## 立法會 Legislative Council

LC Paper No. CB(1)895/14-15(08)

Ref.: CB1/PL/EA

#### **Panel on Environmental Affairs**

#### Meeting on 2 June 2015

## Updated background brief on "External lighting in Hong Kong" prepared by the Legislative Council Secretariat

#### **Purpose**

This paper provides updated background information on the measures for tackling the issues arising from external lighting in Hong Kong, and gives a brief account of the major views and concerns expressed by members of the Panel on Environmental Affairs ("the Panel") and the Subcommittee on Issues Relating to Air, Noise and Light Pollution ("the Subcommittee") formed by the Panel on the subject.

#### **Background**

- 2. External lighting in Hong Kong exists in many different forms and some typical examples include signs (either internally illuminated or externally illuminated), lighting for facades and features, lighting outside buildings (including those for shops), lighting for sports fields and playgrounds, and external video structures (e.g. video walls, display panel). In recent years, there has been increased public awareness about the impact of external lighting, as reflected by the increasing number of complaints against light nuisance from advertisement signboards, decorative lightings, and spot lights on the external wall of buildings.
- 3. To address the energy wastage and light nuisance problems that may be caused by excessive external lighting, the Government issued the Guidelines on Industry Best Practices for External Lighting Installations ("the Guidelines")<sup>1</sup> on 26 January 2012 to provide a reference for the trade and relevant parties in planning external lighting projects and their daily operation.

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<sup>&</sup>lt;sup>1</sup> The Guidelines are hyperlinked in Appendix IV.

#### Task Force on External Lighting

- 4. The Government set up the Task Force on External Lighting ("the Task Force") in August 2011 to advise it on the appropriate strategy and measures for tackling nuisance and energy wastage problems caused by external lighting, having regard to international experience and practices. The membership and terms of reference of the Task Force are set out in **Appendix I**.
- 5. In August 2013, the Task Force published the "Document for Engaging Stakeholders and the Public" ("the Document") to invite comments on its proposal for lighting installations with decorative, promotional or advertising purposes that affect the outdoor environment to be switched off at a preset time in order to address the issues of light nuisance and energy wastage.
- 6. On 22 April 2015, the Task Force submitted its report to the Government and recommended it to adopt a multi-pronged approach to tackle light nuisance and energy wastage that might be caused by external lighting. Details of the recommendations are set out in **Appendix II.**

#### Recommendations of the Subcommittee in relation to light pollution

- 7. Given the public concern and the significant impact of air, noise and light pollution on public health, the Panel decided at its meeting on 26 November 2012 to appoint the Subcommittee to study issues relating to air, noise and light pollution for better protection of public health. On the light pollution front, the Subcommittee has focused its work on, inter alia, examining and reviewing the Government's initiatives to address public concern on light pollution. The Subcommittee concluded its work in early 2014, and recommended that the Administration should
  - (a) given that there has yet to be conclusive findings about the impact of light exposure on health problems, allocate more resources and enlist the assistance of the Hospital Authority for the conduct of researches into this subject to identify the health effects and the related medical cost;
  - (b) expeditiously study the practices and experience of other countries and jurisdictions in handling reflected glare from buildings and map out the way forward;
  - (c) adopt a comprehensive approach when considering applications to carry out building works for erection of supporting structures for the installation of external lights (e.g. advertisement signboards, decorative lightings, spot lights, video walls, display panel) so that lighting intensity and flashy light etc.,

which can cause light nuisances to residents nearby, will be taken into account, thereby facilitating the control of light nuisances;

- (d) expeditiously decide on the way forward for controlling light nuisance and minimize the adverse impact of external lighting on the public's daily life;
- (e) carefully work out the definition of light nuisance if statutory control on external lighting is to be introduced in future, given that different people will have different perception about what amounts to light nuisance; and
- (f) as there is no legislation on external lighting at present, proactively liaise with light owners to solicit their cooperation in minimizing the extent of nuisance caused by their lighting installations to nearby residents.
- 8. To follow up on the recommendations of the Subcommittee, the Panel held a meeting with the Administration on 17 July 2014. The Administration also provided a written response to the recommendations made by the Subcommittee. The details are set out in **Appendix III**.

#### Members' views and concerns

9. The Panel discussed issues relating to external lighting at its meetings on 28 March 2011, 24 June 2013 and 17 July 2014. The Panel received public views on the Document issued by the Task Force at its meeting on 28 October 2013. The Subcommittee also discussed measures on the control of light pollution at its meeting on 12 July 2013. The major views and concerns expressed by members of the Panel and Subcommittee are summarized in the ensuing paragraphs.

#### Light nuisance caused by advertisement signboards and reflected glare

10. Some members reiterated their grave concerns at various meetings about the nuisance caused to nearby residents and road users by reflected glare from glass curtain walls of buildings and advertisement signboards with flashy lights, and repeatedly urged the Administration to put in place effective light pollution control measures. Some other members however opined that as Hong Kong was a cosmopolitan city and the Pearl of the Orient, advertisement lighting was vital to local business and tourism. The Administration should duly consult the relevant trades and strike a proper balance between the operational needs of the

business sector and the need to minimize the adverse impact of external lighting on the public.

- 11. On the suggestion of setting a standard on the lighting intensity of advertisement signboards, members noted the Task Force's advice that currently there were not any universally adopted technical parameters to regulate the lighting intensity of advertisement signboards. When light nuisance was caused by multiple signboards, it might not be practicable to identify the contributing lighting sources and apportion the amount of light received by a receptor among these sources in a fair and objective manner.
- 12. Regarding the concern about reflection of sunlight by glass curtain walls, the Administration advised that while the Building (Construction) Regulations ("B(C)R") under the Buildings Ordinance (Cap. 123) ("BO") set out the material, design and construction requirements of glass curtain walls, there was no express provision in B(C)R to regulate the reflection of sunlight by glass curtain walls. Some members opined that the Administration should consider bringing the nuisance caused by reflected glare from glass curtain walls of buildings and excessive street lighting under regulation by BO, including a mechanism of approval for installation of external lightings so that lighting intensity and flashy light could be taken into account.

#### Statutory control on external lighting

- 13. While members supported in principle the promulgation of the Guidelines to provide a reference for the trade and relevant parties in planning external lighting projects and their daily operation at present, some members questioned the effectiveness of the Guidelines in regulating external lighting as they were not only vague and incomprehensive in the absence of standards on light intensity, but also non-enforceable without a mechanism to handle disputes. In the interim before other more effective measures were put in place, these members considered that the Administration should actively solicit co-operation from the trades to adopt the voluntary measures in the Guidelines, and closely monitor the effectiveness of those measures.
- 14. As to whether a legislative or voluntary approach should be adopted to tackle excessive external lighting, members expressed divergent views. Some members supported the introduction of legislation and suggested that the legislation and related measures might cover aspects such as the installations, intensity and duration of external lighting.
- 15. On the other hand, some other members preferred launching a charter scheme, such as one based on the best practices set out in the Guidelines, to invite owners of external lighting installations to pledge switching off the lighting installations at preset time, as a legislative approach might run the risk

of over-regulation on external lighting that might adversely affect the business environment, particularly for the small and medium enterprises.

#### **Council question**

16. At the Council meeting on 28 January 2015, Hon James TO raised a question relating to light pollution. Issues covered in the question included the number of complaints received about light pollution caused by glass curtain walls of buildings and which departments were responsible for handling such complaints. The Council question and the Administration's reply are hyperlinked in **Appendix IV**.

#### **Recent developments**

- 17. The Buildings Department ("BD") promulgated a new guideline in September 2014<sup>2</sup>, requiring that the glazed portion of the building envelope (such as curtain wall and window) of residential buildings and residents' recreational facilities should have an external reflectance (i.e. the percentage of daylight reflected from a glass surface) of not more than 20% as one of the prerequisites for the granting of gross floor area concessions for residential buildings. The new guideline has taken effect since April 2015. BD was also considering extending the application of a similar guideline to commercial buildings.
- 18. The Task Force will explain to the Panel at the meeting on 2 June 2015 the recommendations set out in its report submitted to the Government, and the Administration will brief the Panel on its response to the recommendations.

#### **Relevant papers**

19. A list of relevant papers is set out in **Appendix IV**.

Council Business Division 1
<u>Legislative Council Secretariat</u>
27 May 2015

Written reply by the Secretary for Development to a question raised by Hon James TO at the Legislative Council meeting of 28 January 2015 (http://www.info.gov.hk/gia/general/201501/28/P201501280262.htm)

## Membership of the Task Force on External Lighting ("the Task Force")<sup>3</sup> (from 1 August 2014 to 30 April 2015)

Chairman: Dr Albert CHAU Wai-lap

Members: Mr Charles Nicholas BROOKE

Mr Cary CHAN

Ir Simon CHUNG Fuk-wai Dr CHUNG Tse-ming Mr Mason HUNG Mr LAM Kin-lai Mr Edwin LAU

Mr Eric LAU Kim-wai Mr Alfred LEE Tak-kong Mr Andrew LEE Chun-lai Mr Ellis WONG Chuen Mr Rex WONG Siu-han

Mr Randy YU

Secretary: Mrs Dorothy MA, Principal Assistant Secretary (Energy),

**Environment Bureau** 

#### **Terms of Reference**<sup>4</sup>

To enhance public awareness of and address concerns over external lighting, the Task Force is to advise the Government on –

- (a) the direction and focus of publicity and public education;
- (b) the technical standards and related supplementary parameters for external lighting levels that should be developed for Hong Kong to suit local circumstances; and
- (c) the appropriate strategy and measures for tackling nuisance and energy wastage problems caused by external lighting.

<sup>&</sup>lt;sup>3</sup> See the Environment Bureau's website <a href="http://www.enb.gov.hk/en/boards\_committees/external\_lighting/">http://www.enb.gov.hk/en/boards\_committees/external\_lighting/</a>

<sup>&</sup>lt;sup>4</sup> See Annex A to LC Paper No. <u>CB(1)1332/12-13(03)</u>

## Recommendations made by the Task Force on External Lighting ("the Task Force")

The Task Force recommends the Government adopt a multi-pronged approach which comprises the following package of administrative measures –

- (a) introducing a voluntary charter scheme to implement the requirement to switch off lighting installations of decorative, promotional or advertising purposes that affect the outdoor environment at a preset time. The charter scheme should be implemented as soon as possible, preferably no later than six months after the Government's acceptance of the recommendations of the Task Force;
- (b) re-launching the Guidelines on Industry Best Practices for External Lighting Installations ("the Guidelines") issued by the Government in 2012 to promote good practices on the design, installation and operation of external lighting installations for reference by property developers, architects, engineers, lighting designers, contractors, owners and users;
- (c) organizing award schemes to acknowledge owners and management of external lighting installations which sign up to the charter and adopt the good practices set out in the Guidelines;
- (d) launching public education and publicity campaign programmes to raise public awareness of problems associated with external lighting;
- (e) monitoring the impact of the administrative measures by conducting a survey two years after the implementation of the charter scheme and commencing preparatory work to pave the way for legislation in the event that the review after the implementation of the charter scheme indicates strong justifications for statutory control of external lighting installations; and
- (f) submitting regular reports to the Advisory Council on the Environment on the implementation of the administrative measures, and continuing to take positive actions to handle complaints against external lighting.

Source: See press release <a href="http://www.info.gov.hk/gia/general/201504/22/P201504220482.htm">http://www.info.gov.hk/gia/general/201504/22/P201504220482.htm</a>

# The Administration's response towards the recommendations of the Subcommittee on Issues Relating to Air, Noise and Light Pollution ("the Subcommittee") relating to issues on light pollution

	Recommendations of the Subcommittee	Response from the Administration
(a)	In respect of impacts of light pollution on public health and the  (a) given that there has yet to be conclusive findings about the impact of light exposure on health problems, allocate more resources and enlist the assistance of the Hospital Authority for the conduct of researches into this subject to identify the health effects and the related medical cost.	The Government set up the Task Force in August 2011 to advise it on the appropriate strategies and measures for tackling light nuisance and energy wastage caused by external lighting, having regard to international experiences and practices. Members are drawn from different professional bodies, relevant trades and green groups with the support from the relevant Government departments. As far as health impact is concerned, the Task Force has been relying on –  • the findings of a comprehensive consultancy study commissioned by the Government and uploaded onto our website in March 2011. The studies cover quite a wide range of issues, including the impacts of external lighting on human health. Details can be found from the following link: <a href="www.enb.gov.hk/en/resources">www.enb.gov.hk/en/resources</a> publications/consultancy studie s/index.html; and • advice from the Department of Health when necessary.  There is so far no conclusive scientific evidence from international health authorities showing a direct relationship between excessive external light and health problems in humans. The possible health effects, if any, such as sleep problem caused by light pollution are non-specific and often multi-factorial, which may or may not be

	Recommendations of the Subcommittee	Response from the Administration
		related to light pollution. As such, the value of conducting extensive local research on health care cost attributable to light pollution is uncertain. Nevertheless, we will monitor the development of the scientific research in this area as well as findings and new evidence generated by relevant authorities, and consider conducting risk assessments as and when appropriate.
<u>I</u>	n respect of light pollution control and the associated public	<u>expenditure</u>
	b) expeditiously study the practices and experience of other countries and jurisdictions in handling reflected glare from buildings and map out the way forward; and c) adopt a comprehensive approach when considering applications to carry out building works for erection of supporting structures for the installation of external lights (e.g. advertisement signboards, decorative lightings, spot lights, video walls, display panel) so that lighting intensity and flashy light etc., which can cause light nuisances to residents nearby, will be taken into account, thereby facilitating the control of light nuisances.	The Buildings Department ("BD") will continue to study the practices and experience of other countries and jurisdictions in handling reflected glare from buildings and consider whether and how best those practices could be adopted in Hong Kong taking into account the circumstances of the built environment and the building control regime in the local context.  BD takes into account the building and structural safety of those building works pursuant to the Buildings Ordinance (Cap. 123) ("the BO") when considering applications to carry out building works for erection of supporting structures for the installation of external lightings. Matters relating to light nuisance caused by the external lighting installed on supporting structures, which are not building works, are not relevant in the context of the BO. Nevertheless, under the centralized processing system for building plans, BD will refer building plan submissions to relevant departments for comment on matters under their respective purview to ensure compliance with the relevant law and regulations.

	Recommendations of the Subcommittee	Response from the Administration
(d) - (f)	<ul> <li>(d) expeditiously decide on the way forward for controlling light nuisance and minimize the adverse impact of external lighting on the public's daily life;</li> <li>(e) carefully work out the definition of light nuisance if statutory control on external lighting is to be introduced in future, given that different people will have different perception about what amounts to light nuisance; and</li> </ul>	The Task Force has studied the technical standards and parameters as well as implementation approaches adopted by overseas regulatory regimes and concluded that the requirement to switch off external lighting after a preset time will be the most tenable option. It should to a large extent mitigate the possible light nuisance problems and minimize energy wastage, and will unlikely affect the normal business operations if the preset time can tie in with their operational need.
	(f) as there is no legislation on external lighting at present, proactively liaise with light owners to solicit their cooperation in minimizing the extent of nuisance caused by their lighting installations to nearby residents.	The Task Force published on 19 August 2013 the Document for Engaging Stakeholders and the Public to invite comments from the public and stakeholders on the Task Force's findings and the proposed switch-off requirement and its preset time, scope and implementation approach. In respect of implementation approach, the Task Force invited the public to consider various options, including the introduction of a charter scheme to invite owners of external lighting to pledge to switch off the lighting at the preset time, and the implementation of the switch-off requirement by way of legislation. The engagement exercise was closed on 18 November 2013. The Task Force is carefully considering and analyzing the comments received before drawing up recommendations for the Government's consideration.  We are mindful of the need to carefully work out the definition of light nuisance if statutory control on external lighting is to be introduced, and will take the Subcommittee's views into account when mapping out the way forward.
		The Government issued the "Guidelines on Industry Best Practices for External Lighting Installations" ("the Guidelines") in

Recommendations of the Subcommittee	Response from the Administration
	January 2012 to encourage owners of external lighting installations to take early action to minimize light nuisance and energy wastage that may be caused by external lighting. The Guidelines set out some best practices in external lighting installations, including operating hours for lighting and automatic controls for lighting, light pollution control measures and energy efficiency measures, etc. With the promulgation of the Guidelines, the Environmental Protection Department has been handling light nuisance complaints by advising the owners of the external lighting installations to consider taking appropriate improvement measures with reference to the Guidelines. Most of the building / lighting owners would draw reference from the Guidelines on ways to minimize the extent of light nuisance in response to complaints.  In addition to implementing the Guidelines, we note that the Task Force has proposed in its Engagement Document the implementation of a charter scheme with pledges made by owners to switch off external lighting at the preset time. The Task Force will formulate its recommendations for the Government's consideration.

Source: See Annex C to LC Paper No.  $\underline{CB(1)1785/13-14(05)}$ 

## **External lighting in Hong Kong**

### List of relevant papers

Council/ Committee	Date of meeting	Paper
Panel on Environmental Affairs	28 March 2011	Administration's paper on "External Lighting in Hong Kong" (LC Paper No. <u>CB(1)1673/10-11(03)</u> )
Arrairs		Paper on supplementary information on the regulation of outdoor lighting in selected places prepared by the Legislative Council Secretariat (Fact sheet) (LC Paper No. FS16/10-11)
		Referral arising from the meeting between Legislative Council Members and Wan Chai District Council members on 13 January 2011 regarding the noise and light nuisances generated by outdoor video walls (Chinese version only) (Restricted to Members) (LC Paper No. CB(1)1708/10-11(02))
		Administration's paper on "External Lighting of The ONE and Hopewell Centre" (LC Paper No. <u>CB(1)1719/10-11(01)</u> )
		Minutes of meeting (LC Paper No. CB(1)2191/10-11)
Panel on Environmental Affairs	24 June 2013	Administration's paper on "External Lighting in Hong Kong" (LC Paper No. <u>CB(1)1332/12-13(03)</u> )
Tittans		Background brief on "External lighting in Hong Kong" prepared by the Legislative Council Secretariat (LC Paper No. CB(1)1332/12-13(04))
		Minutes of meeting (LC Paper No. <u>CB(1)1807/12-13</u> )

Council/ Committee	Date of meeting	Paper
Subcommittee on Issues Relating to Air, Noise and Light Pollution	12 July 2013	Administration's paper on "Current legislation and administrative measures on the control of light pollution and associated public expenditure" (LC Paper No. CB(1)1472/12-13(01))  Administration's follow-up paper to the meeting (LC Paper No. CB(1)1640/12-13(02))  Minutes of meeting (LC Paper No. CB(1)246/13-14)
Panel on Environmental Affairs	28 October 2013	Document for Engaging Stakeholders and the Public issued by the Task Force on External Lighting (LC Paper No. CB(1)40/13-14(01))  Administration's paper on "Task Force on External Lighting Engagement of Stakeholders and the Public" (LC Paper No. CB(1)107/13-14(05))  Updated background brief on "External lighting in Hong Kong" prepared by the Legislative Council Secretariat (LC Paper No. CB(1)107/13-14(06))  Minutes of meeting (LC Paper No. CB(1)499/13-14)
Subcommittee on Issues Relating to Air, Noise and Light Pollution	*27 February 2014	Report of the Subcommittee on Issues Relating to Air, Noise and Light Pollution to the Panel on Environmental Affairs (LC Paper No. CB(1)1003/13-14(01))
Panel on Environmental Affairs	17 July 2014	Administration's paper on "Administration's response to the Report of the Subcommittee on Issues Relating to Air, Noise and Light Pollution" (LC Paper No. CB(1)1785/13-14(05))  Minutes of special meeting (LC Paper No. CB(1)179/14-15)

<sup>\*</sup>Issuance date

### **Hyperlink to relevant Council Question:**

Date	Council Question
28 January 2015	Council question raised by Hon James TO <a href="http://www.info.gov.hk/gia/general/201501/28/P201501280262.htm">http://www.info.gov.hk/gia/general/201501/28/P201501280262.htm</a>

### Hyperlinks to relevant documents:

Government bureau/department	Document	
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Environment Bureau	Guidelines on Industry Best Practices for External Lighting Installations issued on 26 January 2012 <a href="http://www.enb.gov.hk/en/resources_publications/guidelines/files/guidelines_ex_lighting_install_eng.pdf">http://www.enb.gov.hk/en/resources_publications/guidelines/files/guidelines_ex_lighting_install_eng.pdf</a>	
Task Force on	Document for Engaging Stakeholders and the Public issued in	
External Lighting	August 2013	
(set up by the	(LC Paper No. <u>CB(1)40/13-14(01)</u> )	
Environment Bureau)	Report of the Task Force on External Lighting issued in April 2015 <a href="http://www.enb.gov.hk/sites/default/files/en/node3521/TFEL_Report_Eng.pdf">http://www.enb.gov.hk/sites/default/files/en/node3521/TFEL_Report_Eng.pdf</a>	