

Final Minutes 1st Stakeholder meeting Ecodesign Light Sources study (Lot 8/9/19)

Date: 5 February 2015

Location: Conference Centre Albert Borschette, room 2D, Brussels.

Time: 9:30 - 16:30h.

Study team:

Chair: René Kemna, VHK (RK). Presentations: Leo Wierda, VHK (LW), Stuart Jeffcott, Jeffcott Associates (SJ). Technical expert: Paul van Tichelen, VITO (PvT)

Total 32 participants (see Annex). Meeting recorded on audio-file (as announced in meeting) strictly for facilitating the writing of minutes.

Meeting documents (Task 0/1/2/3 reports) published on project website November/December 2015.

Agenda: Discussion Task 0/1 in the morning, Task 2/3 and AOB in the afternoon.

Presentation slides (122) published 6.2.2015 on project website www.ecodesign-lightsources.eu .

Reference overview between report-tables and slides to be published 12.2.2015.

Deadline for written comments on the Task reports is 28 February 2015.

Minutes

Welcome, agenda and announcements by RK. LW presents slides of the Task 0 report and the first part of the Task 1 report.

[Task 0: Assignment, Tasks, Timing, link with light systems study Lot 37]

Observation by Hans-Paul Siderius (HP) (Netherlands Enterprise Agency) redirected to Task 1 discussion. No other comments from participants.

[Task 1, Part 1: Scope, definitions]

Floris Akkerman (FA, BAM, DE) asks how light sources integrated in non-lighting products should be defined. Some of the current exemptions are based on the concept being integrated (e.g. in range hoods which could have integrated LEDs or E14 sockets. There is a request by importers whether they are covered or integrated lamps are excluded. LW answers that in our study we considered that lamps in range hoods are explicitly stated to be excluded. RK asks if FA intends more generally the rules whether lamps-without-sockets are covered. FA answers that in those cases, e.g. backlight of a TV, these would be excluded. RK explains that the Task 1 report looks at definitions that exist and that we might well have to add new definitions/rules in that sense. He also asks if we really should consider every possible integrated light [shows example of glasses with integrated lighting].

Peter Bennich (PB, Swedish Energy Agency) thinks that in principle they should be included in the regulation but acknowledges that there are testing problems (e.g. Xmas lights) which might make it impossible to assess compliance. If we cannot enforce it, we shouldn't do it.

HP is not worried about changing definitions, because standards and regulation can co-exist and need not always to be identical. Following the last two slides of the presentation with a matrix of 'lamp-definitions by elements', which were added following his e-mail (not in the Task reports yet), HP mentions that it seems like a good first basis to work on the definitions, identify gaps, etc.. He is

still missing 'controls' in the matrix. RK answers that this is not so easy because it affects various elements, but will be addressed. As regards integrated light-sources HP thinks that they should be included in the scope only if they can be tested independently (e.g. have a cap as often in a range hood) because at the very least they would represent a loophole if you didn't include them.

Simonetta Fumagalli (SF, ENEA Italy) emphasizes the problem of longevity-measurements, considered to be a very important aspect. We need many hours of testing and this problem should be addressed.

RK asks for (written) comments on the list of special purpose lamps. Should we include more? Do the sales/energy figures seem plausible or can you propose better figures?

PB mentions that 'decorative lighting' is very often misused and very difficult to define. How to deal with that? RK answers that our approach would be to have 1) technical characteristics (e.g. spectrum, relatively simple to measure), 2) technical characteristics + 'intended use' and only if unavoidable 3) only 'intended use'.

HP does not know yet whether it can be completely avoided, but emphasizes that only 'intended use' creates loopholes and should really be a last resort. As regards different product types in general: The less the better, even if that means that fine-tuning of requirements might slightly suffer.

RK mentions that some currently excluded lamps will not need new definitions if they will be no longer excluded. But in the study we use this detailed list also as a checklist to get your feedback. Already we made the decision not to include certain things in the study, e.g. chemical lamps, low-radioactive exit-signs, etc. are already proposed to be excluded and there are more decisions on the study-scope that you might want to take a look at.

FA asks if the study team can already (normally in Task 6/7) work on preliminary definitions. It is important to know whether these could imply loopholes and/or unintended regulation. RK mentions that this is normally part of Task 6 (design measures/options) or 7 (scenarios), but we can do this earlier and –also with input from industry—put forward a first set of definitions for feedback from stakeholders.

Otmar Franz (OF, OSRAM/Lighting Europe) stresses the importance of quick testing methods. At the moment the assessment of non-compliance takes far too long to effectively stop free-riders, especially. Unfair for EU industry. Whatever we define: It should be possible to do an effective market surveillance and this is at the moment with the parameters in the current regulation not possible.

Angeliki Malizou (ANEC/BEUC) promises to provide written comments.

Task 1 is presented by SJ.

[Task 1, Part 2: Test methods and existing legislation]

PB states that the flicker requirement is important. Also the induction lamp, previously only used in professional applications, is coming to the homes.

Casper Kofod (CK, Energy Piano Denmark) mentions that they have done a recent research and pleads to no longer use the square root formula for the minimum limits but just a simple lm/W measure. Many of the labels were wrong (supposedly because of the complicated formula?).

OF reacts that the experience from Israel and Russia shows that the lm/W does not work. For CFLs (compact fluorescent lamps) become more efficient at higher power. It leads to people buying higher-power lamps. SJ mentions that in Australia, where they use the lm/W, there are also these problems, which now prompts Australia to put a cap on the power consumption of certain lamps.

Mike Rimmer (MR, DECC UK) on lm/W: Will consumers understand the new metric?

SF will come back to the issue in the 2nd edition of the Task 1 report.

Regarding the simplicity of testing with an integrating sphere versus a full goniophotometric measurement (as today), SF mentions the problem that first it needs to be established whether it is a directional lamp through goniometric testing and only then one could use an integrating sphere, but at that point it would no longer make much sense (because you already have the goniometric equipment). Also you would need a spectrometer (for UV, IR). SJ said that it is true at this level of detail, but if you need a quick cheap check, the sphere is good.

SF: In Italy, we use 3 labs for DLS testing, 2 with goniophotometres and 1 with a sphere, but the price we get for testing is the same for all three ¹.

PB: You could set lm/W in different lm classes, so it is solvable. On the square root formula, PB would agree that for the new technology it does not make much sense to use the square root. Would also be easier to compare between regions. To be studied.

Paul van Tichelen (PvT) mentions that also with goniophotometres quick testing is possible (<1min.). But every investment in equipment and maintaining a lab in Europe is expensive.

Fabio Pagano (Lighting Europe) mentions that the new standard EN 13032-4 (on LED lamps and luminaires, developed in parallel with CIE) sets the test to determine NDLS or DLS. Near field or far field testing is both possible; depending on the size of the lamp and the accuracy.

Furthermore, the harmonisation from IEC standards to CENELEC is difficult, i.e. to ensure so that there is no conflict with the EU regulation. There is a contrast between quality inspection during manufacturing and market surveillance procedures set out in EU regulations. There is a conflict there, where the former tries to be very precise and the latter should actually aim to be quick enough to be effective. Simplicity and clarity would help here.

Regarding possible overlap between regulations:

PB: Standardisation bodies should focus on the test methods because e.g. on colorimetric testing this is key. There is no conflict in itself: Both standards committees and regulators stand to gain.

Nils Borg (NB, ECEEE) we are making comparisons between test methods regarding their practical application.

¹ to be more specific (this has not been told in the meeting, but it can be useful) an upper limit for costs has been fixed in the public tender.

RK asks comments on CRI or alternative colorimetric test methods (critical in the past).

PB: Asks comment of industry on how to combine CRI with gamut-testing

OF: For the moment no changes foreseen on CRI-measurements. There is no consensus on an alternative.

RK asks more info on the LED label. On colour accuracy: were that MacAdam-ellipses? MS says it uses CRI for colour accuracy (perhaps better than how EU is handling this aspect).

On options for legislative improvements, HP says the luminaire label is a 'disaster', both in terms of consumer understanding and market surveillance. Simplification should be a goal. Regulation should be suitable, achievable and more directed towards the new technology.

Break

On request of some participants the Task 3 presentation by LW is moved forward and now first on the afternoon-agenda.

[Task 3, Part 1: MELISA model introduction]

Reacting to the question on the average Wattage of CFLs in the presentation, PB mentions that the 9.5 W is a bit low. He believes the most common lamp was 11 W in the Swedish study and that of course the study is somewhat older. LW is quite convinced of the average mentioned and also the British measurement study was at roughly the same level. So the high GfK figure was a bit of a surprise.

Bram Soenen (BS, Belgian Government) asks why the 'lumens to fit' value of LEDs in the table change over the years. LW answers that –over the years—the lamp-wattages/lumens that are being replaced change, e.g. in the beginning the LEDs substitute the lower-wattages/lumens and are gradually moving towards replacing higher wattage/lumen lamps. The LEDs have the lumen of the lamps they substitute plus a small rebound-effect. BS also asks if the model makes the distinction between new sockets/buildings and existing ones. LW: No, we don't have information that would allow that differentiation.

SG asks how all these values relate to the table of 'lumen equivalence' in the current regulation. Is that taken into account ?

Michael Scholand (MS, CLASP) cites the table, which mentions –to claim a 60W bulb equivalence— 702 lumen for HL, 741 lumen for CFL and 806 lumen for an LED. He does not know the science behind these values but it is intriguing.

OF mentions that the background was that –at the time—the LED (and CFL) had higher lumen depreciation also considering the longer lifetime.

MS then suggests that the study team should look at some of the more recent lumen maintenance studies that have been conducted on LEDs and perhaps review whether those equivalence numbers are still appropriate. He informs that in the US the Philips LPrice lamp has been tested for 25 000 hours and the lumen depreciation was less than 3%.

On another subject, MS mentions that he has done a calculation on the basis of GfK data and finds different outcomes for especially CFLs (our study 123% higher) and MV-HL (16% lower). LW mentions that various, similar checks on the model data versus various sources were performed and we drew some first conclusions from that. The problem is that you never know how correct the reference data are. The MELISA model will be published in the coming months and it would be easier to evaluate and discuss. Anyway the study team considered the GfK data to be purely residential (measured at POS in shops) and for some lamp types also to be used with caution.

[Task 3, Part 2: Health, environment, etc.]

Regarding the influence of energy saving in lighting on the heating and cooling demand, BS asks how much of heating and cooling would be influenced. What does the 0.23 °C difference actually mean? For the case of heating, RK illustrates (with rounded figures) that –at an average heating season outdoor temperature of 6 °C and a (internal and solar gain corrected) indoor temperature of 16 °C— the average indoor/outdoor temperature that a heating boiler has to compensate would be around 10°C. So this 0.23 °C (at 50% saving, which is still far from reality) would represent around 2% extra heating effort. This is not much, but it is also not nothing and thus has been analysed in the report.

BS thinks the 30% collection rate is too low. LW answers that this is the best we can find, but agrees that uncertainty is high. Also other participants confirm that there is a high uncertainty there.

Fabio Pagano mentions that for luminaires the collection rates are unknown, because they are statistically just grouped as small and medium-size electric appliances.

Mike Rimmer (DECC,UK) urges that health issues and the SCENHIR report are being taken into account in the review.

[Task 3, Part 3: Dimming]

Christoph Mordziol (CM, UBA Germany) mentions a lamp with an internal dimmer that can be operated step-wise (e.g. 0-25-50-75-100-75-50-25% etc.) by pressing a normal light-switch 2 seconds for each step. So less problems than with external dimmers and this may give a good solution for many consumers. LW mentions that in the report dimming of smart lamps is discussed, with consumption estimates for the dimming. CM mentions that dimming may save energy, but because of the parasitic energy this is not always the case. RK asks for more information on the lamp that CM mentioned, because it is not actually a 'smart lamp' with WiFi or BlueTooth.

How many dimmers are still out there and will be used in the future? There may be 200 million installed out there, but HP and others doubt that there are still many consumers that will use them at some stage and instead will use the smartphone for smart lamps. RK mentions that the study cannot simply make such an assumption without proof. The study has anyway to make an estimate for the decision makers on how many citizens would go for hardware dimmer-substitution. RK mentions that the current sales number (5.5million/year) and sales-trend can be an indicator of how many people still value this technology. Rony Haentjes (RH, NIKO/ CECAPI) will try to come up with more information on the issue.

NB mentions that when estimating costs it should be considered that these dimmers don't live forever and will anyway be replaced on a regular basis. So don't overestimate this demand.

Casper Kofod informs that in the project Premium Lights we found a certain number of dimmers installed and when scaled up to the EU-28 this number would amount to 180 million dimmers installed. So on average almost 1 dimmer per household. When we hear 110-120 million phase-cut (97% 2-wire) dimmers installed, this is roughly what we found.

Another matter is how many lamps are connected to 1 dimmer. CK does not know the exact answer to that; in the project the lamps were mapped per room and then it was asked if there was a dimmer in the room, but there is no data on the number and type of lamps on that dimmer.

RH mentions that there is a strong regional influence: In Northern Europe dimmers are much more popular than in Southern Europe. He also mentions that not just the dimmers will have problems with 2 wire (non-capacitive) installations, but also other control devices like occupancy sensors.

There is a suggestion by BS that the max. wattage could be an indicator, but RH states that this is no longer true. There are more lamp types and variations in transformers/drivers than in the past.

RK asks if all agree to the time-schedule for dimmer-compatibility. *[No reaction, but nodding]*

HP asks if the standardisation deals with the smart lamps, etc.. RH answers it only deals with switched dimming (not wireless).

SF understands that the 15913 standard is not calculated in the same way as MELISA. But could there be some point of agreement between the two. LW explains that 15913 gives default hours, so only if you do not know anything. For some buildings the 15913 gives plausible values, but for special cases the values are not clear. Also the 15913 gives first potential hours, but they can also be filled in by daylight and then there is an occupancy factor. General impression is that the hours in 15913, even with corrections, are too high (e.g. 2300 h according to standard versus 1500h in MELISA).

Pagano remarks that the services are not always obvious. For instance, an office may be open from 8 to 5, but the actual lighting, including cleaning, may be from 5 to 8.

BS do you take dimming into account in the model. LW answers that the model makes the accounting with full-power equivalent hours, so it is in there. But we do not have detailed assumptions on dimmer parasitic consumption or average use. BS also asks, even if he suspects that it is small, if the impact on cooling is calculated. RK answers that this is very difficult. It will on average be considerably less than heating in the EU, but there may be peak-situations especially in Southern Europe offices where it could be a noticeable factor. And in this case the saving on lighting energy is of course working in favour of active cooling demand.

RK presents a slide, illustrative of both the light sources and system aspects, with a Sankey-diagram of fairly efficient office lighting (T8 LFLs with 80-90 lm/W) that was made some 4 years ago, showing that a 100% primary energy input at the power plant actually results in 1% useful light. The slide is not (yet) in the reports but will be added in the slide presentation as very last slide.

Task 2 is presented by LW

[Task 2: Market analysis, MELISA model]

Signe Friis Cristensen (SFC, Danish Energy Agency) asks for information on which tables in the slides correspond to which tables in the reports. LW answers that he will do his best to provide such a table as an extra document on the project website next week. But not all tables correspond 1 to 1.

BS asks whether they are Lighting Europe data and if it is an industry model. RK answers that the model is made by the study team and that we use all possible sources for inputs and check outputs against available (and reliable) sources. Lighting Europe data are also included but not reported directly for confidentiality reasons.

Any other business

PB mentions that the report on light sources will be ready next week.

SFC mentions that they also have the report on their study ready.

Both PB and Denmark will send the report to the study team (LW or RK) and these reports will then be put on the project website for download.

RK announces, for the benefit of NGOs and Member State participants that the project website on household refrigeration www.ecodesign-fridges.eu was launched a few days before.

Ruben Kubiak mentions that, although no exact date is fixed yet, the Commission aims to hold a Regulatory Committee meeting on the proposed "Stage 6" amendment after the Easter break.

Angeliki Malizou asks if (and why) the Lighting Strategy effort was stopped? Ruben Kubiak explains that this was started under the old Commission but does not seem to be a priority under the new Commission.

RK thanks all and wishes a good trip home.

RK/VHK 6.2.2015

Deadline for written comments on the Task reports is 28 February 2015.

ANNEX

Stakeholder meeting Ecodesign Light Sources study (Lot 8/9/19)

Participants

Date: 5 February 2015

Location: Conference Centre Albert Borschette, room 2D, Brussels

Time: 9:30 - 16:30h.

First Name	Surname	Company / organisation name	Nationality
Hans-Paul	Siderius	Netherlands Enterprise Agency	Dutch
Philippe	Carpentier	Schneider-Electric	French
Lars	Koch	Orgalime	Danish
Kees	van Meerten	Philips Lighting	Dutch
Fabrizio	Tironi	LightingEurope	Italian
Fabio	Pagano	LightingEurope (Associazione Nazionale Produttori Illuminazione)	Italian
Angeliki	Malizou	ANEC and BEUC	Greek
Simonetta	Fumagalli	ENEA	Italian
Peter	Bennich	The Swedish Energy Agency	Swedish
Rony	Haentjens	NIKO / CECAPI	Belgian
Otmar	Franz	LightingEurope	Germany
Chloé	Fayole	ECOS	French
Kaisa-Reeta	Koskinen	Energy Authority, Finland	Finnish
Bram	Soenen	Environmental product policy unit Belgium	Belgian
Markus	Bleuer	Swiss Federal Office of Energy	Swiss
Michael	Scholand	CLASP	UK
Marie	Baton	CLASP	French
Casper	Kofod	Energy piano	Danish
Martin	Bachler	OSRAM GmbH	German
Mike	Rimmer	Dept of Energy and Climate Change	British
Bizhan	Zhumagali	ICF International (on behalf of UK DECC)	USA
Floris	Akkerman	BAM Federal Institute for Materials Research and Testing	DE / NL
Christoph	Mordziol	Umweltbundesamt (Federal Environment Agency Germany)	German
Signe Friis	Christensen	Danish Energy Agency	Danish
Paul	Van Tichelen	VITO	Belgian
Nils	Borg	eceee	Swedish
Nicolas	Fuentes Colomer	IALD	Spanish
Wilkins	Carla	IALD	German
Gyöngyvér	Jakab	LightingEurope	Hungarian
Stuart	Jeffcott	Jeffcott associates	British
Leo	Wierda	VHK	Dutch
René	Kemna	VHK	Dutch
Ruben	Kubiak	European Commission	German