



Ninth *lites.asia* Workshop Kuala Lumpur, Malaysia 22-23 April 2014

Meeting Report

The ninth *lites.asia* regional policy workshop was held in Kuala Lumpur, Malaysia on 22-23 April 2014. Attendees included 37 representatives from 16 countries. The meeting focused on efficient lighting monitoring, verification and enforcement (MVE) activities and infrastructure in Southeast Asia and the Pacific. It also included updates on lighting standards developments and a briefing on off-grid lighting testing and laboratory certification.

This was the first *lites.asia* meeting hosted by the United Nations Environment Programme (UNEP) en.lighten initiative's "Securing the climate change benefits of efficient lighting in South East Asia and Pacific economies via monitoring, verification and enforcement capacity building activities."¹ This effort is funded by the Government of Australia.

The meeting was formally opened by Mohd Elmi Bin Anas, Director of Energy Management and Industry Development Department, of the Malaysia Energy Commission, who set the scene by giving an overview of Malaysia's policy and infrastructure for energy efficient lighting.

David Boughey, Assistant Manager, Lighting and Equipment Energy Efficiency, Australia Department of Industry and Marie Leroy, Liaison to Southeast Asia and Pacific Countries for the UNEP en.lighten initiative, summarised the background of *lites.asia* and introduced the en.lighten initiative.

The program and presentations from the meeting are available on the [lites.asia website](http://lites.asia)². Below is a summary of the meeting.

Day 1

Day 1 of the Kuala Lumpur *lites.asia* meeting updated delegates on international standards development and complementary program activities and on individual countries' experiences with standards, labelling and compliance.

Update on lighting standards development

During this session, updates were presented on the outcomes from recent International Electrotechnical Committee (IEC) Technical Committee on Lamps and Related Equipment (TC 34) meetings and the work of the International Energy Agency's Efficient Electrical End-Use Equipment Solid State Lighting Annex (IEA 4E SSL Annex) and Commission Internationale de

¹ www.enlighten-initiative.org/CountryActivities/SoutheastAsiaandPacificMVEProject.aspx

² www.lites.asia/news-and-events/events-workshops/ninth-lites-asia-meeting-april-2014

l'Eclairage (CIE) on lighting standards development activities.

Outcomes of latest IEC meetings

David Boughey gave an update on the latest outcomes from IEC TC 34. Of note is the TC 34 New Work Proposal 34A/1754/NP, *Self-ballasted compact fluorescent lamps for general lighting services—Performance limits*. This technical specification includes performance levels that can be applied to self-ballasted compact fluorescent lamps (CFLs) intended for general lighting services. It outlines tiers of performance that could be used by countries seeking guidance on CFL performance requirements at the national level. It would provide an optional tool for countries that may not have the capacity to conduct their own detailed, independent analyses of performance levels for CFLs. This proposal has now been released for vote by TC 34 members; voting closes 23 May 2014.

Boughey encouraged participants to consult with their respective IEC National Committees on the value of these performance tiers for their country. Boughey also noted that changes to IEC rules for voting now require a statement supporting the vote.

Update on IEA 4E SSL Annex³

Steve Coyne, Lighting Expert Consultant for UNEP, summarised the work to date by the Annex to address the challenges and barriers to solid state lighting (SSL)⁴ by:

- Developing harmonised quality and performance tiers;
- Drafting of an interim SSL test method formulated from national test methods for the exclusive use within a global interlaboratory comparison test;
- Supporting accreditation to national test standards through evidence provided from the global interlaboratory comparison test outcomes;
- Making information accessible/available;
- Revising tiers as new data becomes available;
- Working with organisations such as CIE, the Clean Energy Ministerial's Super-Efficient Equipment and Appliance Deployment (SEAD) initiative and UNEP en.lighten to promote and support the development of appropriate standards for energy efficient lighting.

Coyne also highlighted the proposed areas of activity for the 2014-2019 period which may be of particular relevance to *lites.asia* members:

- Market MVE activities to:
 - Benchmark the performance of SSL products,
 - Make the existing United States' Department of Energy (US DOE) *LED Lighting*

³ ssl.iea-4e.org

⁴ Solid-state lighting includes light emitting diode (LED) and organic LED (OLED) light sources.

- *Facts*⁵ programme into an international database with bespoke country portals,
- Promote and support best practice international MVE programs;
- Design and conduct a new global interlaboratory comparison with a goniophotometer focus;
- Investigate the energy-related impact of new SSL lamp and system features, such as active thermal control, dimming quality, regulation of drive current, colour tunability and wireless operation.

Coyne encouraged meeting delegates to explore whether membership of the Annex would have benefits for their countries and to consider participating in the interlaboratory comparison exercise on goniophotometry, an exercise that does not require membership in the Annex.

LED testing standards and harmonization

The CIE is the international authority on matters relating to the science and art of lighting⁶. As a representative of Division 2 of the CIE⁷, Tony Bergen discussed the need for standardisation for SSL lamp product testing and provided details of the new CIE standard test method. This test method aims to provide a unified global standard for harmonisation of testing of LED lamps and SSL products. It is developed with the support of the International Organization for Standardization (ISO), IEC and IEA.

A delegate from The Energy and Resources Institute (TERI) expressed the need for the development of a training manual and related webinar on efficient lighting quality and performance testing, targeted at testing laboratory personal.

Lighting standards, labelling and testing in Malaysia

In line with previous meetings, the host country (Malaysia) gave a more in-depth presentation on the local regulatory framework for lighting and the supporting infrastructure and information on third party testing and certification regime.

The overview of the implementation and enforcement of minimum energy performance standards (MEPS) in Malaysia was presented by Zulkiflee Umar, Head of Demand Side Management Unit⁸ for the Malaysia Energy Commission. The presentation included information on the legislative infrastructure for energy efficiency in Malaysia, details of the current voluntary energy efficiency rating and labelling programme and the transition to mandatory minimum energy performance standards (MEPS) for lighting (scheduled for implementation on 3 May 2014).

⁵ www.lightingfacts.com

⁶ cie.co.at

⁷ The Division concerned with the physical measurement of light and radiation

⁸ The unit established to promote and regulate electrical energy efficiency in Malaysia

In response to a question from a delegate, Umar confirmed that Malaysia will accept test reports from foreign laboratories as long as the accreditation of the laboratories is through an accreditation body which is a signatory to the Asia Pacific Laboratory Accreditation Cooperation (APLAC) MRA⁹.

Sharifah Jusoh, Head of Electrical and Electronics Testing at SIRIM QAS International Sdn Bhd¹⁰ followed this with a complementary presentation on the testing and certification regime for both mandatory and voluntary product safety and performance requirements in Malaysia. SIRIM would be very interested in participating in an interlaboratory comparison within the region.

The delegate from Nepal raised concerns on the assessment of the reliability of test equipment and calibration. It was suggested that the UNEP en.lighten initiative provides guidance to countries in the region on how to identify and select reliable testing equipment manufacturers and on how to calculate the total uncertainty value associated with testing.

The delegate from Pakistan asked about monitoring of labels use and abuse. SIRIM undertake market surveillance where they match SIRIM number with the product. (Safety labels have unique identifier for each product). They have various levels of action based on severity of non-compliance.

Country updates

Updates on national standards, labelling and compliance activities from lites.asia participating countries

Country representatives from Cambodia, India, Indonesia, Lao PDR, Nepal, Philippines and Thailand presented updates on their evolving standards, labelling and compliance processes, especially lighting MVE. Pakistan's presentation focused specifically on an Efficient Lighting Nationally Appropriate Mitigation Action (NAMA) proposal developed with support from UNEP en.lighten. *Discussions included the type of penalties which can be put into place against non-compliant manufacturers.*

Report on lighting activities in Australia

To complement the presentations from *lites.asia* participating countries, David Boughey presented an overview of the regulation of lighting energy efficiency in Australia and the impact of existing policies. He also provided information on options for further improvements including the extension of regulation to commercial lighting and LED lamps.

⁹ aplac.org

¹⁰ SIRIM Berhad is a company wholly owned by the Malaysian Government and is the national organisation for standards and quality

Standards and labelling programmes in the Pacific

Makereta Lomaloma, Energy Efficiency Adviser for the Secretariat of the Pacific Community (SPC), described the background to standards and labelling in SPC and provided an update on the progress of the Pacific Appliance Labelling and Standards (PALS) Program, which targets refrigerators and freezers, air conditioning units and lighting. She also introduced the work of SPC, in collaboration with UNEP en.lighten, to develop a regional efficient lighting strategy for Pacific Island Countries. Once a strategy has been agreed by SPC each nation would develop legislation appropriate for national enactment.

Day 2

Day 2 of the Kuala Lumpur *lites.asia* meeting focussed on MVE best practice and the support available to countries through the UNEP en.lighten initiative's "*Securing the climate change benefits of efficient lighting in South East Asia and Pacific economies via monitoring, verification and enforcement capacity building activities*" project. In particular, it sought to investigate with delegates the areas where they felt most support was needed and in what format it would be best received. The day also included a presentation from the Global Lighting Association (GLA).

Best practices for efficient lighting monitoring, verification and enforcement

Mark Ellis, Director of Mark Ellis and Associates, highlighted the importance of an effective MVE system and the key principles behind building a successful compliance culture. He outlined the eight elements that make up a compliance regime, stressing that there is no single solution for the ideal MVE system. Countries must tailor the elements to fit their individual situation. Ellis elaborated on the mechanisms for facilitating compliance, market surveillance, enforcement and the legal and administrative framework.

This session stimulated many questions and discussion from the floor:

- *A delegate from, the Electric Lamps and Component Manufacturer's Association of India (ELCOMA), raised a concern regarding the cost of the compliance procedures. Experts remarked that it is important to adapt the MVE procedures to the budget available. Not all products entering a market can be tested.*
- *In terms of enforcement practices, the delegate from ELCOMA questioned whether there were any sanctions available beyond going to court. Experts remarked that in the European Union, court cases were very rare, and that one of the main enforcement processes in use was "name and shame", that is, publicizing the names of the non-compliant producers or importers;*
- *Meeting delegates from Thailand stated that one of the main issues with compliance control in Thailand is that the labelling programme is voluntary. They also questioned how to assess the accuracy of the information and test reports provided by manufacturers. They further stated that the Laos delegates reported that fake Thailand*

labels are being used in Laos, where they have no jurisdiction for enforcement;

- *Jürgen Sturm from the GLA highlighted the importance of communication to manufacturers for them to understand the MVE scheme in place and how to comply.*
- *Discussion also covered the importance of consumer communication when it comes to understanding efficiency labels.*

Proposed Country Support Activities on Efficient Lighting Monitoring, Verification and Enforcement

Marie Leroy, Liaison to Southeast Asia and Pacific Countries for UNEP en.lighten, introduced the “*Securing the climate change benefits of efficient lighting in South-East Asia and Pacific economies via monitoring, verification and enforcement capacity building activities*” project.

Leroy highlighted the practical support and new resources that will be available to countries to help them implement and maintain successful MVE regimes, including:

- Capacity building for testing laboratories;
- Technical tools (benchmark testing and best practice information);
- Market baselines assessment (training and collaborative market research and surveillance exercise);
- Policy support;
- Assistance with developing funding proposals.

Results of collaborative labelling display survey project

Mark Ellis summarized the final results from a labelling display survey undertaken by *lites.asia* member countries, thus providing a practical example of one such collaborative market surveillance exercise. He reported on the background to the survey, the results of the analysis of the data submitted by Australia, India, the Philippines, Sri Lanka, Thailand and Vietnam and the conclusions and lessons that can be learned. Despite the variety in scope of the surveys, it was clear that each had provided useful information which would not have been available otherwise. For example, Ellis stated that store surveys are good for identifying weaknesses in a compliance program but may not specifically be a good measure (for various reasons) of compliance levels. This report is now available to download at www.lites.asia/downloads/labelling-display-survey.

The Global Lighting Association: From a global to a regional perspective

Jürgen Sturm, Secretary General, introduced the GLA and an industry perspective on some of the meeting topics, stressing the need for strong stakeholder communications and harmonisation of standards.

Experience sharing from China (GELC) and India (TERI) on efficient lighting testing procedures, including off-grid lighting products

This session focused on verification testing with presentations from China and India on efficient lighting testing procedures, including off-grid lighting products.

Update on testing of energy efficient lamps

Shuming Hua, Director of the Global Efficient Lighting Centre (GELC) in China, provided background on GELC and an update on the results of their recent global CFL lamp quality checking testing exercise. The final report for this activity will be available for download on the UNEP en.lighten website. Hua also presented information on GELC's laboratory capacity building, training, applied research, technical advisory and information sharing activities.

Off-grid lighting testing and certification processes

Pradeep Kumar, Senior Fellow and Associate Director at The Energy and Resources Institute (TERI) in India, gave delegates an introduction to the off-grid lighting situation in South Asia and the benefits of solar off-grid lighting, and, an overview of the Lighting a Billion Lives initiative in India. Kumar summarised the process for the development of testing methods for off-grid solar lighting using the IEC 62257 9-5 standard¹¹. He also gave an overview of the testing capabilities of TERI's Solar Lighting Laboratory.

Monitoring, verification and enforcement capacity building and laboratory optimisation open discussion

The final session of the meeting was devoted to an open discussion on MVE capacity building and laboratory optimisation. Steve Coyne set the scene by:

- Reminding the delegates of the types of training, knowledge delivery and support available to countries via the UNEP en.lighten initiative's SE Asia MVE project;
- Reiterating the key components of an MVE system;
- Highlighting some of the key considerations when setting up, maintaining and operating a testing laboratory.

Delegates were then invited to highlight the areas for which they require the most policy and technical assistance and to suggest what format might be most suitable to the delivery of this support. Many issues were raised, including:

- Institutional management capacity building and training;
- Legislation development;

¹¹ IEC/TS 62257-9-5 ed2.0 (2013-04), *Recommendations for small renewable energy and hybrid systems for rural electrification - Part 9-5: Integrated system*.

- Registration systems;
- Test laboratory capacity building;
- Establishing benchmarks (for example, via participation in en.lighten lamp testing and market baseline assessment exercises);
- Mutual recognition agreements for laboratories and sharing of testing information.

In the context of the support that is available from en.lighten, Coyne proposed (with agreement from delegates) that;

- Laboratory training was the most important aspect to be tackled by the face-to-face training component available.

Guidance documents could be developed on several key topics:

- Selection of lamps for verification testing;
- Calculation of total uncertainty for verification testing;
- Different mechanisms for entrance of products to the market;
- Analysis of test reports (by regulatory officers): understanding parameters and tolerances.

In closing, the potential locations and dates for the tenth *lites.asia* meeting were discussed. UNEP will notify participants of the choice of venue several months in advance of the meeting.