Comments on draft Tasks 1-4
Preparatory study on Lighting Systems (Lot 37)

April 2016

Integrating Lighting Systems in the Ecodesign and Energy Labelling framework presents a certain level of complexity, which could require new thinking and innovative approaches to significantly tackle their environmental impact. We believe it is a worthwhile effort as it could open the door to substantial energy savings: 610 PJ per year as of 2030, according to the Ecodesign Working Plan 2012-2014. We believe that the ongoing analysis of the point system methods in the implementation of the Ecodesign Directive may provide interesting outcomes that could serve the need of the current study.

- **Reconsidering the suggested study scope limitation**

The study team has decided to focus the scope of their study on "*Lighting systems that provide illumination to make objects, persons and scenes visible wherein the system design is based on minimum quality parameters as described in European standards EN 12464-1 on lighting of indoor work places and EN 13201 for Road lighting*". They thereby exclude residential lighting and many other possible lighting applications from their analysis.

We would like to remind here that the purpose of the preparatory study is to establish a solid evidence base for the whole product group, irrespective of what the focus of possible regulatory measures later on in the process may be. Acknowledging the need to prioritise, we nevertheless want to call on the study team to reconsider this exclusion and the potential impact on the savings at stake. Such exclusions should not be done without strong justifications, as well as an assessment of the potential savings for the excluded product parts.

⇨ **Reconsider the exclusion of residential lighting and potential other areas from the study scope, and provide a strong justification as well as an assessment of the potentially missed savings.**

- **Selecting representative reference lighting applications**

In Chapter 3.1.2, reference lighting applications are developed as a basis for the collection and discussion of real (technical and economic) data and will most likely also serve as a starting point for the base cases. We understand that the study team starts with the reference application from Lot 8 (reference office lighting applications) and Lot 9 (reference street lighting applications) and that further reference applications may be added later on during the preparatory study process.

But considering the relevance from an energy consumption perspective of some other sectors of lighting applications identified during the "quick scan" exercise (see Table 1-17 and Table 1-18 on p. 130), it seems surprising that the characteristics of the industrial and retails sectors for example are not included in Tasks 2 to 4 from the start. The surrounding conditions in the industrial sector can be very heterogeneous, with for example much higher temperatures (e.g. metal works), or much lower in cooling rooms, heavy dusts, water spray, etc. The light quality needs also vary greatly – with shopping

malls needing a specific light temperature for example. Therefore, all other factors like the technical solutions, the economic situation, and the user behaviour will also differ.

In the current version of the report, we only find a question from the study team regarding more data sources for such sectors, but no clear perspective about how their specific characteristics shall be considered if specific data is not provided by market actors.

⇨ **In order to ensure that the definition of Base Cases and other assessment steps from Tasks 5-7 cover all different lighting situations, we would like the study team to:**
- include a section where the different use conditions (and related technical solutions) are discussed across all sectors of lighting application;
- perform additional assessments on markets, use behaviour and technical solutions for other relevant sectors (at least those with obviously different use conditions)

▪ **Addressing standby consumption**

Despite the important debate around the standby energy consumption of lighting solutions in the framework of the "Lighting sources" review process, this aspect is not addressed in detail in Chapter 4 of the current study. 0-Watt standby consumption is assumed for the Worst Case and Mainstream Reference Installations, but installations standby values for BAT are left open.

Given the emergence of the so-called "intelligent lighting systems" and the fact that standby and networked standby consumption could reach a similar importance than the on-mode consumption, we are concerned that standby is treated as part of BAT solutions only, without any further discussions. We therefore ask the study team to include more details on the role of the standby functionality for the different technical solutions. Furthermore, we assume that it is of high importance to explicitly include "System-solutions" with high and low standby needs into the Task 5 and Task 6 research.

⇨ **More attention needs to be given to the standby and network standby consumptions of lighting systems in the first and later tasks of the study**

▪ **Not neglecting non-energy aspects**

At this stage of the study, non-energy aspects of lighting systems are not discussed sufficiently. The rationale is explained on page 124: *"This means that other environmental impacts are neglected in the quick scan, e.g. in street lighting replacing asphalt by concrete to increase the road surface reflection might also impact VOC emission. Also the potential positive impact on outdoor light pollution will not be repeated hereafter (see Lot 9). The main reasons for this decision are the added complexity and/or lack of available data."*

However, little detail is given on how this situation will be solved in the upcoming work. From the perspective of resource use/resource efficiency even quite simple parts like cables, masts, holders, etc. might create relevant impacts if they need to be changed due to a technology shift or a respective regulatory push. These potential impacts need to be thoroughly assessed.

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