lites.asia Regional Position Paper

Regional Review of Lighting Standards Labelling and Capacity Issues

***Current Status, Opportunities and Constraints*:**

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Objective of Regional Position Paper

- Submission to UNEP en.lighten initiative to provide *lites.asia* participants view on:
  - The current use of lighting in the region, and the potential energy, cost and emission reduction possible through transition to more efficient alternatives
  - What policies are currently in place to stimulate the uptake of efficient lighting, and what opportunities exist to accelerate the transition
  - What physical, technical and human resource constraints are limiting progress
  - Proposals for actions that may assist countries in the region accelerate their transition
- Submission will form part of a global review of efficient lighting to help develop a new global strategy, and regional action plan

Scope

- Geographical – “Asia”
  - West – East: India – Japan; North- South: Mongolia – Australia

Country Name	APEC Membe	ASEAN Member	BRESL Member
Australia	Yes	Dialogue	
Bangladesh			Yes
Bhutan			
Brunei Darussalam	Yes	Yes	
Cambodia		Yes	
China	Yes	"+ three"	Yes
DPR Korea (North)			
Hong Kong	Yes		
India		Dialogue	
Indonesia	Yes	Yes	Yes
Japan	Yes	"+ three"	
Lao PDR		Yes	
Malaysia	Yes	Yes	
Mongolia			

Country Name	APEC Membe	ASEAN Member	BRESL Member
Myanmar		Yes	
Nepal			
New Zealand	Yes	Dialogue	
Pakistan			Yes
Papua New Guinea	Yes	Candidate	
Philippines		Yes	
Republic of Korea	Yes	"+ three"	
Singapore	Yes	Yes	
Sri Lanka			
Taiwan/Chinese	Yes		
Thailand	Yes	Yes	Yes
Timor-Leste		Candidate	
Viet Nam	Yes	Yes	Yes

- Primarily focused on domestic (household) on-grid applications
  - Much of information equally applicable to most indoor and outdoor lighting technologies and applications

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Potential Benefits

- Energy, Money and Emissions

	Population	GDP	Electricity Consumption in lighting	Efficient lighting Saving Potential	Efficient Lighting Saving Potential	Current Cost in Lighting	Efficient lighting Cost Savings	Efficient Lighting Saving
	million	*million US $*	*TWh*	*(TWh)*	*Mt CO2*	*million$*	*million$*	*% of current total costs*
Totals (all)	3,712.54	17,642,290.74	1,029.25	324.16	226.47	137,018	37,404.6	27%
Total (Excl Dev + Big 2)	1,000.28	2,248,802.53	105.97	39.18	22.59	12,238	3,948.4	32%
Totals (ASEAN)	591.37	1,860,404.88	84.64	31.65	18.85	9,949	3,248.7	33%
Totals (ASEAN +3)	2,105.99	14,260,336.71	843.15	261.37	172.76	112,707	31,065.3	28%

Data published July 2012 by the UNEP/GEF en.lighten initiative based on 2010 data, on-grid, all applications.

- Other Benefits
  - Offset investment in generation and/or release generating capacity for use in useful areas boosting economic and social development
  - Release additional disposable income for consumers to spend on beneficial/productive activities rather than electricity for lighting

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Current Policy Background: *Wide Ranging Policy Actions*

	Formal Commitment to Phase-out inefficient lighting	Bulk Procurement Giveaway/ Subsidy Programmes	Communications/ Awareness Programmes	Inclusion of Lighting in Building Codes
Australia	Yes (f)	Yes	Yes	Yes
Bangladesh		Yes (k)	Yes (k)	
Bhutan				
Brunei Darussalam		Yes (f)	Yes (n)	
Cambodia				
China	Yes (g)	Yes (g)	Yes (g)	Yes (g)
DPR Korea (North)				
Hong Kong		Yes (f)		
India		Yes (e)	Yes (e)	
Indonesia		Yes (e)	Yes (f)	Yes (e)
Japan	Voluntary (f)			
Lao PDR	Under Consideration (f)		Yes (n)	
Malaysia	Yes (n)		Yes (n)	Yes (n)
Mongolia				
Myanmar				
Nepal				
New Zealand	No (f)		Yes (f)	
Pakistan		Yes (f)	Yes (f)	
Papua New Guinea				
Philippines	Yes (e)	Yes (e)	Yes (e)	Under development
Republic of Korea			Yes (j)	
Singapore			Yes (n)	Yes (n)
Sri Lanka				
Taiwan/Chinese Taipei	Yes (f)			
Thailand	Yes (e)	Yes (e)	Yes (e)	Yes (e)
Timor-Leste			Yes (n)	
Viet Nam		Yes (e)	Yes (e)	Yes (e)

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The Four Elements for Transition (and the Barriers)

- UNEP identify 4 critical elements to successful transition to efficient lighting
  - Implementation of Minimum Energy Performance Standards (MEPS)
  - Establishment of a functional Monitoring, Verification and Enforcement system (MV&E)
  - Development of Environmentally Sound Management Strategies
  - Implementation of Supporting Policies
- Many barriers to establishing 4 elements unique to local circumstances
  - UNEP provides a framework to address these issues in the en.lighten toolkit and other resources
- However, some barriers are generic and it may be appropriate to tackle on a transnational basis

Test Methods and Standards of Performance: *Current Status*

- Issues with IEC
  - IEC process focussed on Manufacturers not Regulators
    - Quality of manufacture not regulation (eg sample sizes)
    - Standardised conditions – not conditions faced in Tropical areas/poor electrical supply conditions
  - Timeliness
    - IEC 60969 CFL test method revision initiated in 2006, 2013 approaching completion; Tiers of Performance proposed in 2008, 2013 consideration of Technical Specification
      - Not fast enough for effective regulation to be developed
  - Policy makers/national groups required to develop performance requirements
    - Insufficient technical skills at local level
      - Divergent performance requirements (worldwide 40+ for CFLs)
      - Unintended consequences – Australian Halogens

Test Methods and Standards of Performance: *Existing Actions and Proposals (1)*

- Existing actions:
  - Sharing information between countries and support for small number of delegates to attend IEC via *lites.asia*
  - Performance standards for LEDs being developed cooperatively by IEA 4E SSL Annex. Tropical performance criteria developed cooperatively through *lites.asia*
  - Efforts made to engage IEC at higher levels to encourage organisation wide acceptance of need for tiers of performance
  - Efforts of BRESL
- Propose:
  - Continue *lites.asia* as a regional forum of policy makers and technical specialists from region to:
    - Continue sharing of information with a view to potential harmonisation
    - Support ongoing participation in IEC by national delegates
    - Identify regionally appropriate operating conditions and performance criteria to be proposed to the IEC

Test Methods and Standards of Performance: *Existing Actions and Proposals (2)*

- *lites.asia* developing political and institutional support
  - Next step requires adoption of outputs by regional countries
    - Challenge given competing national priorities
- Opportunity provided by high level commitment in ASEAN to develop single market for good and services by 2015
  - Challenging deadline gives political motivation and commitment to action
  - Proposal to approach ASEAN Joint Sectoral Committee foe Electrical and Electronic Equipment (JSCEEE) and Energy Efficiency and Conservation Sub-Sector Network (EEC-SSN) to work with *lites.asia* to:
    - Develop and agree to regional harmonised lighting energy efficiency performance standards
    - Share information and participated in the IEC (through national delegates)
    - *Aim* for *lites.asia* community beyond ASEAN to participate

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MV&E Systems and Infrastructure: *Current Status (1)*

Country Name	CFLs								LED General Illumination Lamps						
	IEC 60969 usd for basis of National Test Method	Minimum Efficiency Performance Standard	High Efficiency Performance Standard	Comparative Labelling	Certification/ endorsement Labelling	LED Test Laboratories (total/ accredited to National Standard)	National Production Capabilities		National Test Method	Minimum Efficiency Performance	High Efficiency Performance Standard	Comparative Labelling	Certification/ endorsement Labelling	LED Test Laboratories (total/ accredited to National Standard)	National Production Capabilities
Australia	X	M				4/4									
Bangladesh	X	V		V			Yes								Yes
Bhutan															
Brunei Darussalam	X			Y*											
Cambodia		M													
China	X	M	V	M		20+/20+			X					3+/3+	Yes
DPR Korea (North)															
Hong Kong	X	M		M	V							Voluntary			
India	X	M			V	5/5	Yes		X	Yes		No (e)	No (e)	4/unknow	Yes
Indonesia	X			Y*		6/unknow	Yes		X	Yes				3/unknow	Yes
Japan		*M*		Y		5+/5+			X					5+/5+	Yes
Lao PDR															
Malaysia					V	2/2									
Mongolia															
Myanmar	X														
Nepal															
New Zealand	X	M			V								Yes (f)		
Pakistan	X	V													
Papua New Guinea															
Philippines	X	M		M		1/1									
Republic of Korea	X	M		M					X		V	V	V		
Singapore					V	1/1									
Sri Lanka		M		M		1/1								1/1*	
Taiwan/Chinese Taipei		M		M											
Thailand	X	M	V			2/2	Yes								
Timor-Leste															
Viet Nam	X	M	V	Y*	V	2/2	Yes								

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MV&E Systems and Infrastructure: *Current Status (2)*

- Specific MV&E schemes have to be unique to individual country institutional structures and cultures
  - Still significant lessons to be learned from elsewhere
  - Some infrastructure for lighting MV&E is resource intensive, particularly for testing – both to develop, maintain and evolve as new product types arrive
    - Not generally economic for commercial labs
    - Excluding China and Japan
      - 14 Labs accredited to test to national specification for CFLs
      - Less for LEDs
      - …to manage the quality of sales of over a billion lamps per year

MV&E Systems and Infrastructure: *Existing Actions and Proposals (1)*

- Number of efforts to increase the number of accredited laboratories
  - Indian effort to increase number of LED capable laboratories
  - IEA 4E SSL Annex comparative laboratory testing of LEDs
  - Number of donor support activities in individual countries (Korea?)
    - Tend to be one-off actions with no provision for ongoing viability
- No clear solution until alignment of test methods, performance standards and mutual recognition makes cross border testing possible and labs economically viable
  - ASEAN commitment does create a vision
- But immediate action required for laboratory knowledge and skills where lab development and capacity building is possible in the short term
  - Global Efficient Lighting Centre (GELC) in Beijing
    - Propose seeking funding mechanism to facilitate staff exchange, round-robin testing and technical support

MV&E Systems and Infrastructure: *Existing Actions and Proposals (2)*

- Wider MV&E capacity building
  - Information exchange
    - Ongoing *lites.asia* workshops are one of the primary forums
    - Ad hoc MV&E regional forums and meetings on other products
  - Donor assistance
    - For example, Vietnam at present
- Proposal:
  - At very least maintain on-going exchanges through *lites.asia*
  - Develop regional body that can deliver training in this area
    - Possibly as an extension of *lites.asia* and/or in cooperation with ASEAN JSCEEE/EEC-SSN

Industry Transition: *Current Status*

- National manufacturing capacity important to many countries
  - Typically a function of the drive for economic development
- Move to more efficient lighting may require
  - Transition of traditional lighting companies to newer technologies
  - Improving quality of national manufacturers
  - Grow new industry

  ….. which can be a barrier to transition
    - Concern in introducing performance requirements local industry cannot meet
    - *Not* introducing performance requirement leaves market open for poor quality, drives down price, which undermines local industry development

Industry Transition: *Proposals*

- Propose:
  - Acceptance by international community that *TIERS* of performance are necessary
    - No one size fits all, and some countries will need lower stepping stones
  - Support for technological development of industry
    - Again potentially seek funding for GELC to provide technical service provision

Donor Coordination Strategy: *Current Status and Proposals*

- Many bi-lateral and multi-lateral donors active in the region, many have supported (or are currently supporting), lighting efficiency projects
  - In all cases responding to country requests/their own selection criteria
  - However, apparently:
    - Limited collaboration between donors
    - No inter-organisation strategy
    - Leading to:
      - Good short term solutions
      - Not necessarily most appropriate for long term social and economic development of the region
- Propose:
  - Establishment of a regional donor coordination group
    - Possibly working with *lites.asia, ASEAN and/or en.lighten*
    - Deliver country appropriate solutions, but within a *regional umbrella strategy*

Discussion Questions

1. Is the *lites.asia* group still happy to submit a regional position paper to the global forum?
2. Does the paper accurately represent the current situation within your country and the region, and if not, what is incorrect/missing?
3. Are the generic barriers identified as limiting progress on efficient lighting accurate for your country and the region?
4. Are the solutions proposed appropriate or are there other better options?