

**For discussion
on 18 December 2012**

**Legislative Council
Panel on Environmental Affairs**

**Restriction of Sale of Energy-inefficient Incandescent Light Bulbs
Outcome of Public Consultation and Way Forward**

Introduction

This paper informs Members of the outcome of the public consultation on the proposal to restrict the sale of energy-inefficient incandescent light bulbs (ILB) and invites Members' views on the proposed way forward. It also sets out Government's efforts in promoting the collection and treatment of spent Compact Fluorescent Lamps (CFL) as well as in promoting the development and application of Light Emitting Diode (LED).

Background

2. In the past decade, lighting on average accounted for around 15% of total electricity consumption in Hong Kong. ILB is energy-inefficient as 90% of the electricity consumed is used for heating whereas only 10% is used for lighting. Considering that there is adequate supply of more energy-efficient replacement options, the Government proposed to restrict the supply of energy-inefficient non-reflector type ILB by phases through legislation in order to speed up the phasing-out process. The initial phase of the proposed restriction would cover 25 watt(W) or above non-reflector type ILB, which operates at a single phase electricity supply of 220 volts(V), including general lighting service lamps, candle shape, fancy round and other decorative lamps, but excluding tungsten halogen lamps.

3. A three-month public consultation was launched in August 2011 to invite public's views on whether Hong Kong should restrict the supply of energy-inefficient ILB by mandatory scheme, voluntary measures or leaving it to market forces. Views were also solicited on the types of ILB that should be restricted if a mandatory scheme was to be introduced, and whether a minimum energy performance standard (MEPS) should be

adopted in phasing out ILB. During the public consultation, briefings and meetings were held with the trade, business chambers, and advisory committees on the proposal.

Outcome of the Public Consultation

4. A total of 310 written submissions were received, including 195 submissions from individuals, 87 from individual companies and 28 from institutional bodies, including advisory committees, trade associations and business chambers, professional bodies and academia, green groups and political parties.

5. There were divergent views on the key issue of whether a legislative approach should be adopted to phase out ILB. Overall, 31.6% of the responses supported a mandatory approach, 29.1% preferred leaving it to market forces, and 19.7% supported voluntary measures. Details are at **Annex**.

6. Among those who expressed their views on the scope of coverage (120), around 33% agreed on the scope proposed, 31% suggested extending it to cover other ILB including halogen lamps or reflector lamps, while the remaining 36% suggested different wattage ranges and other types of lamps. Among those who expressed views on the MEPS approach (191), 61.3% supported and 37.7% opposed it.

7. Those who supported a mandatory approach to phase out ILB considered that the proposal would help reduce greenhouse gas emissions. Some opined that the proposal was economically justified, while some respondents reckoned that there was adequate supply of replacement lamps in the market, that the public had already been well informed of the benefits of replacement lamps such as CFL and LED, and that market forces alone would not be effective enough to drive behaviour change. For those who supported leaving it to market forces or voluntary measures, some were concerned about the performance and availability of replacement lamps, affordability of low-income groups and proper disposal of CFL, while some stressed the importance of freedom of choice, suggesting that mandatory restriction should apply only to harmful substances, e.g. drugs.

Proposed Way Forward

8. The consultation showed that there is **no** majority support for taking a mandatory approach at this stage. In fact, the number of respondents opting for mandatory approach was less than the combined numbers of those preferring voluntary measures or market forces, or both. However, considering that that ILB is highly energy-inefficient, that there are already sufficient replacement options and that there is a strong economic case for using more energy-efficient lamps (a household of four estimated to be able to save up to \$440 in electricity bill each year by using CFL instead of ILB), we propose adopting a dual-pronged approach in expediting the phasing out process to reap the environmental benefits as quickly as possible, instead of just leaving it to market forces. We will closely monitor the effectiveness of this approach, which can achieve the objective in a shorter period of time, and will not rule out legislation in case it is not as effective as anticipated in phasing out ILB.

(a) Charter Scheme

9. On the supply side, we propose to launch a Charter Scheme with suppliers and retailers to reduce the supply of ILB. Under this proposed scheme, participating suppliers and retailers would be asked to sign a charter to stop replenishing stock of targeted ILB from the first quarter of 2013, and stop selling the targeted ILB by the end of 2013. Participants will be asked to submit sales data to the Government for monitoring purpose on a quarterly basis, and the relevant data will be uploaded to a dedicated website. As with our proposal in the public consultation exercise, the Charter Scheme will start with those ILB with readily available replacement options.

(b) Publicity

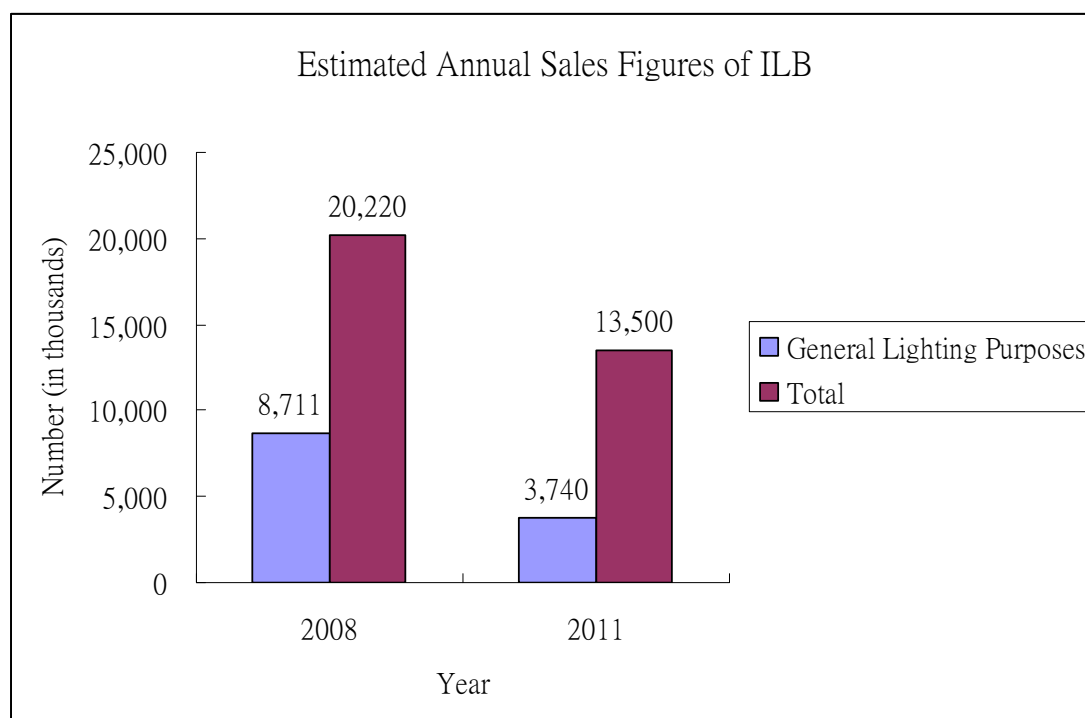
10. On the demand side, we will step up our publicity efforts to educate the public and major lamp users on the benefits of using more energy efficient lamps, which will not only help save energy and reduce carbon dioxide emissions, but also cut down electricity bill. We would also publicise technical information to facilitate the community, including the low-income group, to switch to energy efficient lighting products, and will collaborate with the trade and NGOs for this cause. In this regard, a launching ceremony on the Charter Scheme will be held to publicise the Scheme and promote general awareness of the phasing out of ILB. We also plan to publicise the message through TV and radio APIs, and distribution

of posters and publicity materials.

Justifications

11. As compared to the legislative approach, the proposed Charter Scheme would help achieve the objective of phasing out ILB within a much shorter period of time. We previously estimated that a legislative approach would likely take three years to complete, including the need to provide a grace period of about 1 year for the trade. On the other hand, a Charter Scheme would be implemented in a much shorter timeframe, say by the first quarter of 2013.

12. In considering the way forward, we have also taken into account the significant shrinkage of ILB market in recent years. According to a market study conducted in end 2011 and early 2012, the total annual sale of ILB has dropped from some 20 million in 2008 to 13.5 million in 2011, representing a drop of some 33%. In particular, sale of lamps for general lighting purposes (a targeted ILB for phasing-out) has dropped by some 60% during the same period (see chart below).



The natural shrinkage of the ILB market has cast doubt on the need for legislation, which may take a relatively long lead time for implementation.

13. We also consider that the proposed Charter Scheme could help demonstrate the effectiveness of public-private cooperation in promoting energy efficiency. In this regard, we have approached suppliers, retailers and trade associations of electrical lamps. The response so far is positive and many suppliers have already agreed to join the proposed Charter Scheme.

14. The proposed Charter Scheme also offers the additional benefit of flexibility in terms of its scope of coverage. In this regard, a review will be conducted in end 2013 with a view to further expanding the scheme to cover other products having regard to the availability of substitutes and other relevant factors.

Collection and Treatment of CFL and straight-tube fluorescent lamps (SFL)

Collection of Spent CFL and SFL

15. During the consultation exercise, there were suggestions that the Government should step up its efforts in ensuring proper treatment and disposal of spent CFL. While the amount of mercury contained in a CFL is tiny and well within international safety limits, care should still be taken during the collection and disposal of spent CFL.

16. To facilitate proper disposal of spent CFL generated from households, and with the support of the Environmental Protection Department (EPD), the lighting industry launched in 2008 the Fluorescent Lamp Recycling Programme (FLRP) to provide free collection and disposal service for spent CFL, straight-tube fluorescent lamps (SFL) and high intensity discharge lamps (HIDL). The Government has been actively promoting the FLRP through various promotional activities and materials, e.g. organising recycling campaigns, promulgation of posters and promotional videos, provision of recycling boxes, etc. To further promote the awareness of the programme, a large-scale publicity project would be launched in January 2013, which would feature advertisements at local media and a video competition for secondary students.

17. As of November 2012, there are over 1,070 housing estates in Hong Kong participating in the FLRP, representing a coverage of about 60% of the Hong Kong population. There are also over 180 public collection points in major houseware chain stores, various retail outlets and

shopping malls, supplemented by the Mobile Waste Electrical and Electronic (WEEE) Collection Centre, which serves areas where dedicated collection points cannot be identified. The quantity of CFL, SFL and HIDL recovered under the FLRP has been increasing from 164,000 items in 2008 to 470,000 items in 2011. Since the launch of the FLRP, around 1,150,000 pieces of CFL and 550,000 SFL have been recovered up to September 2012. In order to strengthen the FLRP, the Government would continue to step up publicity to promote the programme, extend the collection network by recruiting more residential estates and setting up more public collection points.

18. For large quantity of spent CFL (usually arising from works in commercial and industrial establishments), it is a requirement under the Waste Disposal Ordinance for the waste producer to make its own arrangements for the collection and treatment at the Chemical Waste Treatment Centre (CWTC).

Treatment of Spent CFL and SFL

19. The CFL, SFL and HIDL collected under FLRP or outside the programme are all transported to the CWTC in Tsing Yi where there is a Mercury Waste Treatment Facility (MWTF) for the proper treatment of the mercury-containing waste. The MWTF at the CWTC is being expanded and upgraded for completion in March 2013, and will by then be able to handle up to 3.5 million equivalent number of mercury-containing lamps per annum. The Government will keep in view the need for further expansion of the treatment capacity.

LED Lighting Technology

20. With the continual improvement in LED technology, LED has been increasingly used for general lighting applications as a more energy efficient alternative to ILB. While its technology is still maturing and there is variation in quality of products on the market, the Government has been supporting the development and application of LED in the past few years. In terms of research and development, the Innovation and Technology Fund (ITF) has provided funding support to a number of research projects in relation to the development of LED. As of end November 2012, a total of 37 such research projects have been funded by ITF, involving a total of around \$148 million.

21. To promote its applications, we have conducted trial installations of LED lighting in over 100 government venues and facilities such as museums, town halls, sport centres, schools and office buildings as well as replacement of traffic lights with LED.

22. Meanwhile, to provide the general public with more information on the energy efficiency of the LED, the Electrical and Mechanical Services Department (EMSD) extended the Voluntary Energy Efficiency Labelling Scheme (VEELS) to cover LED Lamps in June 2011. Those LED models meeting the minimum energy efficiency and performance requirements will be given a “Recognition Type” Energy Label. In addition, the EMSD has been working with the trade to keep track of the development of LED technology and to promote the use of LED lighting products.

Advice Sought

23. Members’ views are invited on the proposed way forward as set out in paragraphs 8 to 10.

**Environment Bureau
December 2012**

Annex

| Should Hong Kong restrict the supply of energy-inefficient ILB by the following means: | No. (%) of Institutional/ Professional Bodies* which support the means (x) | No. (%) of Individual Companies which support the means (y) | No. (%) of Individuals who support the means (z) | Total No. (%) (x + y + z) |
|---|---|--|---|----------------------------------|
| (i) Mandatory scheme | 20 (71.4%) | 23 (26.5%) | 55 (28.2%) | 98 (31.6%) |
| (ii) Leaving it to market forces | 1 (3.6%) | 29 (33.3%) | 60 (30.8%) | 90 (29.1%) |
| (iii) Voluntary measures | 1 (3.6%) | 29 (33.3%) | 31 (15.9%) | 61 (19.7%) |
| (iv) Combined voluntary measures and market forces | 1 (3.6%) | 2 (2.3%) | 7 (3.6%) | 10 (3.2%) |
| (v) Other means | 4 (14.2%) | 4 (4.6%) | 29 (14.9%) | 37 (11.9%) |
| (vi) No explicit answer | 1 (3.6%) | 0 (0%) | 13 (6.6%) | 14 (4.5%) |
| Total (i + ii + iii + iv + v + vi): | 28 (100%) | 87 (100%) | 195 (100%) | 310 (100%) |

*Including green groups, political parties, business chambers, etc.