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Ecodesign and Energy Labelling Regulations for lighting

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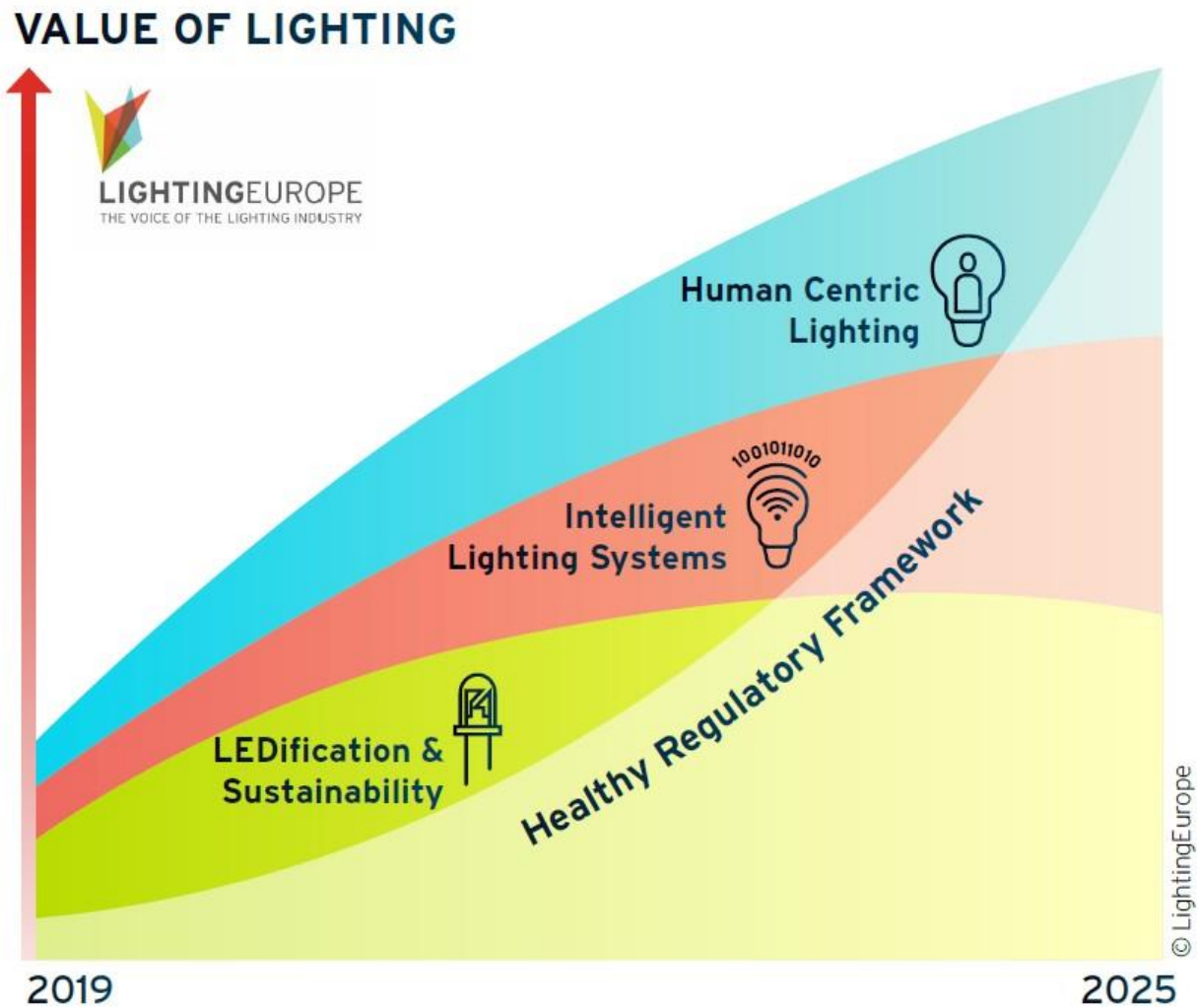


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Introduction to the new Regulations on light sources



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The Ecodesign and Energy Labelling basic rules

Ecodesign legislation:

- EU-wide rules for improving the **performance** of products, such as household appliances, information and communication technologies or engineering and lighting.
- Sets out minimum mandatory requirements for the **energy efficiency**, through product-specific regulations proposed by the European Commission.
- This has been a driving force behind the transition to **LEDs** over the past years.

Energy Labelling legislation:

- The energy labelling requirements for individual product groups are created under the EU's energy labelling framework regulation, in a process coordinated by the European Commission.
- 16 product groups require an energy label, including **lighting**.
- Companies can create their own labels for energy efficiency using a range of labelling tools.

Overview of revisions

Ecodesign revision

- Reg. 244/2009
- Reg. 245/2009
- Reg. 1194/2012
- Incl. their amendments

Revision and merger

NEW: Reg. 2019/2020
(Single Lighting Regulation, or SLR)

Energy Labelling revision

- Reg. 874/2012 (incl. amendments)

Revision and merger based on the
new Reg. 2017/1369 (framework for all
Energy Labelling Regulations)

NEW: Reg. 2019/2015
(Energy Labelling Regulation; ELR)

**NEW: European Product Registry for
Energy Labelling (EPREL)** based on
Reg. 2017/1369 and Reg. 2019/2015

Most of the new SLR and ELR requirements will become applicable on 1 September 2021

Summary of main changes

- SLR and ELR have been published on 5 December 2019
- Both regulations have significant consequences for the industry

Consequences following the SLR

- **Phase-out** of some conventional lighting technologies due to increased efficiency requirements on performance and quality of light
- **Removability and replaceability requirements** for light sources and control gears in containing products

Consequences following the ELR

- **All light sources** are in the scope of the ELR
- **Discontinuation of energy labelling for luminaires** (containing products must be labelled only if they are considered to be a 'light source')
- New information obligations through **EPREL**

LightingEurope's Guidelines on the SLR (ecodesign) and ELR (energy labelling) have been published on 5 December 2019 as well



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Ecodesign Regulation (EU) No 2019/2020 (Single Lighting Regulation)



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Article 1 defines the scope as **light sources** and **separate control gear**

- Light sources include:
 - LED and OLED lamps and modules
 - High pressure sodium lamps
 - Metal halide lamps
 - Halogen lamps
 - CFLi, CFLni
 - LFL; T2, T5, T8, T9, T12
- The requirements also apply to light sources and separate control gears placed on the market in a containing product
- The supplier of a **containing product** (e.g., a luminaire) needs to ensure that the light source and separate control gear used in their containing product complies with all the relevant EU legislation, including this Regulation

See page 12 of the SLR Guidelines

Definition of containing product

Art. 2(4) of the Regulation:

*“**containing product**’ means a product containing one or more light sources, or separate control gears, or both. Examples of containing products are luminaires that can be taken apart to allow separate verification of the contained light source(s), household appliances containing light source(s), furniture (shelves, mirrors, display cabinets) containing light source(s). **If a containing product cannot be taken apart for verification of the light source and separate control gear, the entire containing product is to be considered a light source**”*

Definition of containing product

- In case a containing product cannot be taken apart for verification of the light source and/or separate control gear, the whole containing product will be considered a light source or a separate control gear
 - In this case, it will have to fulfil all the relevant requirements from this regulation (energy performance, information, etc.) and Reg. 2019/2015 on energy labelling (for light sources)
 - The replaceability requirements from Art. 4 will cease to apply, as it only applies to containing products
- A luminaire sold without a light source or control gear is not a containing product, and if it is supplied with a separate standard-capped lamp, the lamp sold with the luminaire shall be provided in its own packaging and shall comply with all the requirements from the SLR and ELR

See pages 20-21 of the SLR Guidelines

Ecodesign: Circular Economy requirements in other products

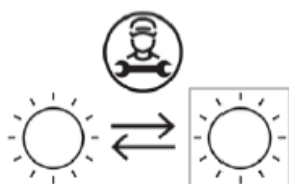
- list of spare parts for professional repairers & end users
 - minimum time of availability of spare parts & maximum delivery time
 - easy disassembly of parts, common tools
 - Instructions on disassembly steps and tools to be used
 - access to repair information for professional repairers
 - repair and maintenance information to end-users
 - restriction of substances
 - labelling for substances and critical materials
 - Diagram with information on presence of substances/materials within the product
-
- **For refrigerators:** spare parts available for 10 years
 - **For dishwashers:** spare parts available to public for 10 years
 - **For displays:** prohibition of flame-retardant materials

- **Article 4(1)**
- *Manufacturers, importers or authorised representatives of containing products shall ensure that light sources and separate control gears can be **replaced** with the use of common available tools and without permanent damage to the containing product, **unless a technical justification related to the functioning of the containing product is provided** in the technical documentation explaining why the replacement of light sources and separate control gear is not appropriate.*
- *The technical documentation shall also provide instructions on how light sources and separate control gears **can be removed without being permanently damaged for verification purposes** by market surveillance authorities.*

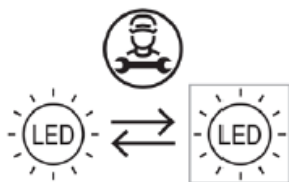
Ecodesign: Circular Economy requirements for lighting

Consequences of art. 4	LightingEurope Guidelines support
All Containing Products should enable replaceability of light sources and control gears unless technically justified.	LightingEurope provides guidance with diagrams on replaceability
If the light source and control gear of the containing product can not be removed for verification , then the containing product is to be considered a light source for all requirements of the Regulation (energy performance requirements, information requirements, etc.) and the corresponding Regulation on the energy labelling of light sources	LightingEurope provides a diagram that explains which removability requirements apply to which products. This is very relevant for the application of the Energy Labelling regulation as well
Art 4.2 requires information to be displayed on the packaging of the containing product (only for products sold directly to end-users) on the replaceability or non replaceability of the light source and the control gear	LightingEurope provides a pictogram that can be easily used and printed without language complications

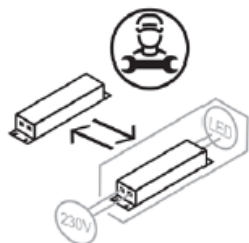
Replaceability pictograms



Replaceable light source by a professional



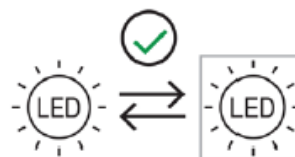
Replaceable (LED only) light source by a professional



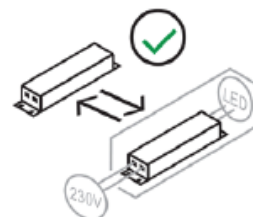
Replaceable control gear by a professional



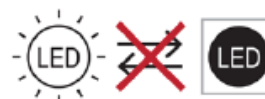
Replaceable light source by an end-user



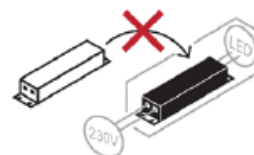
Replaceable (LED only) light source by an end-user



Replaceable control gear by an end-user



Non-replaceable light source



Non-replaceable control gear

Phase-out of products

The new efficiency requirements mean in practice that certain products are phased out

Product type	Phase-out date
CFLi	1 September 2021
Fluorescent T8 2-, 4-, and 5 ft	1 September 2023
Halogens with G9, G4, and GY6.35 caps	1 September 2023
Halogen R7s >2,700 lm	1 September 2021
Fluorescent T2 and T12	1 September 2021
Halogen low-voltage DLS MR11, MR16, AR111	1 September 2021

Art. 1(2) of the Regulation:

“This Regulation shall not apply to light sources and separate control gears specified in points 1 and 2 of Annex III.”

Art. 1(3) of the Regulation:

“Light sources and separate control gears specified in point 3 of Annex III shall comply only with the requirements of point 3(e) of Annex II.”

- Exemptions in Annex III.1: based on a legislative reference, e.g., military equipment, emergency lighting, railway, or civil aviation aircraft
- Exemptions in Annex III.2: based on a specific technology and light source type, e.g., double-capped fluorescent T5 light sources with power $P \leq 13 \text{ W}$
- Exemptions in Annex III.3: the list of exemptions still needs to comply with the information requirements from Annex II.3(e)

See page 14 of the SLR Guidelines

Functional requirements

For all light sources:

- **Colour rendering**

For (O)LED:

- **Displacement factor**
- **Lumen maintenance factor**
- **Survival factor**
- **Colour consistency:** as colour points are not mandatory in IEC documents, the manufacturer shall designate the central colour point (x,y) used, incl. measurement method
- **Flicker:** only applies to (O)LED MLS, and testing in accordance with IEC TR 61547-1
- **Stroboscopic effect (SVM):** note that this requirement contains an erroneous exemption for HIDs, as the SVM limit only applies to (O)LED MLS; testing in accordance with IEC TR 61358

No functional requirements for separate control gear

See pages 59-62 of the SLR Guidelines

The SLR prescribed three types of information requirements:

On the product itself	On packaging at PoS: light sources	On packaging: separate control gears	On a public website: separate control gears
▪ Useful luminous flux (lm) ▪ CCT (K) ▪ Safety-related info ▪ For DLS: beam angle ($^\circ$)	▪ Useful luminous flux (Φ_{use}) ▪ On-mode power (P_{on} in W) ▪ CCT (rounded to 100 K) ▪ Electrical interface details (e.g., cap or connector type, type of power supply) ▪ CRI ▪ Standby power (P_{sb} in W) ▪ Warning whether the light source can be dimmed ▪ For DLS: Beam angle ($^\circ$), or range of beam angles ▪ For (O)LED: $L_{70}B_{50}$ lifetime ▪ For CLS: networked standby power (P_{net} in W) ▪ Various warnings / info on specific use conditions	▪ Type of light source for which it is intended ▪ Efficiency in full-load (%) ▪ No-load power (P_{no} in W) ▪ Standby power (P_{sb} in W) ▪ Warning whether the gear is suitable for dimming ▪ QR-code to free-access website of supplier with full product info ▪ Where applicable: networked standby power (P_{net} in W) ▪ For (O)LED and HL: maximum output power ▪ For FL and HID: power of the light source for which the control gear is intended	<i>Note: only for control gears, as ELR gives public website information requirements for light sources</i> ▪ All packaging info for control gears, except for the QR-code directing to the public website ▪ Outer dimensions (mm) ▪ Mass (g) ▪ Removal instructions ▪ Warning whether the gear is suitable for dimming ▪ Disposal recommendation

See pages 62-69 of the SLR Guidelines



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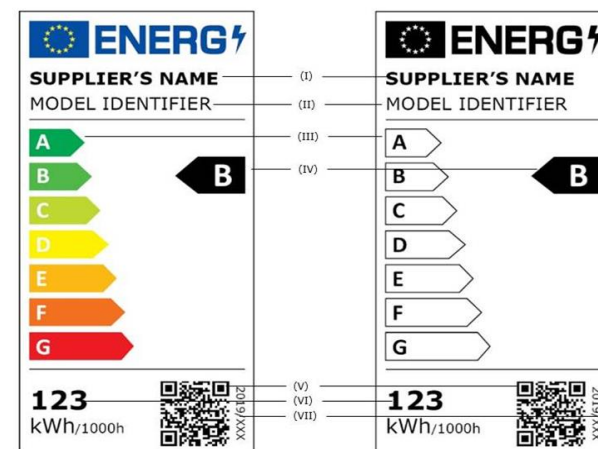
Energy Labelling Regulation (EU) No 2019/2015



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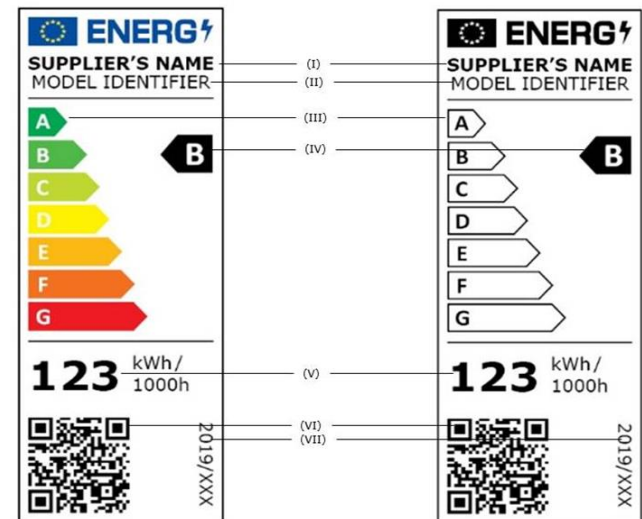
Energy Labelling: a new scope

- Main novelty: a new label from **A to G** instead of the traditional A++ to D labels
- All light sources in the Ecodesign are in the scope of Energy Labelling from **1 September 2021**
- Also applicable to light sources placed on the market in a containing product
- The scope of Labelling is even larger than for Ecodesign
- Exemptions are much less but include at least
 - emergency use, light sources in batteries, original work of art
 - transport and military equipment and vehicles
 - Displays, medical devices, marine equipment
- Flexibility to replace the old label with the new one for dealers is up to 18 months (until 1 March 2023)



Energy Labelling: no label for luminaires

- **No more Luminaire's Energy Label:** Energy labels for luminaires, as by Regulation 874/2012, do not need to be provided anymore by luminaire suppliers from entry into force of the Regulation (25 December 2019)
- **Containing products that are considered light source:** All containing products which will be considered "light sources" according to the new definition have to be registered in EPREL with the new label starting from 1st of May 2021;
- **Light source sold as a part of containing product:** If a light source is placed on the market as a part in a containing product, the technical documentation of the containing product shall clearly identify the contained light source(s), including the energy efficiency class.



Obligations of suppliers of Light Sources

- Suppliers are **manufacturers, authorised representatives, or importers, who place the product on the market**
- Art. 3 lists **9 requirements for suppliers** of light sources on how to provide information on the energy label and class and other product and technical information

Suppliers of Light sources

- 1) Independently packaged light sources shall have an energy label on their packaging
- 2) Parameters of the product information sheet are entered in EPREL
- 3) If requested by the dealer, the product information sheet shall be made available in printed form
- 4) Parameters of the technical documentation are entered in EPREL
- 5) Visual advertisements shall contain the energy efficiency class
- 6) Technical promotional materials shall contain the energy efficiency class
- 7) Electronic labels for each model are made available to dealers
- 8) Electronic product information sheets for each model are made available to dealers
- 9) If requested by dealers, relabelling stickers are provided

See pages 19-21 of the ELR Guidelines

Obligations of suppliers of Containing products

Suppliers of Containing products

- 10) Containing products shall contain info on the contained light sources (See below)
- 11) If requested by MSAs, provide info on how to remove light sources for verification without permanently damaging the light source

Which information on the light source in the containing product?

- If a light source is placed on the market as a part in a containing product, the following text shall be displayed, clearly legible, in the user manual or booklet of instructions:
- ‘This product contains a light source of energy efficiency class <X>’,
- where <X> shall be replaced by the energy efficiency class of the contained light source.

See pages 19-21 of the ELR Guidelines

Dealers (e.g., retailers) need to fulfil the following requirements:

- 1) The packaging of light sources shall have its energy label visibly displayed
 - 2) The label and product information sheet shall be provided in case of distant selling
 - 3) Visual advertisements shall contain the energy efficiency class and the range of energy efficiency classes available on the label
 - 4) Technical promotional materials shall contain the energy efficiency class
 - 5) Existing labels on light sources (according to Reg. 874/2012) are replaced by new labels in a way that covers the existing label before 1 March 2023
-
- Note that the new standard labels have a different size (72x36 mm) than the old ones (75x36 mm)

See pages 21-23 of the ELR Guidelines

EPREL phase 1

- **European Product Registry for Energy Labelling (EPREL)** - mandatory registration with current label (A++ to G) started already from **1 January 2019**
- The Register has **delays** and is not yet open to the public. The Market Surveillance Authorities are getting access since the end of November 2019
- EPREL already today **does not contain** a registration possibility for **luminaire** product model information.

EPREL phase 2

- New labelling requirements apply from 1st of September 2021
- Which products need to be registered?
 - all light sources within the Scope of this Regulation
 - all the light sources in containing products (e.g., luminaires, bathroom cabinets)
 - any containing product considered as a light source (i.e., when the light source cannot be removed from the containing product).
- Products placed on the market from 1st of May 2021, should have already their new **product information sheet** registered in EPREL - Article 3(1)(b)

Next steps for LightingEurope

- Exchange of views (19 February) with Member States on Stroboscopic effect requirements + other minor amendments on Ecodesign and Energy Labelling
- Meeting (tbc) with DG Energy on energy labelling and EPREL

- Webinars on our Guidelines to take place in February
- L+B (DG Energy and DG GROW are speakers)
- Future: updating Guidelines and publishing next versions

“New EU Priorities and how they will Impact Lighting”

Date: 10 March 2020
Location: Hall 4, Foyer, Room Europe
Program: 10:30 Registration
11:00 Presentations + panel discussion
13:00 Networking Lunch
14:00 Guided tour for invited guests



Speakers from EU Commission, pan-EU project EEPLIANT (market surveillance authorities) and LightingEurope members

Topics: New EU agenda, LightingEurope guidelines, improving market surveillance

- Website with more information and registration are available from the LightingEurope Website

Where to find the LE Guidelines?

<https://europeanlightingpriorities.eu/guidelines.php>

LIGHTINGEUROPE GUIDELINES

The LightingEurope guidelines are our contribution to support all companies to understand and apply new and complex rules, and to help all authorities to enforce them.

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