

External Lighting in HK

香港的戶外燈光裝置

Scope of Consultancy Studies

顧問研究範圍

- Experience of metropolises similar to Hong Kong in handling external lighting

與香港情況相近的城市處理戶外燈光裝置問題的經驗

Scope of Consultancy Studies

顧問研究範圍

- Survey on views of relevant stakeholders

相關持份者的意見調查

- Survey on the external lighting impacts in various representative areas in Hong Kong

本港各類具代表性地區使用戶外燈光裝置的情況

Experience of Other Metropolises

各地城市的經驗

Other Metropolises' Experience

各地城市經驗

- 8 metropolises 八個城市
 - Tokyo 東京
 - Singapore 新加坡
 - Shanghai 上海
 - Sydney 悉尼
 - New York City 紐約
 - Los Angeles 洛杉磯
 - London 倫敦
 - Frankfurt 法蘭克福

Other Metropolises' Experience

各地城市經驗

- The cities vary widely in their regulatory approaches and scope of coverage .
各個城市處理有關問題的手法及範疇有相當大的差別 。
- Among the cities surveyed, none has in place full-blown mandatory regulation for external lighting both as a light nuisance and energy efficiency. Where regulation with limited scope is in place, some cities further restrict the applicability of their regulatory framework to new lighting installations only, i.e. excluding the stock of existing installations.
調查的城市中，並無城市就戶外燈光的光滋擾及能源效益兩方面訂立全面的強制性管制措施。部份城市有立法局部處理戶外燈光問題，但其中部份法例只規管新的燈光裝置，而無規管現存的戶外燈光。

Other Metropolises' Experience

各地城市經驗

Metropolis 城市	Against energy wastage 針對能源浪費		Against light nuisance 針對光滋擾	
	Applicable to new installations 適用於新裝置	Applicable to existing installations 適用於現有裝置	Applicable to new installations 適用於新裝置	Applicable to existing installations 適用於現有裝置
Tokyo 東京	No 無	No 無	No 無	No 無
Singapore 新加坡	No 無	No 無	No 無	No 無
Sydney 悉尼	No 無	No 無	Yes 有	No 無
London 倫敦	No 無	No 無	Yes 有	
Frankfurt 法蘭克福	No 無	No 無	Yes 有	
Shanghai 上海	No 無	No 無	Yes 有	
New York City 紐約	Yes 有	No 無	No 無	No 無
Los Angeles 洛杉磯	Yes 有	No 無	No 無	No 無

Other Metropolises' Experience

各地城市經驗

- Tokyo and Singapore: no mandatory regulation over the management of external lighting
東京及新加坡:無就管理戶外燈光採取任何強制性措施
- London, Frankfurt, Shanghai and Sydney: legislation or mandatory requirement to regulate light nuisance caused by external lighting and empower authorities to order abatement
倫敦、法蘭克福、上海及悉尼: 就規管戶外燈光引致光滋擾設有法例或強制性要求，並賦權執行部門下令執行改善措施

Other Metropolises' Experience

各地城市經驗

- New York and Los Angeles: legislation to prevent energy wastage of lighting installations
紐約及洛杉磯: 有訂立法例防止燈光裝置引起的能源浪費
- The mandatory regulations in London, Frankfurt and Shanghai cover both existing and new lighting installations.
倫敦、法蘭克福及上海的強制規定涵蓋現存及新的戶外燈光裝置。
- Sydney's regulations apply only to new installations.
悉尼的規定只涵蓋新燈光裝置。

Other Metropolises' Experience

各地城市經驗

- New York and Los Angeles regulate on energy wastage but apply only to new installations.

紐約及洛杉磯有規管能源浪費但只涵蓋新的燈光裝置。

- For all cities which have implemented mandatory or voluntary guidelines, a lighting environmental zoning system is in place or has been proposed to divide different lighting environment for different levels of commercial or residential activities to control outdoor lighting.

所有已實施強制或自願性指引的城市，都有涵蓋或建議照明環境區域系統。這系統根據不同的商業或住宅活動水平，劃定不同的照明環境，以便為管制戶外燈光訂立不同水平。

Survey on Public Opinion

民意調查

Methodology 方法

- Conduct survey of target respondents
向目標回應者進行訪問
- Total number of respondents enumerated – around 2 700
回應者的總數 – 約2 700人

Methodology 方法

- Different sectors of target respondents – 不同界別的目標回應者
 - residents 居民
 - customers 顧客
 - tourists 遊客
 - shop owners, building owners, property management and relevant trade association 店主、顧客、樓宇業主、物業管理界、相關的商會
 - light sensitive receivers 易受燈光影響的人
 - interest groups and professional institutions 關注團體及專業機構
 - others 其他

General Perception of External Lighting 對戶外燈光的一般觀感

- Respondents have mixed feelings and opinions towards external lighting in Hong Kong
回應者對本港戶外燈光裝置有不同感受及意見
- More than 70% of respondents had the impression that there was “light pollution” in Hong Kong
超過70% 回應者認為本港有“光污染”問題

General Perception of External Lighting 對戶外燈光的一般觀感

- About 40% of residents in the “light sensitive receivers” group considered that external lighting had adversely affected their daily life, work or health
屬“易受燈光影響的人”組別的居民，約40% 認為戶外燈光裝置對他們的日常生活、工作或健康有不良影響
- However, less than 10% of residents in general had the same opinion
不過，持相同意見的一般居民少於10%

General Perception of External Lighting 對戶外燈光的一般觀感

- A large proportion of respondents acknowledged the benefits of external lighting.

大部分回應者認同戶外燈光裝置帶來好處

- About 78% of “residents in general” considered that external lighting installations helped beautify the environment, boost Hong Kong’s image as a “dynamic metropolis” and promote tourism.

約78% 的一般居民認為戶外燈光有助美化環境、提升本港“動感之都”的形象及促進旅遊業

General Perception of External Lighting 對戶外燈光的一般觀感

- About 87% of “residents in general” considered that external lighting helped provide safe environment and reduce crime.

約87% 的一般居民認為戶外燈光裝置有助提供安全環境，減少罪案。

Research on External Lighting in Hong Kong

香港戶外燈光裝置研究

Six surveyed areas

六個選定區域

選定區域	特性
觀塘順利邨	市區住宅區
中環德輔道中／遮打道	商業區
銅鑼灣百德新街／記利佐治街	商住區
旺角彌敦道／西洋菜南街	商住區
將軍澳欣景路／佳景路	新市鎮區
西貢清水灣郊野公園及附近鄉村、大坑口和大環頭	郊區

Six surveyed areas

六個選定區域

Surveyed area	Nature
Shun Lee Estate (Kwun Tong)	Urban Residential Area
Des Voeux Road Central/ Chater Road (Central)	Commercial Area
Paterson Street / Great George Street (Causeway Bay)	Commercial-cum-residential Area
Nathan Road/ Sai Yeung Choi Street South (Mongkok)	Commercial-cum-residential Area
Yan King Road / Kai King Road (Po Lam, Tseung Kwan O)	New Town Area
Clear Water Bay Country Park with nearby villages, Tai Hang Hau and Tai Wan Tau (Sai Kung)	Rural Area

Methods of Assessment

評估方法

- To measure and assess certain technical parameters of external lighting in selected areas
量度及評估選定區域戶外燈光的技術參數
- These parameters include light trespass to residents, glare effect, sign and building façade luminance

研究採用的技術參數，包括光入侵、眩光程度，以及招牌／樓宇外牆的亮度

Methods of Assessment

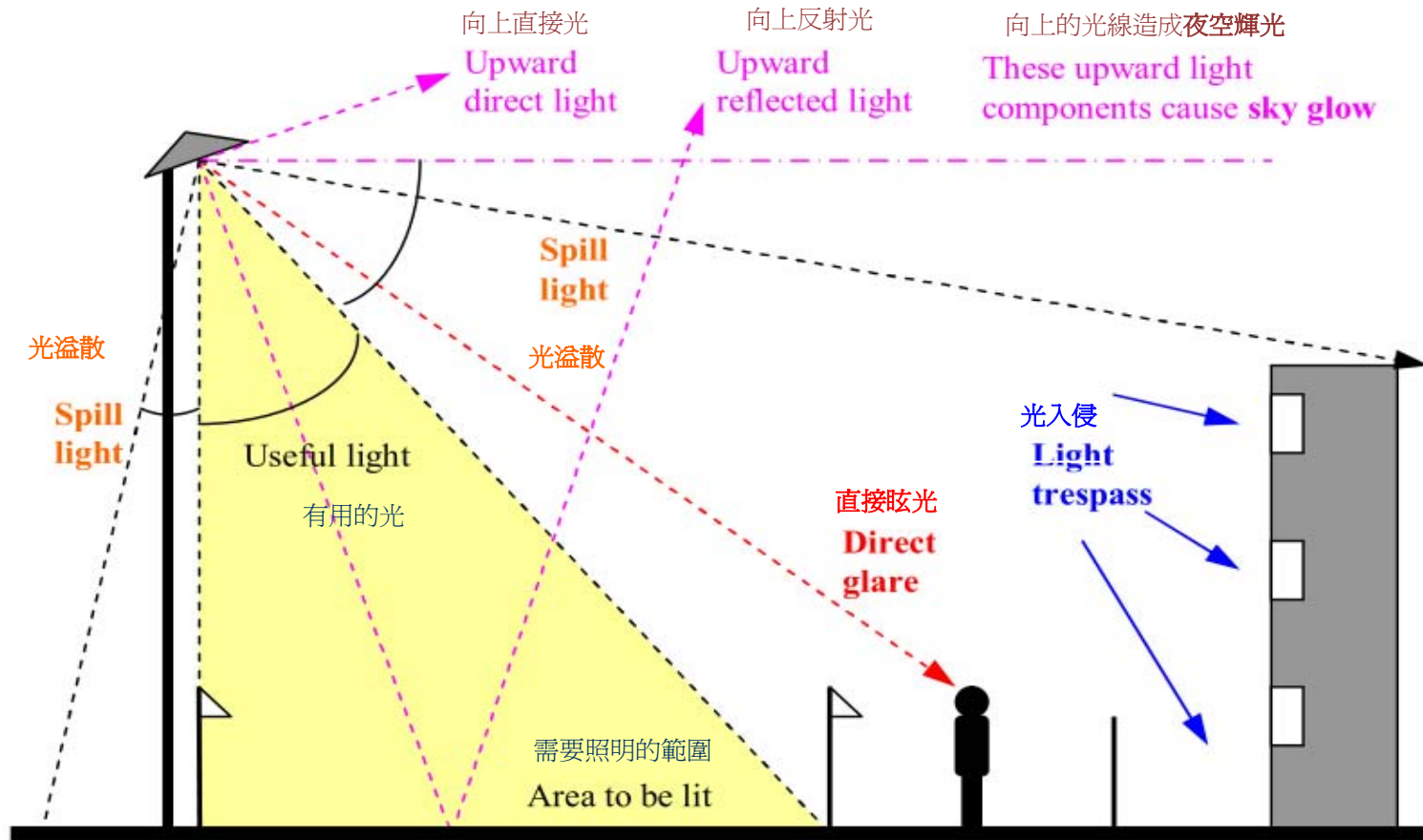
評估方法

- Measurements obtained compared with limits on lighting impacts recommended by International Commission on Illumination (CIE) for reason of convenience and in the absence of any local standards

量度數據與國際照明委員會建議的燈光影響限值作比較。採用國際照明委員會的指引，因為便於比較，而且方便可用，香港本身並沒有訂定標準

Illustration of Impacts of external lightings

戶外燈光裝置的影響的圖解



Assessment of impacts on external lighting

戶外燈光影響評估

- The study finds that light nuisance is a **“localized”** problem

研究發現，光滋擾屬於“地區性”問題

- Problem mainly occurs in commercial-cum-residential areas like Mongkok and Causeway Bay
主要出現在旺角及銅鑼灣等商住地區

Assessment of impacts on external lighting

戶外燈光影響評估

- The assessed values on glare, sign luminance and building façade luminance were all within limits in the surveyed areas except Mongkok

除旺角外，所有調查地區的平均評估眩光程度、招牌亮度及樓宇外牆亮度，均未超出建議限值

Assessment of impacts on external lighting

戶外燈光影響評估

- The light trespass levels before the pre-set times (e.g. 11p.m. or midnight) on the vast majority of flats were found to be within recommended limits except Mongkok and Causeway Bay

除旺角及銅鑼灣外，所有調查地區的大部分住宅在預調時間(如晚上11時或午夜)前所受的光入侵程度沒有超出建議限值

- With more stringent limits adopted after the pre-set times, the proportion of flats affected by light trespasses with values exceeding recommended limits was found to increase substantially after the preset times

當預調時間過後，由於採取更嚴格的限值，所受光入侵程度超出建議限值的住宅比例大增

Assessment of impacts on external lighting

戶外燈光影響評估

- The ambient light level in Hong Kong at night is relatively high as many lighting installations have not been switched off after normal operation hours.

由於許多燈光裝置在正常操作時間後沒有關掉，香港夜間的環境光度相對較高。

- The assessed luminance of illuminated signs was found to be spreading over a wide range, indicating that there might be individual cases where the signs might be too bright.

調查發現發光招牌的評估亮度，幅度差距甚大，顯示個別招牌有可能太光。



Proposed Way Forward

建議路向

主要考慮 Major Considerations

- We need to respond to the growing public awareness toward the impact of external lighting.

我們需要回應市民對戶外燈光影響日漸上升的關注。

- In other metropolises, regulatory regime are underpinned by a set of reference standards/technical guidelines (on light nuisance or energy efficiency) for owners or operators of lighting installations to follow. The relevant technical guidelines are essential to the effective implementation of the regulation.

各已實施規管制度的城市之間的共通點，是具備一套的參考標準/技術指引（有關光滋擾或能源效益），供燈光裝置擁有人或管理者跟從。有關的技術指引對規管制度的有效實施，至為關鍵。

主要考慮 Major Considerations

- On public opinion, our survey finds that while the majority (over 70%) of respondents considered that there was “light pollution”, many also considered external lighting helped beautify the city (78%) and contributed to the safe environment (87%) of Hong Kong.

在公眾意見方面，我們的調查發現大部份(超過70%)回應者認為本港有“光污染”問題，但很多回應者亦認為戶外燈光有助美化環境(78%)，並有助提供安全環境(87%)。

- It is important to ensure the enforceability of the regulatory approach, particularly in designing the standards

特別在訂立規管的標準時，我們需確保規管的方法可具體落實執行。

Proposed Way Forward

建議路向

- In the short run, voluntary measures will be taken, with the introduction of Guidelines on Industry Best Practices for External Lighting Installation

在短期內，我們建議採用自願性措施，推出《戶外燈光裝置業界良好作業指引》

Draft Guidelines

指引擬稿

- Guidelines are drawn up with a view to facilitating discussion between the interest parties on the subject, including management of commercial properties, relevant industries including advertising, lighting installations, tourism, retails etc, residents' groups, District Councils, green groups and other concerned groups.

擬訂《指引》的目的，是方便關注議題的各方(包括商業樓宇的管理公司；廣告、燈光裝置、旅遊、零售等相關行業；居民組織；區議會；環保組織及其他關注團體)進行討論。

- These guidelines cover major areas of operating hours of external lighting, automatic controls, light pollution control measures, energy efficiency measures, lighting design, and avoidance of glare to road users.

《指引》涵蓋的主要範疇包括戶外燈光裝置的操作時段、燈光裝置的自動控制、光污染控制措施、能源效益措施、燈光裝置設計，以及預防眩光影響道路使用者。

Draft Guidelines

指引擬稿

- We have written to all stakeholders and invite their comments in the next three months before the draft guidelines are finalized for promulgation

我們已去信所有持份者，請他們在未來三個月就《指引》擬稿提出意見，然後才定稿及公布

- We shall continue to assess the effectiveness of the Guidelines

我們需繼續評估《指引》的成效

Proposed Way Forward

建議路向

- We would not rule out statutory control on external lighting
我們不排除就戶外燈光進行立法規管
- We shall forge community consensus on the agreed technical standards and control limits for various parameters in measuring light pollution or energy wastage
我們須就量度戶外燈光裝置引起的光污染及能源浪費，所訂定的技術標準及控制限值的不同參數，尋求社會共識
- We also need to address the potential challenge presented by the unique urban landscape of Hong Kong if we are to take the path of statutory control. The definition and establishment of the claim of light nuisance, for instance, would need to be carefully worked
如採用立法途徑作出規管，我們需處理香港市區獨特環境所帶來的挑戰。例如，我們須細心考慮如何界定和確立光滋擾的問題。

Task Force on External Lighting

戶外燈光專責小組

- We propose to set up a task force
我們建議成立專責小組
 - to step up publicity and public education in the area of external lighting
以加強有關戶外燈光裝置的宣傳及公眾教育
 - to advise on the development of technical standards and related supplementary parameters specific to local circumstances
就制訂適合本港情況的技術標準及有關補充參數提供意見
 - to advise on the way forward to tackle nuisance and energy wastage
就解決戶外燈光裝置造成的滋擾及能源浪費問題的未來路向，提供意見

Task Force on External Lighting

戶外燈光專責小組

- The task force will provide an appropriate forum for stakeholders and relevant trades to
專責小組提供適當場合，讓持份者及相關業界
 - forge stronger community consensus for tackling the external lighting problem;
凝聚更大社會共識，解決戶外燈光造成的問題
 - develop technical standards and related supplementary parameters on appropriate lighting levels acceptable to local circumstances ; and
因應本地可接受的適當照明度，制訂技術標準及有關補充參數
 - to address potential enforcement problems.
處理可能出現的實施問題

Task Force on External Lighting

戶外燈光專責小組

- The Task Force will be chaired by an independent non official
我們建議由非官方人士擔任主席
- Members drawn from professional bodies, green groups, relevant business sector and industries, residents' groups and concerned government departments ,
成員包括專業團體、環保組織、相關的商界及行業、居民組織及相關政府部門

Government to take the Lead

政府以身作則

- Relevant departments have been reviewing their guidelines on external lighting regularly to prevent any nuisance to the public caused by their external lighting

相關政府部門已不時檢討戶外燈光裝置的指引，以免其戶外燈光裝置對市民造成滋擾

- As a general rule, external lightings managed by Government departments for decorative and promotional purposes are now largely switched off by 11pm, except for those which have to be maintained for operational or security reasons or those under commercial advertising contract.

一般來說，由政府部門管理作裝飾及宣傳用的戶外燈光裝置，目前大多在晚上十一時或之前關掉，因操作或保安理由，或因商業廣告合約須繼續使用的燈光裝置除外。

Government to take the lead

政府以身作則

- For those which have to be maintained under commercial advertising contract, upon expiry of the existing contracts, the departments concerned will implement the initiative of switching off of decorative and promotional external lighting by 11 pm

因商業廣告合約須繼續使用的燈光裝置，在現有合約屆滿後，有關部門會落實在晚上十一時或之前關掉作裝飾及宣傳用的戶外燈光

- Individual departments would make appropriate measures to avoid their external lighting causing nuisance to nearby residents

各部門會採取適當措施，避免戶外燈光裝置對附近居民造成滋擾

Public Education

公眾教育

- A broad-based public support is crucial to the success of any voluntary or mandatory regulatory framework

自願性或強制性規管架構能否成功推行，有賴廣泛的公眾支持

- We support environmental protection initiatives from the community through various means

我們支持民間各項推動環保的工作

Implementation

實施

- We plan to set up the task force in the second quarter of 2011 and work in collaboration with different stakeholder groups and relevant trades.
我們計劃在二零一一年第二季成立專責小組，並與不同持份團體及行業合作
- We expect the task force to complete its work in early 2012.
我們預期專責小組在二零一二年年初完成有關工作

Thank you

多謝