

# DRAFT PROPOSAL FOR A NEW IEA IMPLEMENTING AGREEMENT ON EFFICIENT ELECTRICAL END-USE EQUIPMENT

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## PROPOSED ANNEX: LIGHTING

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The 2006 IEA publication, *Light's Labour's Lost: Policies for Energy-Efficient Lighting* identified that lighting accounts for 19% of global electricity consumption, more than is provided by hydro or nuclear power, and gives rise to 1900 Mt of CO<sub>2</sub> emissions (70% of those from the world's light duty vehicles).

The analysis further demonstrated that at least 40% of this energy use could be saved cost-effectively through the systematic adoption of higher efficiency solutions in all the main end-use sectors: non-residential indoor lighting, residential indoor lighting and outdoor lighting. Moreover, significant amounts of energy could be saved in vehicle lighting and via programmes aimed at substituting off-grid fuel-based lighting with higher efficiency alternatives in developing countries.

The IEA has already supported research on integrating daylight into buildings under the auspices of Tasks 31 and 21 in the SHC and ECBCS Implementing Agreements and is currently conducting research into energy efficient lighting technologies in ECBCS Annex 45; however, there is a strong need to conduct cooperative activities to assist government with the development of lighting energy efficiency policy measures.

To this end it is proposed to develop a new lighting annex within this implementing agreement to assist policy-makers in designing comprehensive lighting energy efficiency policy portfolios to address all important lighting energy savings opportunities. Suggested actions for initial focus include:

### **International phase-out of inefficient incandescent lighting.**

Establish an Annex to carry out actions that support the successful transition towards the international phase-out of inefficient incandescent lighting. These would include work streams on:

- sharing information on current regulatory developments in the various international jurisdictions and facilitating international coordination in this domain as required.
- analysing international demand for higher efficiency replacements to standard incandescent lamps as a result of proposed regulatory measures and assessing risks of potential production capacity shortfalls at point of peak international demand.
- assessing future CFL quality needs considering the new international paradigm where standard incandescent lamps will no longer be permitted for sale and considering what lamp quality performance thresholds may need to be established beyond current international high quality requirements (e.g. this might consider the applications where there is least consumer acceptance of CFLs such as in toilets and bathrooms and consider the determination of "reach" quality thresholds that if satisfied would help overcome such concerns in a world where standard incandescent lamps are no longer sold).
- sharing information on criteria to be considered regarding potential exceptions to general lamp energy performance requirements.
- sharing information on best practice in lamp labelling and consumer education with a mind to moving away from product labelling based upon lamp power (watts) to performance labelling based on light output (lumens), energy performance and lamp quality characteristics.
- sharing information on market and performance developments for higher efficiency alternatives to standard incandescent lamps, including high efficiency halogens, high efficiency incandescent technologies and solid state lighting technologies.
- sharing strategic thinking on potential longer-term energy performance objectives in this domain.

## **Lighting in commercial buildings**

Establish an Annex on lighting in commercial buildings including the following work streams:

- Collating and sharing information on best practice in commercial building lighting energy performance.
- Collating and sharing information on best practice for installed lighting power limits within building codes.
- Collating and sharing information on best practice for lighting wiring, control and energy management and their implications for the hours of use of commercial lighting.
- Collating and sharing information on the potential for regulations, capacity building and incentives to reduce waste from unnecessary operation of lighting systems.
- Collation and review of current and best practice with regard to recommended lighting levels in commercial buildings.