

Texte zu EU-Regelungen zur umweltgerechten Produktgestaltung und zur Energieverbrauchskennzeichnung in der Beleuchtung – Zusammenstellung <sup>[1]</sup> des Umweltbundesamtes (UBA), Deutschland



## Studien der EU-Kommission

Anträge auf Erneuerung verschiedener Ausnahmeregelungen nach Richtlinie 2011/65/EU (RoHS) <sup>[2]</sup>:

### Studie vom 8. Mai 2020

– Stellungnahme des Herstellerverbandes LE <sup>[3]</sup>  
vom 20. Mai 2020 –

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

**EN:** Information on EU Lighting Regulations – Ecodesign and Energy Labelling – Compilation <sup>[1]</sup> of the Federal Environment Agency (UBA), Germany

## Studies of the EU Commission

### Requests for renewal of various exemptions under Directive 2011/65/EU (RoHS) <sup>[2]</sup>

– Study of 8 May 2020: Comments by the Industry Association LE <sup>[3]</sup>  
as of 20 May 2020 –

**FR:** Informations sur réglementations de l'UE concernant l'éclairage – l'écoconception et l'étiquetage énergétique – Compilation <sup>[1]</sup> 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) <sup>[2]</sup>

– Étude du 8 mai 2020 : Commentaires de l'association de producteurs LE <sup>[3]</sup>  
de 20 mai 2020 –

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

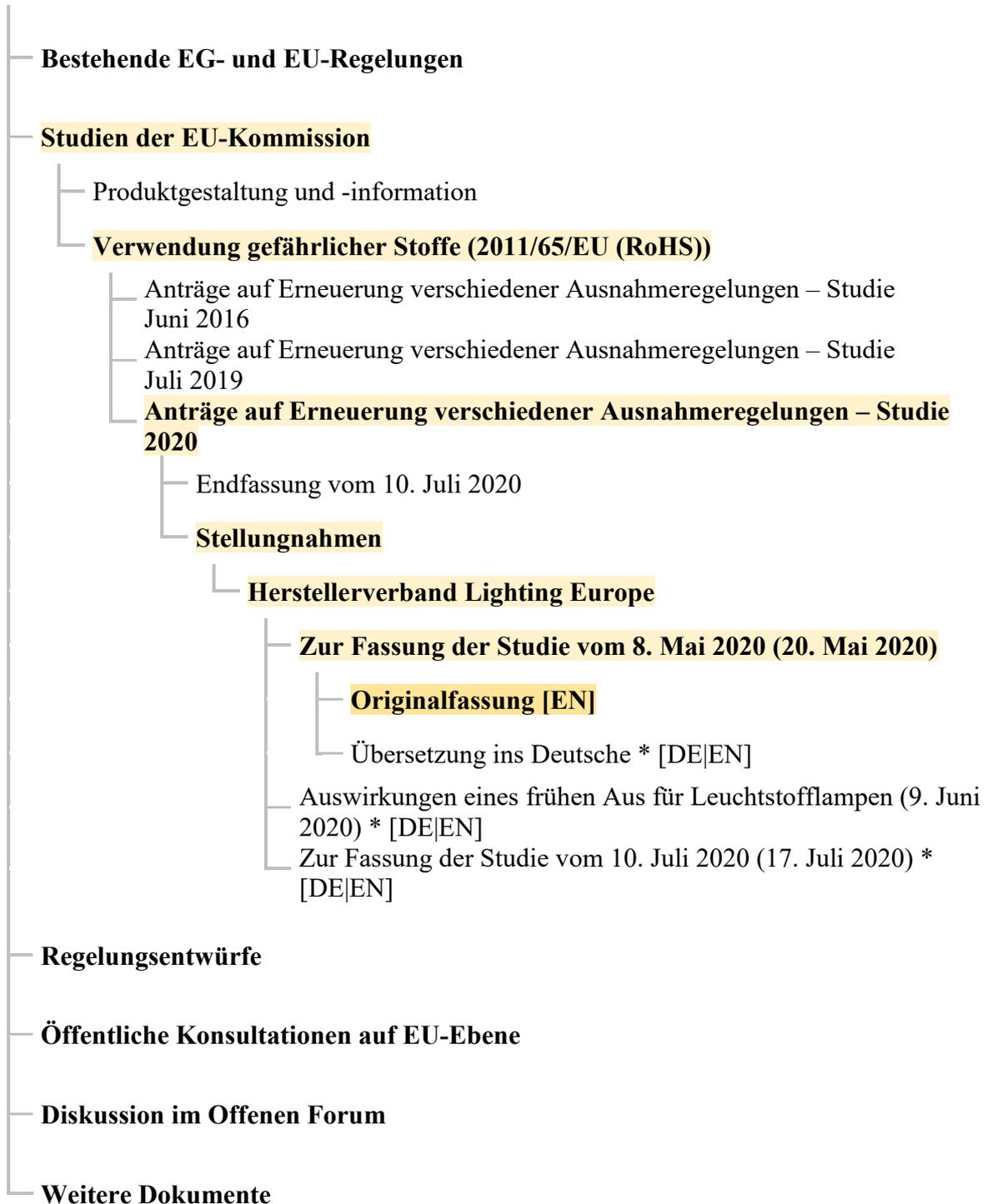
<sup>[1]</sup> <https://www.eup-network.de/de/eup-netzwerk-deutschland/offenes-forum-eu-regelungen-beleuchtung/dokumente/texte/>

<sup>[2]</sup> [https://www.eup-network.de/fileadmin/user\\_upload/Lichtquellen\\_RL\\_2011\\_65\\_DE.pdf](https://www.eup-network.de/fileadmin/user_upload/Lichtquellen_RL_2011_65_DE.pdf); \*EN.pdf; \*FR.pdf

<sup>[3]</sup> LE = Lighting Europe; <http://www.lightingeurope.org/>

Texte im Offenen Forum

(abc = vorliegender Text)

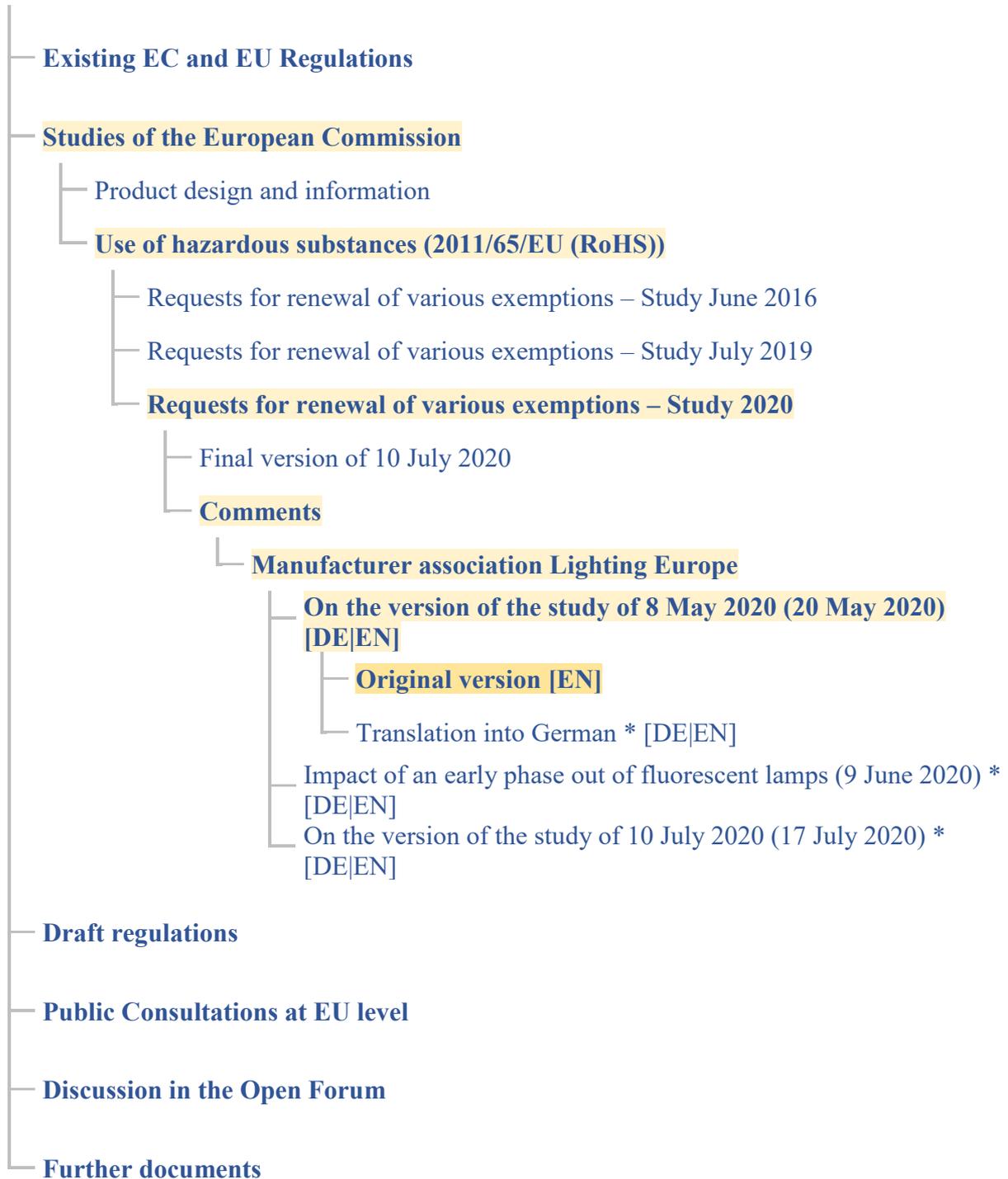


\* Stand 11. August 2020: Dieser Text steht noch nicht zur Verfügung.

Abkürzungen: ● EG = Europäische Gemeinschaft ● EU = Europäische Union ● RoHS = Restriction of hazardous substances in electrical and electronic equipments (Beschränkung gefährlicher Stoffe in elektrischen und elektronischen Geräten)

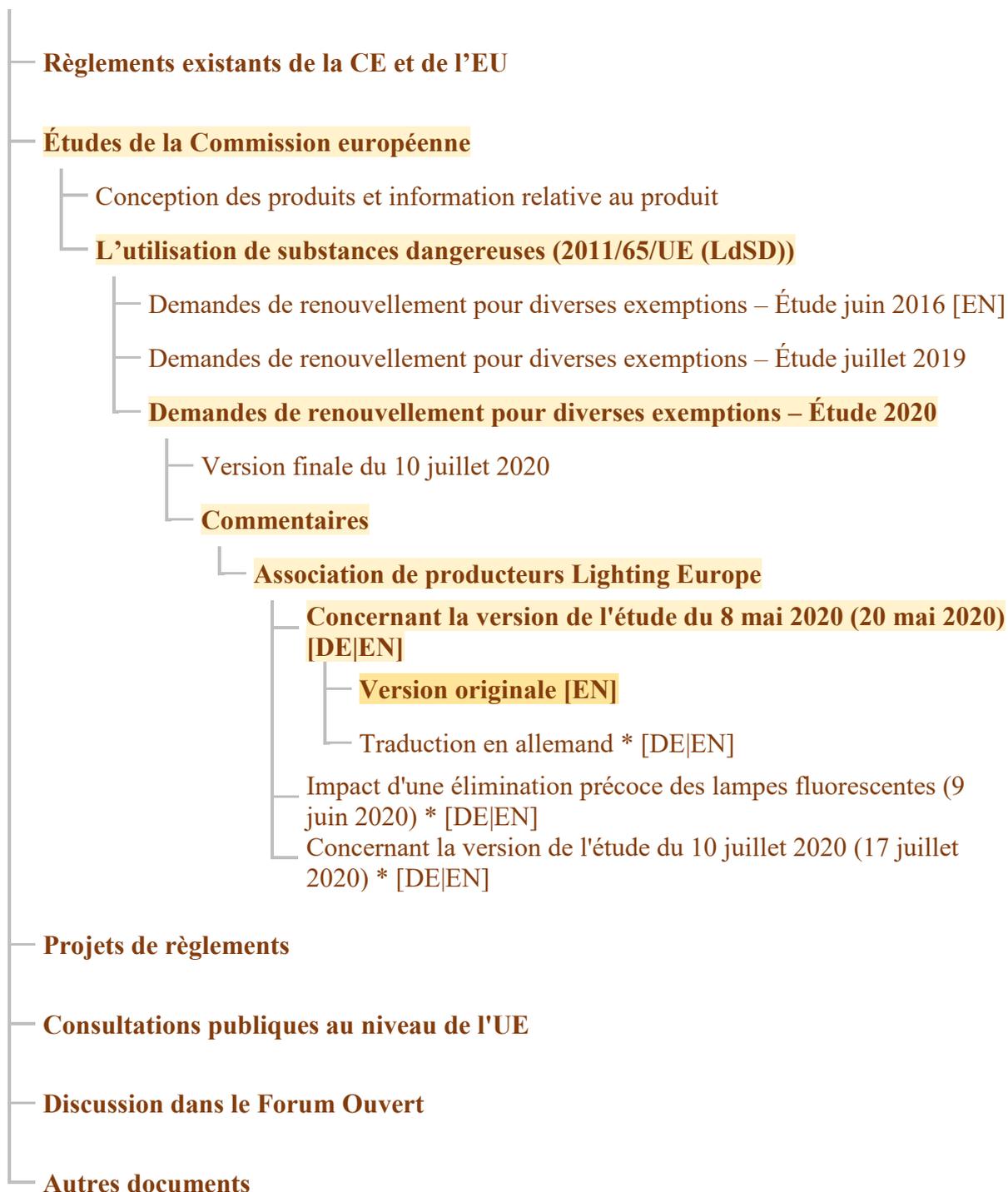
Documents in the Open Forum

(abc = text at hand)



\* Status as of 11 August 2020: This text is not yet available.

Abbreviations: ● EC = European Communities ● EU = European Union ● RoHS = Restriction of hazardous substances in electrical and electronic equipments



\* État au 11 août 2020 : Ce texte n'est pas encore disponible.

Abréviations : ● CE = Communauté européenne ● LdSD = Limitation de l'utilisation de certaines substances dangereuses dans les équipements électriques et électroniques ● UE = Union européenne

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Es folgt ein unveränderter Originaltext.

**EN:** The following is an unmodified original text.

**FR:** Ce qui suit est un texte original.

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**LIGHTINGEUROPE**  
THE VOICE OF THE LIGHTING INDUSTRY

# LightingEurope concerns regarding the recent Oeko document dated 8 May 2020

LightingEurope has evaluated the recent publication of the Oeko institute “Update of the data provided by the analysis model developed in the course of the “Study to assess socioeconomic impact of substitution of certain mercury-based lamps currently benefiting of RoHS 2 exemptions in Annex III” published on the 11<sup>th</sup> of May 2020.<sup>1</sup>

LightingEurope has serious concerns that the European Commission is not following the lawful process for the review of the RoHS exemptions for general lighting:

- The European Commission’s consultants have communicated on 11 May 2020 a new document with new data they state has been supplied by the European Commission and with estimated impact for the period 2021-2035.
- The exemptions under review were meant to expire in July 2016, their evaluation is based on LightingEurope data supplied in 2015 and thereafter in response to the consultants request, and their maximum validity period for the present review is until July 2021.
- LightingEurope has applied for the renewal of these exemptions beyond July 2021 in January 2020, in line with the advice of our lawyers and also of the European Commission services’ express recommendation to comply with the RoHS legal requirement to submit renewal applications maximum 18 months prior to the presumed expiry of these RoHS exemptions.
- Any evaluation of impact post-2021 can only be done based on the January 2020 renewal applications submitted by LightingEurope and must also consider the data these contain.
- It is LightingEurope members’ reasonable and lawful expectation that the recent data contained in the LightingEurope January 2020 renewal applications is taken into account when discussing impact of the exemptions post 2021.

LightingEurope has serious concerns about the new data contained in the 2020 Oeko document and the conclusions derived from this new data:

- The 2020 document does not reveal neither the calculation methodology applied nor all the input data needed to recalculate and assess the robustness of the report’s conclusions. Critical data, such as the used efficacy of LEDs or their price, have not been disclosed, the

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<sup>1</sup> Updated Oeko document and data available at the link here:  
[https://rohs.exemptions.oeko.info/fileadmin/user\\_upload/reports/RoHS\\_SEA\\_Lamps\\_2020\\_Revision\\_Final\\_08052020.pdf](https://rohs.exemptions.oeko.info/fileadmin/user_upload/reports/RoHS_SEA_Lamps_2020_Revision_Final_08052020.pdf)

only reference is “varies with year”. These variables seem to have changed in the 2020 report, compared to the data in the 2019 SEIA report.

- The 2019 SEIA document refers to the publicly available 2016 VHK model. The 2020 Oeko document refers to the 2019 VHK model which is not publicly available. LightingEurope asks that the data for the basis/method of this calculation is made publicly available and that the consultants clarify the assumptions made during the calculation process to arrive to these conclusions. The new VHK model seems to have a huge impact on the calculations. For instance, the amount of T8 lamps to be substituted from 2021 to 2025 has decreased by more than 40% in the 2020 document.
- The European Commission appears to have supplied data to the Oeko institute for this document that reflects only the assumptions of one stakeholder (see table 2.1 of the 2020 report, refers to data from CLASP/SwEA). The consultants have not provided an assessment of the reliability of the data in this new document. The feedback provided by other stakeholders, in particular LightingEurope and VHK, during and after the February 2020 meeting of selected stakeholders that the European Commission organized, and where Oeko was present, has not been acknowledged and appears not to have been taken into account. The 2020 document does not take into account the data in the LightingEurope 2020 renewal applications.
- The 2020 document falsely claims that *“In both cases, these values were at the time consulted with Lighting Europe”*. LightingEurope was only asked to provide data and input during the early stages of the report in February and March 2017, which we did. LightingEurope was not consulted in terms of being offered the opportunity to review nor comment on a draft of the document prior to its publication. LightingEurope asks that this statement is corrected in the 2020 Oeko document.
- It appears there are problems with the calculation model that has been applied: for non-residential lamps, a substitution of 0.0 pieces was used, for no comprehensible reason, in the calculations from the years 2027 (CFL-ni) and 2031 (T5, T8). As a result, the calculation model seems to have crashed and provide false values for total costs, as indicated by the total (cumulative) energy and energy cost savings that decrease again from these years for all lamp types. This assumption also results in underestimated investment costs for public and commercial households.
- Both the 2020 and the 2019 documents show significant costs for the period up to 2025. The conclusion in the 2020 document that the impact will be a net benefit is misleading and not scientific – whereas the 2019 report deals with the impact over a period of 7 years until 2025, the 2020 report considers total impact over a period of 15 years until 2035 and thus concludes on a net benefit. This methodology is equivalent to comparing apples with oranges.
- The report does not clarify that the cost of substitution will be significant for public authorities across Europe. The lamps addressed in this Oeko 2020 document are widely found in public places (public administration buildings including national ministries and the European Commission and European Parliament, metro and train stations, hospitals, schools, streets, industrial sites, offices, hotels, convention centres etc).
- There are significant differences between the Oeko 2019 and 2020 documents that have not been explained and undermine the credibility of the entire report<sup>2</sup>:
  - the investment costs were reduced by a factor 4 to 6
  - e-waste has been reduced by a factor 4 to 25

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<sup>2</sup> Please refer to Annex II, in which LightingEurope has tried to calculate the differences between the 2019 and 2020 documents.

- the 2019 document finds there is 0% compatibility for plug and play CFL-ni under 12W, the 2020 document assumes 100% compatibility
- the 2019 document finds there is a 1% compatibility for plug and play T5 lamps, the 2020 document assumes 76% compatibility.
- the 2019 document finds there is 12% compatibility for plug and play T8 lamps, the 2020 document assumes 96% compatibility.
- The assumptions on compatibility, are based on the input of only one stakeholder, CLASP, and are incorrect, as already stated by LightingEurope before, during and after the February 2020 meeting of selected stakeholders. Lack of compatibility between retrofit lamps and installed luminaires means that users do not have a plug & play spare part for their luminaire. The conclusions of the 2020 document highlight that “the total costs of not granting the exemption renewals requested (a substitution scenario) largely depend on the share of plug & play lamps available as replacements on the market at the time from when the exemptions expire”. The compatibility assumptions used in the 2020 report are incorrect and unfair:
  - they are too high and partly refer to technologies and products that are not proven in use in the European Economic Area (meaning they may potentially be unsafe products).
  - they ignore several facts that result effectively in strongly different ratios between available plug & play lamps as well as the needs to perform rewiring or luminaire replacement:
    - > Regarding T8, the report only uses compatibility claims provided by the company Seaborough, who in turn refer to the product claims of their clients Opplé and Sengled. LightingEurope has to date not managed to find these products on the EU market to confirm whether these claims are true and whether this is a functioning cost-effective solution. LightingEurope objects that the calculations are based on estimates of one company only, in particular when that company is a developer of IP with no product on the market to prove their IP translates into a cost-effective technology that actually functions and satisfies all EU product requirements (safety, hazardous substances, energy performance requirements etc.).
    - > Regarding CFL-ni, the report claims an availability of plug & play lamps based on the ratio of available CFL-ni sockets compared to unavailable sockets for LED retrofits, and completely ignores the compatibility issues with up to 50% of HF drivers installed in the EEA (as stated by individual LightingEurope members in compatibility tables for their individual products). The CLASP/SwEA data referred to in the Oeko 2020 document regularly references products found on internet platforms located in the USA or China that are not available in the EEA.
- Marketing claims of LightingEurope member companies are presented in the CLASP/SwEA report as evidence of compatibility with complete disregard to the disclaimers of these same companies. LightingEurope estimates that 40-50% of all installed HF installations will encounter compatibility problems, due to<sup>3</sup>:
  - Incompatibility with certain HF drivers as stated in compatibility tables
  - Special requirements for emergency lighting that do not allow retrofitting with LED lamp
  - Flicker and no lighting up
  - Dimmable/non-dimmable
  - Light output out of specified range
  - Serial luminaire applications

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<sup>3</sup> Please refer to Annex III which contains explains what the listed issues mean.

- Closed luminaire applications
  - EMC problems
  - DC applications
- For T8 lamps, the 2020 document assumes that 2/3 of the market is still electromagnetic drivers. This is factually not correct, as those drivers cannot be sold for the past 12 years anymore. If the office renovation/refurbishment cycle is about 14 years, this means that 90% of the drivers would have changed by now to HF drivers, resulting in a much lower percentage of compatible plug & play lamps.
  - The mercury calculations in the 2020 document are 2 times too high, as they are based on one stakeholder's assumption of outdated lamp recycling data and does not refer to actual Eurostat data revealing recycling rates above 50%.

LightingEurope expects that recent data is reviewed in a lawful, fair and transparent way by all stakeholders impacted by these exemptions, including the many who were neither made aware of nor invited to provide feedback to the February 2020 meeting. Our new applications are and always have been our feedback to your request to provide recent data.

Any evaluation of more recent data and an impact assessment beyond 2021 can only take place based on the 2020 applications, must include all stakeholders and must evaluate all data supplied by all stakeholders. The 2015 applications are de facto renewed, by the Commission's lack of action to publish a decision within the maximum validity period and by LightingEurope's positive action to apply for a renewal post-2021.

LightingEurope has already submitted to the European Commission a proposal of a possible Commission decision on the 2015 applications that would respect the political decision of national ministries under ecodesign on the future of some of these products, would satisfy RoHS article 5 requirements and would deliver a 40% reduction in mercury placed on the EU market over the next 2 years and will bring mercury used in lighting to below <0.1% of the total mercury placed on the EU market by 2026 (see Annex I).

Annex I – LightingEurope recommendations for the 2015 renewal applications

Annex II – Comparison of socio-economic impact reported in the 2019 vs 2020 Oeko SEIA documents

Annex III – Additional clarifications on compatibility issues

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### **About LightingEurope**

LightingEurope is the voice of the lighting industry, based in Brussels and representing 33 companies and national associations. Together these members account for over 1,000 European companies, a majority of which are small or medium-sized. They represent a total European workforce of over 100,000 people and an annual turnover exceeding 20 billion euro. LightingEurope is committed to promoting efficient lighting that benefits human comfort, safety and well-being, and the environment. LightingEurope advocates a positive business and regulatory environment to foster fair competition and growth for the European lighting industry. More information is available at [www.lightingeurope.org](http://www.lightingeurope.org).



## Annex I – LightingEurope recommendations for the 2015 renewal applications

LightingEurope member companies and the users of the affected products, ask for a smooth transition to safe, high quality LED products. To achieve this, we recommend that for the 2015 renewal applications the Commission:

1/ Does not renew 3 exemptions:

- Exemption 1(d): CFL for general lighting purposes  $\geq 150$  W; 15 mg, with a transition period until 1 September 2021 to align with the timetable the European Commission has already communicated to the users and the global industry with the new EU rules on Ecodesign for light sources.
- Exemption 4b-II: high pressure sodium CRI  $>60$  -  $>155$ W-405W High Pressure Sodium; 40 mg, with a 12-months' transition
- Exemption 4b-III: high pressure sodium CRI  $>60$  -  $>450$ W High Pressure Sodium; 40 mg with a 12-months' transition
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2/ Reduces mercury content in another 6 exemptions and renews these exemptions for minimum 24 months after the date of publication of the Commission decision:

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 $\leq 17$ mm	7	3.5
2(a)(3)	Tri-band phosphor with normal lifetime and a tube diameter $> 17$ mm and $\leq 28$ 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

3/ Renews the remaining mercury lamp exemptions for minimum 24 months after the date of publication of the Commission decision, and for the following products to align to the phaseout timetable the EU has already communicated:

- exemptions covering CFL-I to end on 1 September 2021
- exemptions covering T8 (2/4/5-foot lengths) to end on 1 September 2023

For the renewals, the RoHS requirements are satisfied:

- No substitutes are available for all applications and products
- Alternatives contain other Annex II substances, like all electronics
- The Commission consultants conclude that a premature phaseout will result in significant costs and unnecessary and avoidable waste

- The EU member states have decided in a vote in December 2018 that this additional cost and impact is not justified for some products.

This package of proposals will deliver a reduction in mercury of 40% for the period 2020-2022, in line with the objectives of RoHS, and will bring mercury used in lighting to below <0.1% of the total mercury placed on the EU market by 2026<sup>4</sup>.

## Annex II Comparison of socio-economic impact reported in the 2019 vs 2020 Oeko SEIA documents

**Table 1: comparison for T8 between 2019 and 2020 SEIA documents**

Lamp replacement costs (investments)	Year	2021	2022	2023	2024	2025
<i>RoHS SEA lamps -2019</i>	Total (M€)	28877	25826	23437	21690	2132
<i>RoHS SEA lamps -2020 revision</i>	Total (M€)	4087	2997	1716	758	443
<b>Energy savings (GWh)</b>						
<i>RoHS SEA lamps -2019</i>	Total (GWh)	5524	10775	15720	20557	25181
<i>RoHS SEA lamps -2020 revision</i>	Total (GWh)	4645	8695	11355	12674	14171
<b>Total E-waste (M kg) scenario 2 lamps per luminaire</b>						
<i>RoHS SEA lamps -2019</i>	Mean waste (M kg)	247.9	222.4	202.4	193.1	186.3
<i>RoHS SEA lamps -2020 revision</i>	Total (M kg)	10.6	8.6	5.2	2.4	1.5

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**Table 2: comparison for T5 between 2019 and 2020 SEIA documents**

Lamp replacement costs (investments)	Year	2021	2022	2023	2024	2025
<i>RoHS SEA lamps -2019</i>	Total (M€)	13878	12990	11933	10804	10212
<i>RoHS SEA lamps -2020 revision</i>	Total (M€)	2524	2251	2004	1767	1536
<b>Energy savings (GWh)</b>						
<i>RoHS SEA lamps -2019</i>	Total (GWh)	1105	2352	3566	4776	5906
<i>RoHS SEA lamps -2020 revision</i>	Total (GWh)	1477	2984	4501	5980	7389
<b>Total E-waste (M kg) scenario 2.5 lamps per luminaire</b>						
<i>RoHS SEA lamps -2019</i>	Mean waste (M kg)	80.0	81.9	75.2	71.0	66.7
<i>RoHS SEA lamps -2020 revision</i>	Total (M kg)	22.2	20.8	19.1	17.3	15.5

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<sup>4</sup> Page 12 of United Nations, Global Mercury Assessment, 2018:  
<https://wedocs.unep.org/bitstream/handle/20.500.11822/27579/GMA2018.pdf?sequence=1&isAllowed=y>

**Table 3: comparison for CFL-ni between 2019 and 2020 SEIA documents**

<b>Lamp replacement costs (investments)</b>	<b>Year</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
<i>RoHS SEA lamps -2019</i>	Total (M€)	4080	3990	3622	3177	2707
<i>RoHS SEA lamps -2020 revision</i>	Total (M€)	831	739	650	552	456
<b>Energy savings (GWh)</b>						
<i>RoHS SEA lamps -2019</i>	Total (GWh)	360	716	1036	1313	1548
<i>RoHS SEA lamps -2020 revision</i>	Total (GWh)	693	1354	1966	2506	2974
<b>Total E-waste (M kg) Scenario 1.5 lamp per luminaire</b>						
<i>RoHS SEA lamps -2019</i>	Mean waste	31.8	31.2	28.4	24.9	21.3
<i>RoHS SEA lamps -2020 revision</i>	Total (M kg)	4.1	3.8	3.5	3	2.6

## Annex III Additional clarifications on compatibility issues

- 1) Flicker - effect of light variations which are annoying for the user causing fatigue and stress to users.
- 2) Light specification effects - changes in light level due to the replacement of a conventional fluorescent lamp into an LED lamp.
- 3) Emergency Lighting - Emergency Lighting luminaires are obligatory to avoid casualties in case of emergencies to facilitate safety during evacuations of buildings in case of emergencies (e.g. fire, smoke etc) and used in many projects e.g. public buildings, offices, theatres, schools, elderly homes, hospitals etc. These luminaires have in most cases the same look and feel as the other installed luminaires in the project, however they contain a battery pack and additional control which keeps them functioning during an emergency case e.g. fire alarm. Due to strict IEC and EN safety standards, LED lamps are not allowed to be used in these EL luminaires, designed for conventional lamps. See standards IEC 62776 & EN 60598-2-22. (see compatibility guide and tables and footnotes of Philips, LEDVANCE and Sengled)
- 4) Dimmable/non-dimmable - Dimmable installations are installed in e.g. theatres, cinemas, conference rooms, hospital rooms and modern daylight-controlled offices. Many LED tubes are not allowed to dim due to additional problems e.g. temperatures of components inducing lifetime problems for driver and or LED lamp. (see compatibility guide and tables and footnotes of Philips, LEDVANCE and Sengled).
- 5) Rectangular luminaires are used in many office and shop applications where 4 lamps are operated by 2 electronic drivers. Therefore, 2 lamps operate in a serial circuit connection which is not allowed for LED tube lamps (see compatibility guide and tables and footnotes of Philips, LEDVANCE and Sengled).
- 6) Closed cover protected luminaires are used in car parking's & home garages, industry halls, food industry, street lighting, etc.
- 7) EMC - Electro Magnetic Compatibility problems can happen with certain drivers, wiring combinations which can disturb other electronic equipment as the luminaire model was not designed for LED tube designs and their (variable) internal electronic circuits of different brands.
- 8) Light distribution - problems due to the narrow beam of a LED lamp compared to the wide beam of a conventional lamp, inducing inhomogeneous light levels and zebra effects in applications.
- 9) Some market drivers use DC operation for conventional lamps e.g. battery-operated applications e.g. boats, trucks, etc. LED lamps are not suited for these applications.

10) Light distribution - problems due to the narrow beam of an LED lamp compared to the wide beam of a conventional lamp, inducing not homogeneous light levels and zebra effects in applications.

11) Manufacturers do not accept claims based on compatibility tables as tests were done under laboratory circumstances and on single models of drivers were tested and not on earlier or later models of the same driver type.

12) All compatibility table data are listed for A brand drivers. The compatibility situation for B and C brand drivers is unclear as these drivers were not tested.

13) References of LightingEurope are based on many manufacturing experiences. CLASP references are based on one Sengled prototype lamp, not yet available on the market. Therefore these test results cannot be verified by LightingEurope members.