

Texte zu den geplanten neuen EU-Regelungen zur umweltgerechten Produktgestaltung und zur Energieverbrauchs-kennzeichnung in der Beleuchtung – Zusammenstellung ^[1] des Umweltbundesamtes (UBA), Deutschland



Studien der EU-Kommission

Anträge auf Erneuerung verschiedener Ausnahmeregelungen
nach Richtlinie 2011/65/EU (RoHS):

Studie vom 29. Juli 2019

– Stellungnahme des Herstellerverbandes LE ^[2]
vom 10. Oktober 2019 –

Hinweis: Bitte beachten Sie, daß der angehängte Text nur in Englisch verfaßt ist.

EN: Information on the coming EU Lighting Regulations – Ecodesign and Energy Labelling – Compilation ^[1] of the Federal Environment Agency (UBA), Germany

Studies of the EU Commission

**Requests for renewal of various exemptions under Directive
2011/65/EU (RoHS)**

– Study of 29 July 2018: Comments by the Industry Association LE ^[2]
as of 10 October 2019 –

FR: Informations sur les futures réglementations de l'UE concernant l'éclairage – l'écoconception et l'étiquetage énergétique – Compilation ^[1] de l'Agence Fédérale de l'Environnement (UBA), Allemagne

Études de la Commission européenne

**Demandes de renouvellement pour diverses exemptions
pertinentes accordées par la directive 2011/65/UE (LdSD)**

– Étude du 29 juillet 2019 : Commentaires de l'association de producteurs LE ^[2]
de 10 octobre 2019 –

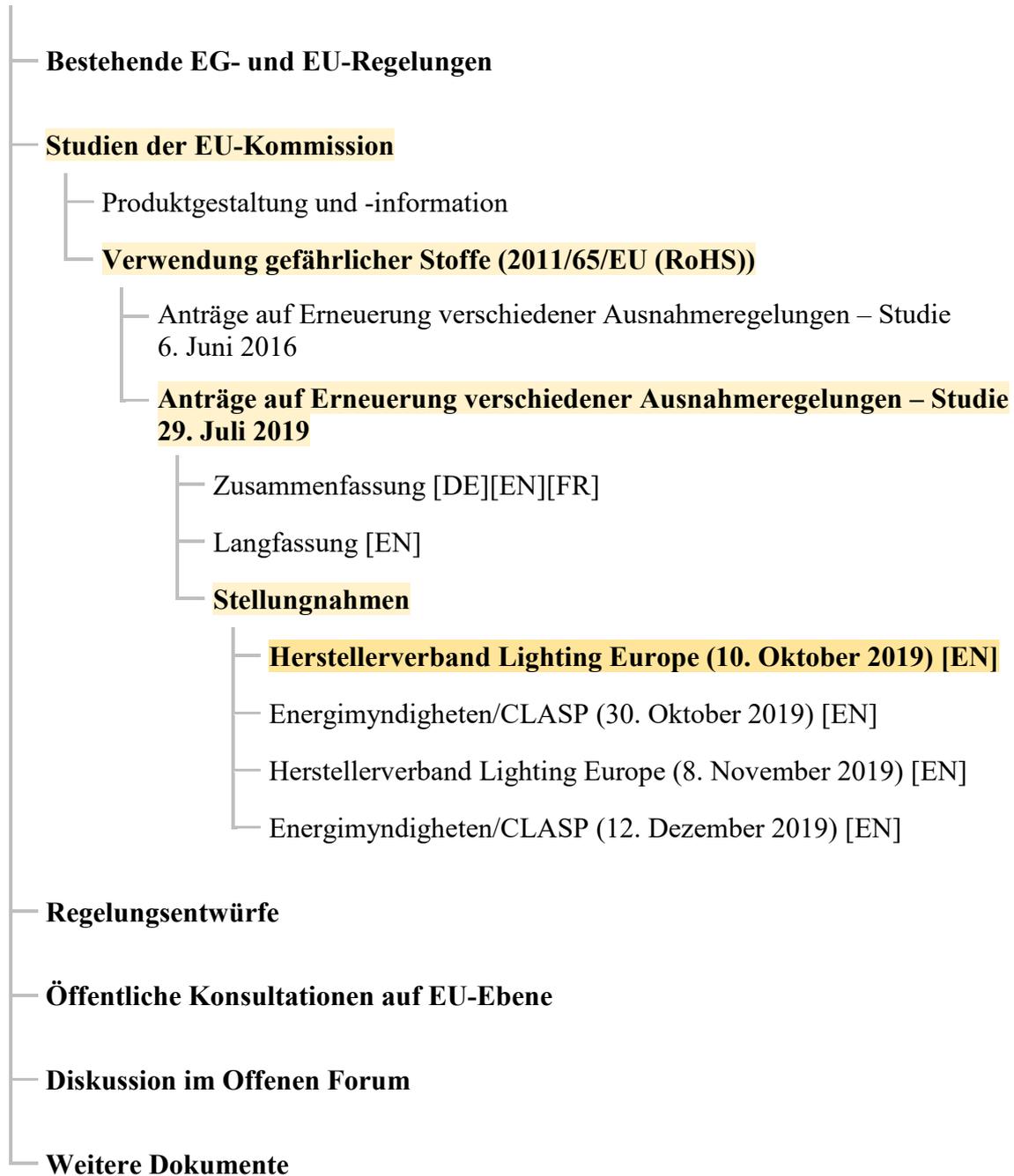
Indication : Veuillez noter que le présent texte n'est disponible qu'en anglais.

^[1] <https://www.eup-network.de/de/eup-netzwerk-deutschland/offenes-forum-eu-regelungen-beleuchtung/dokumente/texte/>

^[2] LE = Lighting Europe; <http://www.lightingeurope.org/>

Texte im Offenen Forum

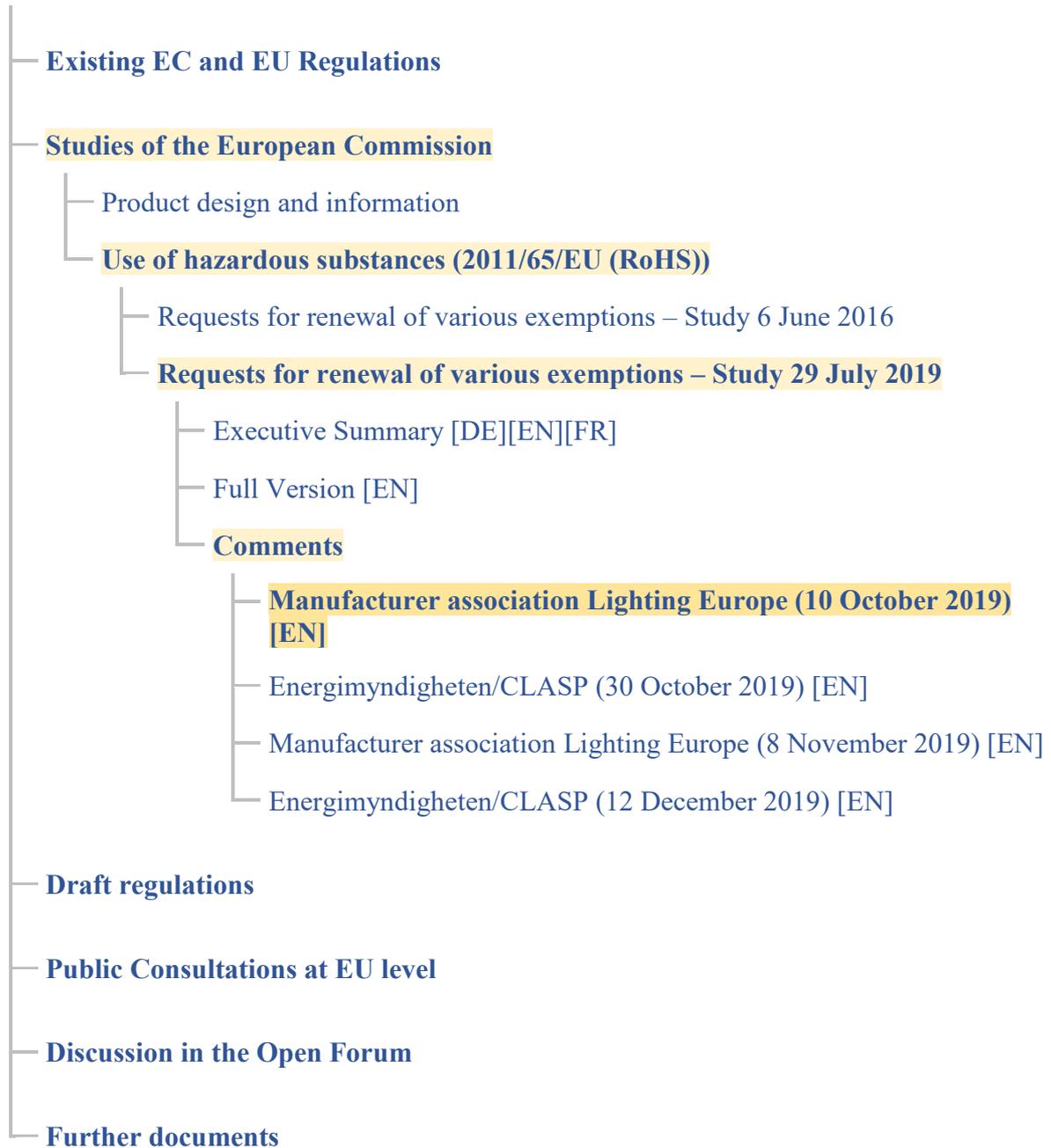
(abc = vorliegender Text)



Abkürzungen/Erklärungen: • CLASP = Collaborative Labeling and Appliance Standards Program, USA (Kooperationsprogramm für Kennzeichnungs- und Gerätestandards) <https://clasp.ngo/> • EG = Europäische Gemeinschaft • Energimyndigheten ist die staatliche Energieagentur Schwedens; <https://www.energimyndigheten.se/en/> • EU = Europäische Union

Documents in the Open Forum

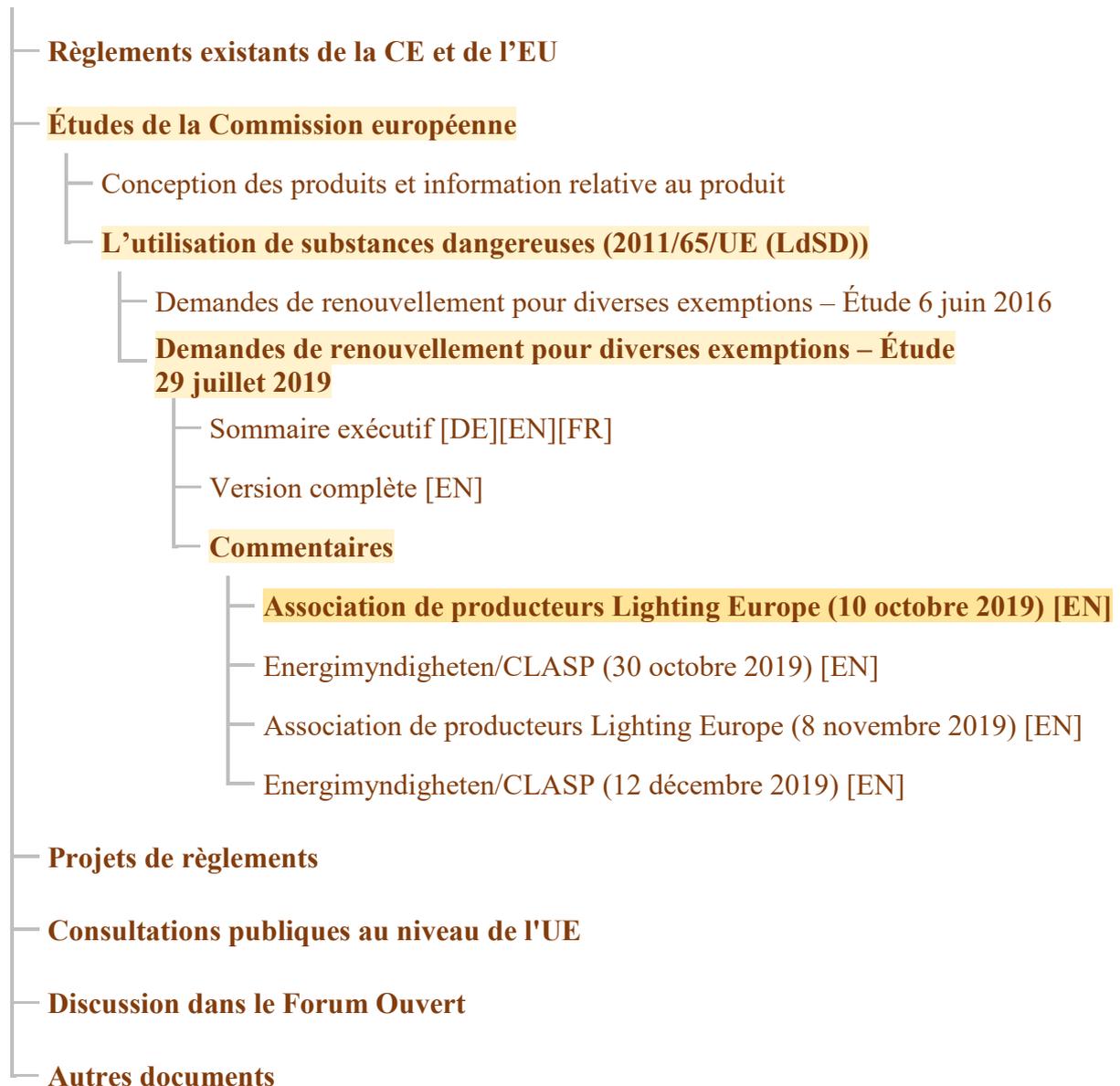
(**abc** = text at hand)



Abbreviations/Explanations: • CLASP = Collaborative Labeling and Appliance Standards Program, USA; <https://clasp.ngo/> • EC = European Communities • Energimyndigheten is the national Energy Agency of Sweden (SEA) • EU = European Union; <https://www.energimyndigheten.se/en/>

Documents dans le forum ouvert

(abc = présent document)



Abréviations / Déclarations : ● CE = Communauté européenne ● CLASP = Collaborative Labeling and Appliance Standards Program, États-Unis (Programme de coopération pour les normes d'étiquetage et les normes relatives aux dispositifs) <https://clasp.ngo/> ● Energimyndigheten et l'administration nationale suédoise de l'énergie ● UE = Union européenne ; <https://www.energimyndigheten.se/en/>

Es folgt ein unveränderter Originaltext.

EN: The following is an unmodified original text.

FR: Ce qui suit est un texte original.



LIGHTINGEUROPE
THE VOICE OF THE LIGHTING INDUSTRY

Main Messages on RoHS Exemptions for Lighting

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10/10/2019



1. Summary of LightingEurope request
2. Wording proposals for the renewal of exemptions
3. Proposals for non-renewal of exemptions and reduction in mercury content
4. Decision under EU Ecodesign process
5. Lighting market transition to LED technology
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7. Substitute/“retrofit” lamps vs conversion
8. Socio-economic & environmental impact of substitution (2019-2025)
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Summary of LightingEurope Request



LightingEurope recommends that the mercury lamp exemptions are renewed for minimum 24 months after the date of publication of the Commission decision because:

- There are no one-to-one substitutes available for all lamp types due to the big variety of applications they are used in and the application-specific requirements they often must comply with.
- For special purpose lamps, no substitute/retrofit lamps are expected for existing equipment.
- Mercury-containing lamps are still needed by (professional) users.
- Phaseouts must be aligned to established maintenance and repair cycles to maintain the pace of LEDification and avoid stockpiling.
- The Commission consultants have found that a premature ban will have a significant socio-economic impact and will generate avoidable and unnecessary waste ([2019 Oeko Socio-Economic Impact Assessment](#))
- A possible phase out of these products has been decided at technical and political level under the EU Ecodesign process and we ask that the RoHS timeline is aligned to this decision
- A renewal of minimum 24 months will allow industry to submit exemption renewal dossiers in line with the 18-month deadline in the RoHS Directive and will ensure the owner has the necessary time and resources to transition to the right alternative technology and product.

LightingEurope further proposes not to renew 3 exemptions and to reduce mercury content in another 6 exemptions.

Taken together, our proposals will deliver a reduction in mercury of 40% for the period 2020-2022, in line with the objectives of RoHS.

LightingEurope Wording Proposal (1)

| Lamp Family | Exemption | LightingEurope Wording Proposal |
|---------------------------|-----------|--|
| Compact Fluorescent Lamps | 1(a-e, g) | Split CFL-i and CFL-ni: <ul style="list-style-type: none"> • CFL-i: transition period for general lighting purposes for all categories to arrive to the Ecodesign adopted phase out date of 1 Sept. 2021. • CLF-ni: renew the exemption for Categories 1-11. |
| | 1(f) | No Split in CFL-i/-ni: <ul style="list-style-type: none"> • 1(f)-I: For lamps designed to emit light in the ultra-violet spectrum • 1(f)-II: For other special purposes |
| Linear Fluorescent Lamps | 2(a)1 | Transition period for Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2) to arrive to the Ecodesign adopted phase-out date of 1 Sept. 2021. |
| | 2(a)2 | Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5) |
| | 2(a)3 | Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8) |
| | 2(a)4 | Transition period for tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12) for all categories to arrive to the Ecodesign adopted phase out date of 1 Sept. 2021 |
| | 2(a)5 | Tri-band phosphor with long lifetime (≥ 25 000 h) |
| | 2(b)3 | Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9) |
| | 2(b)4 | Lamps for other general lighting and special purposes (e.g. lamps for explosive atmospheres) |

Legend: Yellow – transition period proposal / Green – renewal proposal

LightingEurope Wording Proposal (2)

| Lamp Family | Exemption Number | LightingEurope Wording Proposal |
|---|--|--|
| CCFL | 3(a-c) & (d-f) | Support Oeko 2019 report to discontinue and replace exemptions 3(a)-(c) with exemptions 3(d)-(f) |
| Mercury in other low pressure discharge lamps | 4(a) | Mercury in non phosphor coated low pressure discharge lamps (per lamp) |
| Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index Ra > 60 | 4(b)-I: P ≤ 155 W | (no change to the wording) |
| Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes | 4(c)-I: P ≤ 155 W 4(c)-II: 155 W < P ≤ 405 W 4(c)-III: P > 405 W | Support Oeko proposal to include 4(c)-IV and V (no change) |
| Mercury in metal halide lamps | 4(e) | Mercury in metal halide lamps (no change) |
| Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex | 4(f) | <ul style="list-style-type: none"> • (I) lamps for projection, studio and stage lighting purposes • (II) sodium vapour lamps used for horticulture lighting • (III) lamps emitting light mainly in the ultraviolet spectrum • (IV) other discharge lamps for special purposes not specifically mentioned in this Annex |

LightingEurope is regularly evaluating the need for lamps and exemptions for the market and end-users.

LightingEurope proposes to **discontinue 3 exemptions** with a 12-month transition period:

- Exemption 1(d): CFL for general lighting purposes ≥ 150 W; 15 mg
- Exemption 4b-II: high pressure sodium CRI >60 - >155 W-405W High Pressure Sodium; 40 mg
- Exemption 4b-III: high pressure sodium CRI >60 - >450 W High Pressure Sodium; 40 mg

LightingEurope proposal to reduce mercury content (1)

LightingEurope proposes to **reduce the mercury content in 6 exemptions:**

| Exemption | Scope in current RoHS text | Hg limit mg in RoHS text | LE Proposed New Limit |
|------------|---|--------------------------|-----------------------|
| 1 (e) | For general lighting purposes with circular or square structural shape and tube diameter ≤ 17 mm | 7 | 3.5 |
| 2 (a)(3) | Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8) | 3.5 | 3 |
| 2 (b)(3) | Non-linear tri-band phosphor lamps with a tube diameter > 17 mm (e.g. T9) | 15 | 10 |
| 4 (c)-I | $P \leq 155$ W | 25 | 20 |
| 4 (c)-II | 155 W $< P \leq 405$ W; | 30 | 25 |
| 4 (c)-III | $P > 405$ W | 40 | 25 |

Decision under EU Ecodesign



The new energy performance requirements that have been voted on by Member States and adopted by the European Commission will result in the phase out of:

- CFLi as of 1 September 2021
- LFL:
 - T2 and T12 as of 1 September 2021
 - most T8s used for general lighting as of 1 September 2023

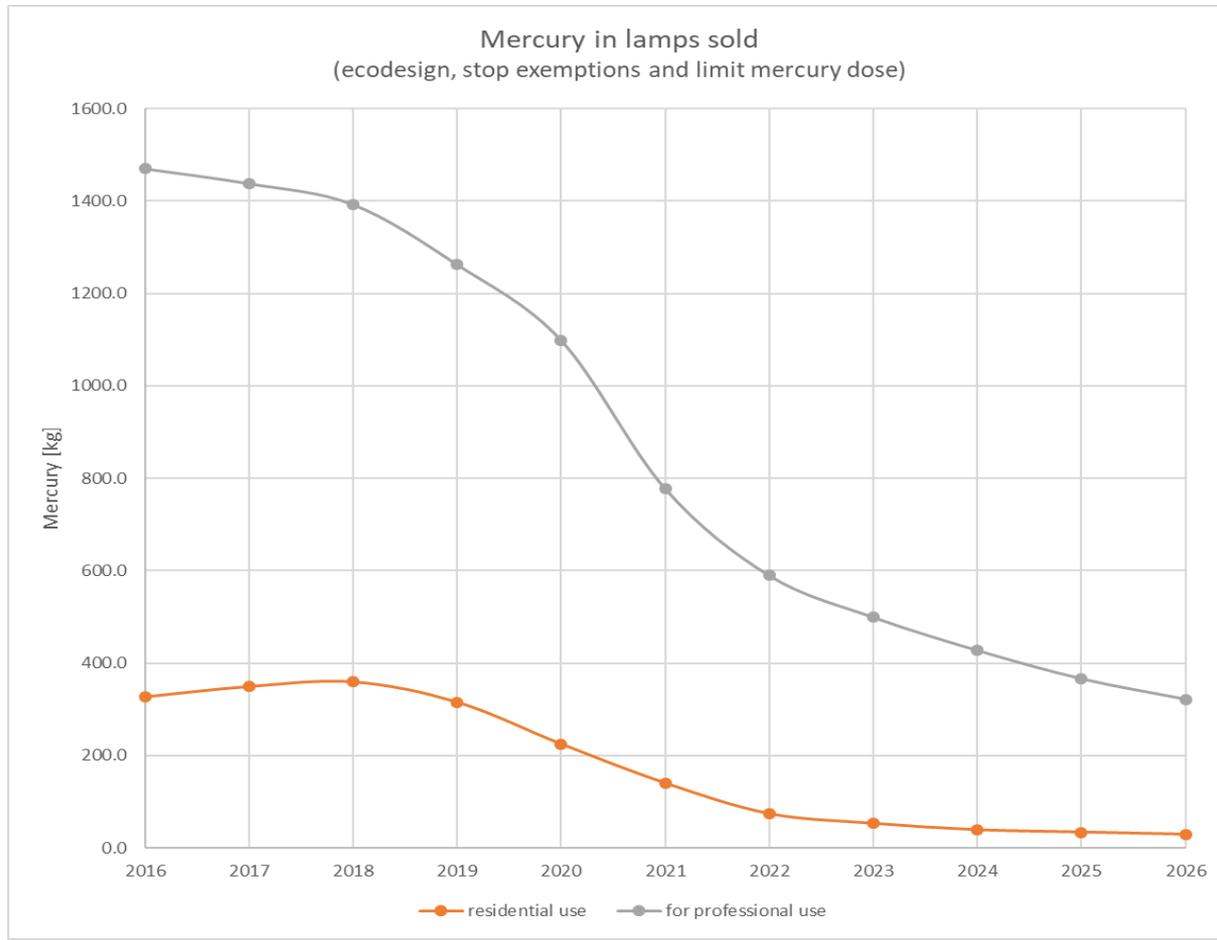
For products that are not phased out, the following alignment is necessary under RoHS:

- Ecodesign has exempted special purpose lamps - RoHS exemptions for special purpose lamps need renewal
- Most efficient T8 used for general lighting have been allowed under Ecodesign until 1 Sept 2023 – an exemption renewal is necessary
- Member States and the European Commission decided to maintain CLF-ni and T5s beyond 2023 – renewals are necessary

The Ecodesign decision and timeline should be respected, the EU should speak with one voice and give a single clear timeline for the global actors operating on the EU market.

LightingEurope proposal to reduce mercury content (2)

The LightingEurope proposals, combined with the lamps that will be phased out under Ecodesign due to higher energy efficiency requirements, will result in a **significant reduction in mercury placed on the market in the coming years, in line with the objectives of RoHS.**



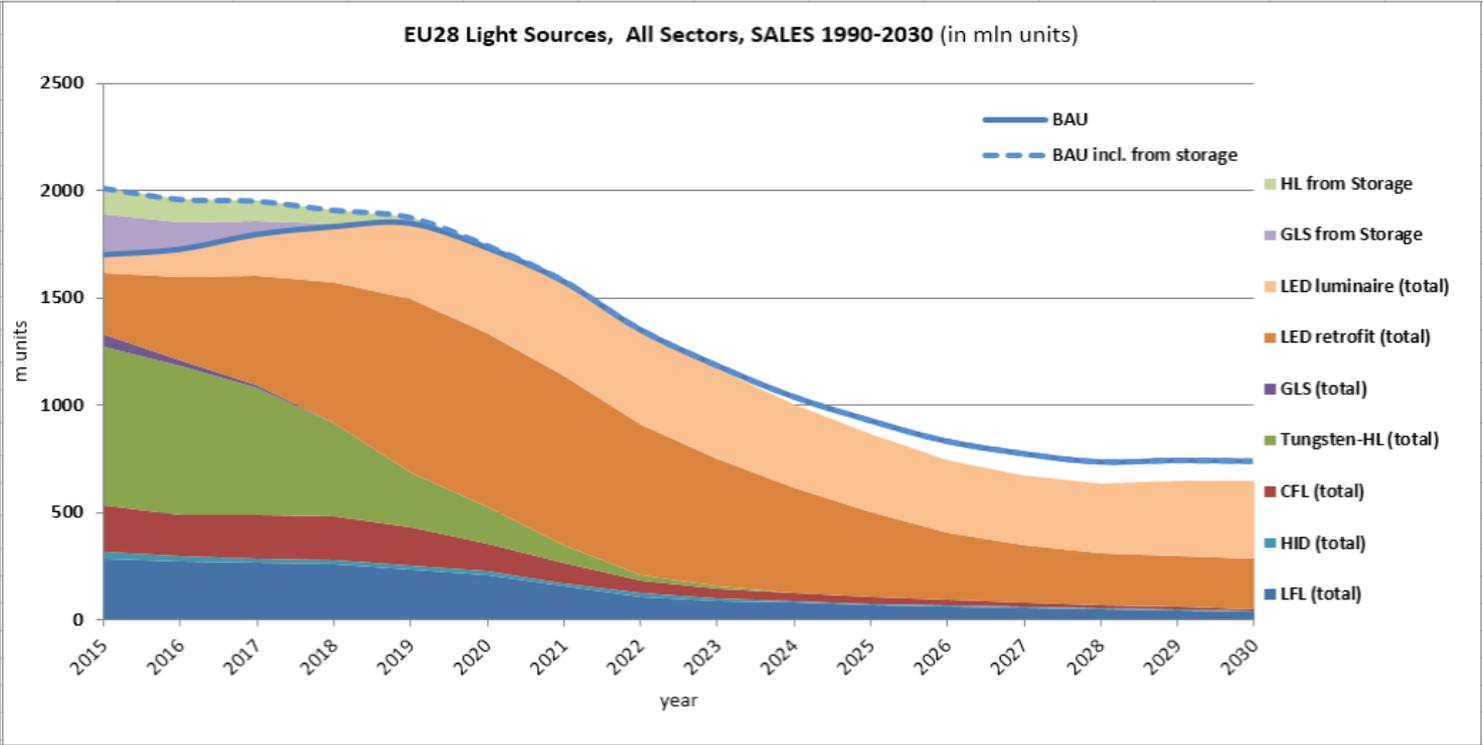
Lighting market clearly transitioning to LED



The lighting market is clearly transitioning to LED technology.

An informal LightingEurope survey of major member luminaire manufacturers indicates that 80-90% of their product catalogues are today already LED.

Phaseouts must be aligned to established maintenance and repair cycles. A premature phaseout may lead to stockpiling and negatively impact the pace of LEDification.



Source and further information on page 97, Part 2 of the Ecodesign Impact Assessment, (MELISA 2018)

The main alternative for mercury lamps is LED technology which, like all electronics, contains Annex 2 restricted substances (e.g. lead).

Due to the vast variety of applications and products in which these lamps are used, it is not possible to have a one-for-one substitute for all lamps.

| Product | Availability of substitutes |
|-------------------------|--|
| CFL-ni | No adequate substitutes for the full portfolio due to issues with control gear compatibility. The large number of different lamp bases will force the user to replace the entire luminaire. |
| LFL family (T5, T8, T9) | Very diverse portfolio - substitution with LEDs requires knowledge of control gear compatibility and the needs of the particular application the lamp is installed in. |
| Special purpose lamps | No substitute/retrofit lamps are foreseen in the future for new and existing applications due to the niche applications and low quantities. LED/Laser based alternatives need completely new equipment development, if available at all. |

Substitute/“Retrofit” Lamps vs Conversion (1)



A substitute lamp is a “retrofit”: a lamp of an alternative technology that can be used as a replacement lamp without requiring any internal modification in the luminaire and which, after installation, maintains the same level of safety of the replaced lamp in the luminaire.

One-for-one substitution, with no further changes, is not always possible:

For some luminaires there are no substitute/retrofit lamps. Additional changes need to be done to the luminaire, often by a professional, to ensure it can continue to operate safely (e.g. to ensure electrical compatibility between the substitute lamp and the electronic driver which is inside the installed luminaire.)

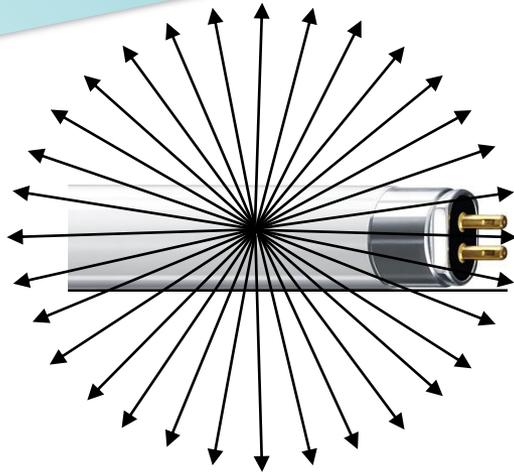
| | If Substitute/ Retrofit Lamp is available | When Conversion is necessary |
|----------------------------|---|------------------------------------|
| Change Lamp | ✓ | ✓ |
| Change Ballast | x | ✓ |
| Re-wire | x | ✓ |
| Review for CE-marking | x | ✓ |
| Professional advice needed | x | ✓ |

Substitute/“Retrofit” Lamps vs Conversion (2)

For other luminaires, the substitutes/retrofit lamps available do not satisfy other application-specific requirements (e.g. electro-magnetic specifications in the case of railways infrastructure). In these cases, the entire luminaire and not only the lamps will have to be changed, resulting in **avoidable and unnecessary waste**.

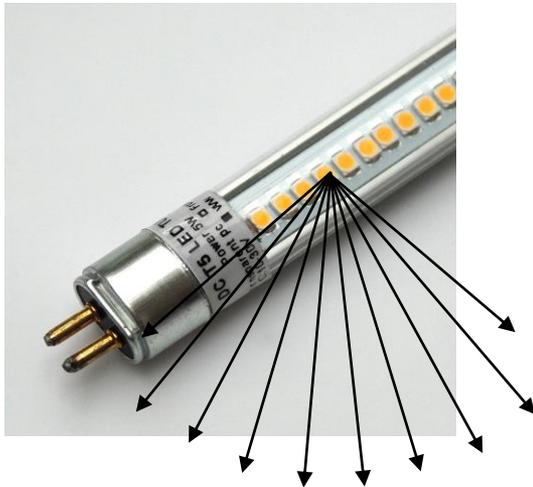
A retrofit LED lamp may not emit light in the same way, thus requiring a change in the luminaire also. For example, a LED tube differs significantly from fluorescent tubes: the former emits light in all directions (360°), whereas the emitting surface of linear LED lamps often covers only half of the surface area of the lamps in order to also meet the need for thermal management and electrical regulation. *See the next slide for an example to illustrate this difference.*

Substitute/"Retrofit" Lamps vs Conversion (3)



Omnidirectional
conventional lamp:

> light is on the
shelves and floor



Directional LED lamp
oriented downwards:

> most light is on the
floor

Directional LED lamp:

> oriented towards one
of the shelves



Simulation to show the effect

Socio-Economic & Environmental Impact of Substitution (2019-2025)



Source: 2019 Oeko Socio-Economic Impact Assessment, mandated by the European Commission-DG Environment

| Product | Total Cost 2019-2025 | Waste |
|-----------------------|---|---|
| CFL | 35 Billion EUR (39 Billion Investment - 3,8 Billion Energy saving) | <ul style="list-style-type: none"> - CFL-i: between 77-155 thousand tons - CFLni range of 208-416 thousand tons if only one lamp is assumed per luminaire <p style="text-align: center;">OR</p> <p>range of 139-277 thousand tons if on average 1.5</p> |
| LFL | 250 Billion EUR (282 Billion Investment - 32 Billion Energy saving) | <ul style="list-style-type: none"> - T5: between 315-1,922 thousand tons - T8: around 856-4,770 thousand tons depending on the number of lamps per luminaire and on consumers decision whether to replace. |
| Special Purpose Lamps | <p><i>Oeko has not done an impact assessment on all the uses and did not consult any users. The focus is on administrative costs for filing new exemption requests, which is only a fraction of the total impact.</i></p> <p><i>An example given in the 2019 report: the semiconductor and IC producing industry may need to invest 25-40 billion EUR to transfer facilities and jobs outside the EU.</i></p> | <p><i>Oeko acknowledges there will be an increase in waste, but there is no clear estimate.</i></p> |

General purpose lighting - where are these lamps used (1)

CFLni and LFL lamps are installed in many public areas across Europe:

- Schools
- Metro stations
- Railway infrastructure
- Hospitals
- Public administration buildings
- Outdoors in residential areas and parks
- Airports

as well as in offices (reception, lobby, meeting rooms, corridors), factories and warehouses, hotels, supermarkets, gyms, galleries, banks, shopping centres and private households.

Transitioning to LEDs must be aligned to established maintenance and repair cycles, to make sure the owner understands available alternatives and has the necessary resources to transition to the right alternative technology and product.

General purpose lighting - where are these lamps used (2)

“...many businesses were incentivised by government programmes to invest in efficient fluorescent lamps (especially the “T5”) only a few years ago and need time to recuperate their investments. The same goes for municipalities that invested in new city street lighting after the phase out of high pressure mercury lamps from April 2015⁷¹.”

Stakeholders view: Almost all stakeholders, including some environmental NGOs, agreed that the timing to phase out from the market all non-LED lights was too demanding.”

Impact Assessment EU Ecodesign & labelling of light sources - paragraph 5.3.2 of part 1, p.28

“EU GPP Criteria for Indoor Lighting from 2012 encouraged users to purchase resource and energy efficient lamps, such as CFL-ni, T5 and T8.”

Page 3, EU GPP Criteria for Indoor Lighting, available at:
https://ec.europa.eu/environment/gpp/pdf/criteria/indoor_lighting.pdf

Special purpose lamps – where are these lamps used

There are no substitutes for the special purpose lamps used in water purification, treating dermatitis, photocopying, or manufacturing semiconductors.

The exemptions for these applications should be renewed.

Special purpose lamps in both the UV and visible spectra are used in very diverse applications, some examples are:

| Exemptions | Applications |
|-----------------|--|
| 1f, 2b4, 4a, 4f | projection, studio and stage lighting; horticulture lighting; tanning; semiconductor production – microlithography; curing of inks in printing systems, hardening of adhesives and silicones and for disinfection of surfaces, water and air, UV curing of composites, automotive, glass and plastic decoration, wood, fibre-optics, medical devices, graphic arts printing, electronic components; medical, industrial, research and development applications including testing and qualitative and quantitative analysis with utilizing specific wavelength, and color comparison, observation, inspection with utilizing wavelength range from ultraviolet to infrared. <i>* Detailed list LE provided can be found in the Oeko Report pages 135-137</i> |

Summary of LightingEurope Request



LightingEurope requests Member States and the European Commission to renew the exemptions according to our proposal:

The RoHS requirements are satisfied:

- No substitutes available for all applications and products
- Alternatives, like all electronics, contain other Annex II substances
- The Commission consultants have found a premature phaseout will result in significant costs and unnecessary and avoidable waste
- The LightingEurope proposals will result in a significant reduction in mercury placed on the EU market, in line with the objectives of RoHS

The market needs a single clear timeline from the EU. RoHS should align to the agreed phaseout timeline that the Member States and European Commission adopted under EU ecodesign.

The lighting market is quickly transitioning to LEDs. Any phaseout must be aligned to existing maintenance and repair cycles to ensure the users understand the alternatives and have the resources to transition.



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THANK YOU

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