

International Initiatives: Overview of Initiatives Underway

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**Asia-Pacific
Economic Cooperation**



Australian Government

**Department of Climate Change
and Energy Efficiency**

International Response

- In recognition of the rapid emergence of LEDs as a viable efficient lighting alternative there are a range of initiatives being undertaken around the world.
 - International
 - Regional
 - National

International Electrotechnical Commission (IEC)

- Considering and developing standards for:
 - LED Modules - Safety specifications & Performance
 - Self Ballasted LED Lamps for GLS - Performance & Safety
 - Non-ballasted LED Lamps – Performance and Safety
 - LED lifetime prediction
 - LED Definitions
 - Also OLED and Tubular retrofit
- Technical Committee 34 - Lamps and Related Equipment
 - Follows on from ranges of performance and safety standards for incandescent and fluorescent lamps
 - More details in later presentation
 - Cooperation with CIE

International Commission on Illumination (CIE)

Worldwide cooperation and the exchange of information on all matters relating to the science and art of light and lighting, colour and vision, photobiology and image technology.

Division 3 - Interior Environment and Lighting Design

- Factors which influence the satisfaction of the occupants of a building with their environment, including the effects of both daylighting and electric lighting.
- Its objectives are to study and evaluate those factors to provide guidance on relevant design criteria, to study design techniques (including relevant calculations) for the interior lighting of buildings, to incorporate the findings and those of other CIE divisions into lighting guides for interiors in general or of particular types

International Commission on Illumination (CIE)

- TC 3-50: *Lighting Quality Measures for Interior Lighting with LED Lighting Systems.*
 - To review relevant CIE publications and standards to evaluate the suitability of existing lighting quality measures when applied to tertiary (commercial) interior light-emitting diode (LED) lighting systems.
 - To identify the gaps and weaknesses in existing quality measures, exhibited in one of two ways: either the criterion is valid, but the evaluation method is not (e.g., colour rendering) or a new criterion needs to be taken into consideration (e.g., overhead glare, binning).
 - To prepare a Technical Report, which will include the findings of the review and recommendations for new lighting quality measures and evaluation methods as well as suggestions for new research if appropriate quality measures and evaluation methods are missing.

International Energy Organisation (IEA) - 4E Solid State Lighting Annex

- Goal of the annex is to develop simple tools to help governments and consumers world-wide confidently identify which SSL lighting products have the necessary efficiencies and quality levels to quickly and effectively reduce the amount of energy that is currently consumed by artificial lighting.
 - Member Countries: Australia, Denmark, France, Japan, Sweden, The Netherlands, UK and the USA. Also technical participation by China.
 - 3 Task Groups:
 - 1. Quality Assurance Tools
 - 2. Protocols for SSL Performance and Campaign of Tests
 - 3. Lab Accreditation + Standardization
 - More information in later presentation

Global Lighting Forum (GLF)

- Forum of peak industry lighting organisations from around the world representing over 5,000 lighting manufacturers and US\$50 billion annual sales. Established in 2007.
- Objectives:
 - liaising with stakeholders, including governments and international organisations, to ensure that the quality of LED products provide consumers with a good experience
 - assisting with international standards development and encouraging the harmonisation of standards in different regions of the world
 - producing educational material on solid state lighting, including the development of best practice guides and a guide to solid state lighting nomenclature
 - more information in later presentation.

Zhaga Consortium

- Consortium for the standardisation of LED Light Engines.
- Cooperation of independent companies.
- Aims to enable interchangeability between products made by diverse manufacturers.
- Covers physical dimensions, as well as the photometric, electrical and thermal behaviour of LED light engines.
- Benefit to consumers – standardization will prevent market fragmentation into incompatible products.

Other relevant International Organisations

- International Bureau of Weights & Measures (BIPM)
- International Laboratory Accreditation Schemes (ILAC, APLAC)
- Laboratory accreditation through national bodies.

Asia Regional Actions

- **Efficient Lighting Initiative (ELI)**

- ELI is the Efficient Lighting Initiative, an international program for certifying the quality and efficiency of lighting products. It is operated by a non-profit organization, the ELI Quality Certification Institute, for the benefit of end users, policymakers, and lighting suppliers worldwide.
- ELI is a “reach” standard for lighting efficiency in developing and transition economies. It provides an endorsement of the quality and efficiency of lighting products.
- ELI voluntary technical specification for Self-Ballasted LED Lamps for General Lighting Services – from March 2011.
 - Lifetime, switching withstand, CCT, CRI, initial luminous flux, lumen maintenance, colour rendering stability, efficiency.
 - Labelling specifications including equivalency.

Asia Regional Actions

- **Asia Lighting Compact**

- independent, non-profit organization dedicated to reducing greenhouse gas emissions by improving the quality of lighting products and encouraging the adoption of energy-efficient lighting in Asia.
- works to reduce barriers to trade and mitigate climate change by harmonizing quality and energy-efficiency standards for lighting across the region. Membership includes national lighting associations in Asia, lighting manufacturers, and government agencies.

Asia Regional Actions cont'd

- **Asia Lighting Compact Cont'd**

- Currently maintains a CFL product registry – using ALC 3 tiered performance standards.
- 3 tiers ensure that minimum performance standards are observed while creating the opportunity for different adopters to opt for preferred performance standards that meet their specific needs
- ALC has setup a LED committee that consists of members of various energy efficiency regulatory bodies within Asia. The ALC LED committee will identify the needs of their respective countries. While ALC will not work on creating new LED standards, ALC will chart and determine the most appropriate international initiatives that are relevant to Asia. The ALC LED specification and the ALC LED product registry are both works in progress.

Asia Regional Actions cont'd

- **lites.asia**

- a regional network of lighting efficiency policy makers and regulators promoting regional cooperation on lighting energy efficiency issues
- in particular to facilitate a greater involvement by Asian/APEC economies in the development of International Electrotechnical Commission (IEC) standards.
- this should result in standards which are more appropriate for regional needs, thus enabling Asian/APEC economies to adopt IEC specifications with minimum local variations.
- lites.asia aims to facilitate the phase-out of inefficient lighting and the move towards quality efficient lighting.
- established with support from Australian and US governments. Current ongoing support from Australian Government.

Asia Regional Actions cont'd

- **lites.asia cont'd**

- Monitors lighting performance and quality related work by the IEC
- facilitates participation by Asia region governments in IEC TC 34 activities
- Participation to date by officials from Australia, China, India, Indonesia, Philippines, Sri Lanka, Thailand, Viet Nam, Bangladesh, USA,
- Now opening up to invite participation from Japan, Korea and Pacific Island countries.
- Is discussing approaches to dealing with LED quality issues including consumer education, labelling, harmonised standards and cooperation on compliance.

National Standards

- Energy Star (USA) – for luminaires and integral lamps
- Energy Savings Trust (UK) – for LED Lamps and Modules
- European Commission LED Quality Charter
 - sets voluntary requirements for white LED lamps that can be used by governments, municipality, energy savings, utilities and other active parties to ensure the quality of LEDs on the market.
- China – technical standards for LEDs
- India – LED performance and safety specifications
- Standards can cover both efficiency and quality parameters
- National Standards can align with International Standards
 - Important in a global market.

Bringing things together

- LED lighting is a globally traded product
- All consumers are entitled to quality products that meet their needs and manufacturer claims
- Where possible harmonised performance standards can ensure that a broad range of products are available to consumers across a range of countries
- Minimum performance standards can help protect both the consumer and the reputation of LEDs as a quality, reliable efficient lighting product.

THANK YOU

PAPER FROM:

**APEC LED WORKSHOP: *POLICIES TO PROTECT AND
EDUCATE CONSUMERS***

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