Alleged health effects of CFLs

The Scientific Committee on Emerging and Newly Identified Health Risks (on a mandate from the Commission services) has been looking into the question of possible health effects of Compact Fluorescent Lamps on people with certain diseases and on the general public, following up to complaints from certain patients' associations. In its report, the Committee concluded that for the general public, prolonged very close exposure to a bare lamp (< 20 cm) could eventually affect health by exceeding workplace limits on UV emissions. On the other hand, the symptoms of about 250.000 people in the EU suffering from diseases accompanied by light sensitivity could be aggravated in the presence of bare CFLs (independent of distance) due to UV and blue light emissions.

Using CFLs with an outer non-breakable lamp envelope can largely solve these problems and also that of mercury pollution in case of lamp breakage, but the envelope slightly lowers (about 10%) their efficacy.

#### Alleged impact on European industry / jobs

Most incandescent lamps sold today in the EU are produced in the EU, whilst most lamps with integrated electronics (such as compact fluorescent lamps) are produced in third countries (due to their higher labour-intensity). Halogens are produced locally and imported in more or less equal proportions. Therefore, a shift towards lamps with integrated electronics is likely to cause a shift of production away from the EU. However, this move has already taken place to a large extent (as can be seen from the abandon of the claim by the EU manufacturers to continue imposing excise duties on imported CFL lamps). It should be noted that some halogens lamps (class C) can be made on the same production lines as for incandescent lamps, which would mitigate further the loss of jobs resulting from a ban of incandescent bulbs. About 8000 out of the 50.000 people producing lamps in the Community are working on producing incandescent lamps. With a proposed regulation that leaves efficient halogen lamps on the market, it can be estimated that in a worst case scenario 2 to 3000 of these jobs would be at risk.

#### Global CFL production capacity

Building on past trends and considering all possible demand scenarios in Europe and in the world (including where other large countries such as China or India would ban incandescent bulbs in the coming years), it is unlikely that the proposed measure would lead to any significant production capacity problem. No information from any party has given robustness to allegations on a possible capacity issue.

#### Affordability to the consumer

The increase in purchase price (from incandescent to efficient halogen or CFL) is not considered to be an obstacle to households: incandescent bulbs cost around 60 cents, the price of all the alternatives varies between 2 euros up to 12 euros, and is due to lower in the future (higher competition, drop of excise duties). All the alternatives to incandescent lamps bring substantial savings to consumers over the life cycle of the product.

#### Conclusions of the impact assessment

From the point of view of energy efficiency alone, it is clear that the aim would be to go for a minimum requirement for energy class "A" as soon as possible, which would only leave compact fluorescent lamps and LEDs on the market.

However, taking into account the aspects referred to in Article 15 paragraph 5 of the Ecodesign Directive and detailed above in relation to non-directional household lamps, it is necessary to leave alternatives to CFLs and LEDs on the market, and to carefully schedule the phasing out of incandescent lamps.

## **Improvement potential**

Among the sub-options examined in the impact assessment, the requirements on non-directional household lamps described under the legal elements of the proposal below will lead to a reduction of electricity consumption of 39 TWh compared to the "no action" scenario above yielding annual CO<sub>2</sub> emission savings of about 15.5 mln tons, and reductions of further electricity production related environmental impacts (e.g. SO<sub>2</sub>, NO<sub>x</sub>, heavy metals) without losses of functionality from the user's perspective. The electricity savings correspond roughly to the final electricity consumption of Finland in 2006, the yearly savings of electricity costs are worth approx. 5.3 billion € by 2020 with current electricity prices.<sup>8</sup> The total mercury emissions of the installed non-directional household lamps would be reduced from approximately 3.1 tons to 1.5 tons (emissions in the different life cycle phases of the lamps, including use-phase electricity generation and the assumed non-recycling of 80% of mercury containing compact fluorescent lamps).

### **3. LEGAL ELEMENTS OF THE PROPOSAL**

#### **• Summary of the proposed action**

##### **Scope**

The measure set outs Eco-design requirements for placing non-directional household lamps on the market. Therefore requirements would be applicable to the lighting products independently from their application area (including to those products when marketed for use in non-domestic applications, thereby increasing the positive impact of the measure).

Lamps for special applications (stage lighting, pet care lamps, oven lamps etc.) are not affected by the requirements.

Directional lamps (reflector lamps and most light emitting diodes) may be covered in a separate implementing measure of Directive 2005/32/EC.

##### **Mandatory requirements**

The following aspects are addressed by requirements:

Lamps:

- energy efficiency
- lamp functionalities
- product information.

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<sup>8</sup>

Average electricity price in 2005 in EU-25: 13.6 Cent/kWh for end use.

The energy efficiency requirements lead to the following result:

- all non-transparent (frosted) lamps will be CFLs (for applications which do not need to be bright point sources)
- the most efficient halogen transparent lamps (class B) will offer equivalent light quality to incandescent, full dimmability, no health issues.
- special socket halogens of class C will solve possible socket/luminaire incompatibility issues.

**Timing:**

<b>Stage</b>	<b>Date</b>	<b>Main result</b>
Stage 1	1 September 2009	Start of incandescent lamp phase-out (lamps of 100W) + raising the level to A-class for frosted lamps + functionality and product information requirements
Stage 2	1 September 2010	Phase-out of 75 W incandescent lamps
Stage 3	1 September 2011	Phase-out of 60 W incandescent lamps
Stage 4	1 September 2012	Complete incandescent lamp phase-out (40W and 25W)
Stage 5	1 September 2013	More ambitious functionality requirements
Stage 6	1 September 2016	Raising the minimum level to B class for clear lamps (phasing out C-class retrofit halogen lamps)

The lamp functionality and product information requirements aim at reducing the difference between the performance of CFLs and filament lamps, and to make the consumers aware of the differences so that they can make the appropriate choices.

**Revision**

It is planned to review the measure at the latest 5 years after adoption. The review should take particular note of the evolution of sales of special purpose lamp types so as to verify that they are not used for general lighting purposes, of the development of new technologies such as LEDs and of the feasibility of establishing energy efficiency requirements at the “A” class level as defined in Directive 98/11/EC.<sup>9</sup>

**Benchmarks**

In addition to the parameters covered by requirements, benchmarks are also set for lamp mercury content level. The setting of maximum mercury content limits is left to Directive 2002/95/EC on the Restriction of Hazardous Substances.

• **Legal basis**

The proposed Regulation is an implementing measure pursuant to Directive 2005/32/EC, and in particular Article 15 (1) thereof. The Directive is based on Article 95 of the Treaty.

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<sup>9</sup> Commission Directive 98/11/EC of 27 January 1998 implementing Council Directive 92/75 with regard to energy labeling of household lamps

- **Subsidiarity principle**

The adoption of different ecodesign measures on non-directional household lamps by individual Member States would lead to obstacles to the free movement of goods within the Community. Such measures must therefore be harmonized. In line with the principle of subsidiarity, it is thus appropriate that the measures in question are adopted at Community level.

- **Proportionality principle**

In accordance with the principle of proportionality, this measure does not go beyond what is necessary in order to achieve the objective.

- **Choice of instruments**

Proposed instruments: Regulation

The proposed form of action is a Commission Regulation (implementing framework Directive 2005/32/EC), because the objectives of the action can be achieved most efficiently by fully harmonized requirements (including timely entering into effect) throughout the EU, ensuring free movement of compliant equipment.

#### **4. BUDGETARY IMPLICATION**

The proposal has no implication for the Community budget

#### **5. ADDITIONAL INFORMATION**

- **Review/revision/sunset clause**

The proposal includes a review clause.

- **Trade implications**

WTO/TBT was notified to ensure that no barrier to trade is introduced.

- **European Economic Area**

The proposed act concerns an EEA matter and should therefore extend to the European Economic Area.

- **Detailed explanation of the proposal**

Article 1: The subject matter and scope of measure are defined. The product categories that are exempted from all the provisions of the Regulation are defined through technical parameters (lumen output and light spectrum specificities). Also, directional light sources need special requirements taking into account their optical efficiency and should be covered separately. Fluorescent lamps without integrated ballast and high intensity discharge lamps are covered by the ecodesign regulation on tertiary sector lighting products.

Article 2: Definitions are provided there for the terms used in the Articles, necessary to define the scope of the Regulation. The more technical terms used for the requirements and for the benchmarks set out in the Annexes are defined in Annex II.

Article 3 and 6: Ecodesign requirements and benchmarks are set with reference to Annex II and IV, which contain the actual requirements and benchmarks. The only requirement on special purpose lamps is set in Article 3, they have to indicate on their packaging that they are not suitable for room illumination, and explain in the technical documentation file why they are not suitable.

Article 5: A verification procedure for market surveillance purposes already exists for household lamps, set out in a harmonised standard (EN 50285) providing compliance with the lamp energy label Directive 98/11/EC. By including this Article and Annex III, the provisions of this verification procedure are extended to lamps currently not covered by directive 98/11/EC, such as low voltage halogen lamps.

Annex I: The parameters to be measured and technical terms used in the other Annexes are defined here.

Annex II: Sets out the mandatory requirements on non-directional household lamps. Energy efficiency requirements are given using the formula applied in Directive 98/11/EC for the levels of the different energy label classes.

<b>Application date</b>	<b>Energy class equivalents (according to Directive 98/11/EC) of the formulae used in this Regulation at the time of its adoption</b>	
	<b>Clear lamps</b>	<b>Non-clear lamps</b>
<b>Stages 1 to 5</b>	Energy class C	Energy class A
<b>Stage 6</b>	Energy class B	Energy class A

<b>Exceptions</b>	
<b>Scope of the exception</b>	<b>Maximum rated power (W)</b>
Clear lamps $60 \text{ lm} \leq \Phi \leq 950 \text{ lm}$ in Stage 1	Energy class E
Clear lamps $60 \text{ lm} \leq \Phi \leq 725 \text{ lm}$ in Stage 2	Energy class E
Clear lamps $60 \text{ lm} \leq \Phi \leq 450 \text{ lm}$ in Stage 3	Energy class E
Clear lamps with G9 or R7s cap in Stage 6	Energy class C

Further requirements are set on lamp functionality and product information.

Annex III contains provisions on the verification procedure to be applied by the Member States' authorities when performing market surveillance checks referred to in Directive 2005/32/EC, Article 3 (2). It also indicates which measurement methods the authorities should use when performing the checks.

Annex IV: Benchmarks are indicated here for parameters where Annex II does not already raise the minimum requirement to the benchmark level by the last stage (i.e. lamp efficacy). A benchmark is also given on lamp mercury content.