

**For discussion on  
25 February 2013**

**THE LEGISLATIVE COUNCIL  
PANEL ON ENVIRONMENTAL AFFAIRS**

**PUBLIC CONSULTATION ON  
A PRODUCER RESPONSIBILITY SCHEME ON  
GLASS BEVERAGE BOTTLES**

**INTRODUCTION**

Due to a low commercial value, waste glass beverage bottles are mostly landfilled in Hong Kong (amounting to some 150 tonnes per day) rather than collected for recycling. To enhance the management of waste glass beverage bottles, the Government launched a three-month public consultation on 7 February 2013 to consult the public on whether and how to introduce a mandatory producer responsibility scheme (“PRS”) for this type of waste. The Consultation Document is at [Annex](#).

**BACKGROUND**

2. To address the serious and imminent waste problem in Hong Kong in a holistic manner, the Government published in December 2005 the policy document *A Policy Framework for the Management of Municipal Solid Waste* (“*The MSW Policy Framework*”), setting out a comprehensive waste management strategy for the ten years from 2005 to 2014. In line with the “polluter pays” principle, the Government proposed to introduce PRSs that hold the manufacturers, importers, retailers and consumers responsible for what they produce and consume. Subsequently, the Product Eco-responsibility Ordinance was enacted in July 2008 to provide a legal framework for PRS with the first scheme (being the Environmental Levy Scheme on Plastic Shopping Bags) implemented on 7 July 2009.

3. In January 2011, having reviewed *The MSW Policy Framework* against latest developments, the Government announced an action agenda setting out specific measures to tackle the imminent waste problem.

Amongst other things, we have committed to expediting legislative proposals on PRSs. Having completed public consultation in 2010 and 2011 respectively, we are now preparing the legislative proposals for the introduction of a new PRS on waste electrical and electronic equipment and for the extension of the existing PRS on plastic shopping bags. The Government has now chosen waste glass beverage bottles as the target for the third mandatory PRS in Hong Kong.

## **JUSTIFICATIONS**

### **Glass Beverage Bottles as Recyclable Resources**

4. Hong Kong generated about 55,000 tonnes of waste glass beverage bottles in 2011. But our local bottling industry has diminished substantially over the years and we do not have a glass manufacturing industry in Hong Kong. Therefore, we dump some 150 tonnes of waste glass beverage bottles into the landfills everyday, stretching the already limited landfill resources in our land-scarce city.

5. In recent years, the Government has been supporting the recycling of waste glass beverage bottles, mainly on two fronts. First, we seek to create an increasing demand for waste glass beverage bottles through the promotion of green procurement. As a result, increasingly more locally-made “eco-pavers”, i.e. glass-containing paving blocks, are used in public works. Second, we seek to progressively expand the voluntary recycling programmes, including through funding support of the Environment and Conservation Fund (“ECF”). Through these programmes, we have extensively educated the public and accumulated operational experience on waste glass bottle recovery and recycling. In 2011, waste glass beverage bottles totalling about 1,500 tonnes were recovered under these programmes.

6. Looking ahead, subject to further testing and the drawing up of specific technical specifications, waste glass beverage bottles can potentially be reused after suitable processing for the manufacturing of other construction materials (see [Annex D](#) to the Consultation Document). The scope for reuse of waste glass beverage bottles as construction materials (including in public works) is fairly broad and it is reasonable to aim for conversion of waste glass beverage bottles recovered from the waste stream into reusable materials for reuse in Hong Kong after treatment. We have thus attained in a position ready for taking forward the mandatory PRS.

## **The Producer Responsibility Scheme**

7. In general, a mandatory PRS seeks to organize different stakeholders including consumers and related businesses along the supply chain to jointly share out the eco-responsibilities for the proper management of the relevant spent products. The Government has been playing an active role in PRS initiatives and will take the lead in this new scheme on glass beverage bottles.

### Overall

8. Through open tender, the Government will select a (or more) contractor, the glass management contractor (“GMC”), to arrange both collection and treatment services in accordance with the relevant legislation and other good practice. As a matter of principle, the waste glass beverage bottles should be sufficiently treated to become reusable materials. That involves mostly physical processes such as simple sorting to remove non-glass items; cleansing, crushing and grinding. Given that glass is inert and non-hazardous, environmental impact associated with its processing, if any, should be minimal and can be well mitigated. The GMC can easily procure such services from the market through subcontracting or invest new treatment facilities on its own. It is unlikely necessary for us to develop a dedicated government treatment facility under the Public Works Programme. As far as collection is concerned, the GMC is responsible to operate several regional collection points to help restaurants, bars and clubs dispose in bulk. We are actively developing five pilot community green stations to enhance our logistics support at the community-level recycling, which can play a complementary role to the collection points to be set up by the GMC. In addition, to tie in with the implementation of the mandatory PRS, we will provide more waste glass bottle recycle bins across the territory and enhance publicity and public education on waste glass bottle recycling.

### The Regulatory Framework

9. There should be legislative measures to back up the PRS operation and the Government will serve as a regulator enforcing such statutory elements of the PRS. To this, we *propose* for the purpose of the public consultation that –

- (a) we require retailers of glass-bottled beverages to provide consumers with information relating to the recycling of

waste glass beverage bottles. This requirement will ensure that nobody would be discouraged from recycling waste glass beverage bottles due to lack of information. As a facilitating measure, we will require the GMC to produce and disseminate relevant publicity materials including location maps of collection points;

- (b) we introduce licensing control for the treatment of waste glass beverage bottles so as to ensure that safe and environmentally sound processes are employed and the relevant technical specification requirements for the recycled glass are met; and
- (c) we impose a recycling fee on beverage suppliers who supply glass-bottled beverages for local consumption in Hong Kong so as to finance the PRS under the “polluter pays” principle. These beverage suppliers have to be registered, submit to the Government periodic returns on the quantities of glass-bottled beverages they supply to the local market for the purpose of determining the recycle fees payable under the PRS and remit the fee income to the Government accordingly. They may recover the recycling fee wholly or partially from consumers and other stakeholders in the supply chain.

#### *Whether to include a Landfill Ban on Glass Beverage Bottles*

10. We note that a number of jurisdictions have already banned the disposal of glass beverage bottles at landfills. There are a variety of landfill bans operating in developed countries and their purposes could range from reducing environmental impact on landfills, reducing dependency on landfill as a waste treatment option, recovering energy from waste and improving material recovery. At present we have applied certain restrictions on the landfilling of hazardous chemicals (such as chemical wastes) and have proposed to include a landfill ban on waste electrical and electronic equipment as a measure under the corresponding PRS which is at the law drafting stage.

11. We have considered whether a landfill ban on glass beverage bottles should also be introduced with reference to experience from the European Union and other jurisdictions. The landfill ban will:

- (a) give a strong signal to the community that reducing pressure

on landfills is one of the key objectives of this proposal;

- (b) reinforce the message that every waste producer has a share of eco-responsibility to practise source separation to divert glass beverage bottles from the waste stream to the alternative reuse outlets through the PRS; and
- (c) provide a tool for the operators of our waste reception facilities to refuse waste glass beverage bottles, especially those in bulk, from being accepted as waste to be landfilled.

12. Yet, a number of factors, which are unique in the current case, should also be taken into consideration –

- (a) the quantity of waste glass beverage bottles (55,000 tonnes in 2011) is small as compared with the overall waste handled. They constituted only part (around 63%) of the total waste bottles; and
- (b) the waste bottles are likely to be mixed with other household wastes. It would be operationally very difficult, if not impossible, to distinguish the targeted bottles from other bottles not included in the proposed PRS at landfills or other waste reception facilities such as refuse collection points. We may consider whether we should only enforce the ban on waste producers who dispose of glass beverage bottles in bulk.

These factors suggest that there are operational challenges to the effective implementation of a landfill ban. On balance, we propose to invite views from the public whether a landfill ban should be pursued in the proposal.

#### *Glass Food/Sauce Bottles Not Included*

13. Apart from glass beverage bottles, there are food/sauce, cosmetics, medicine and other glass bottles and they collectively account for about 37% or 90 tonne per day (“tpd”) of our overall waste glass generation in 2011. From an environmental perspective, these bottles could be recycled if they are properly cleansed. However this may require the use of solvents to clean bottles containing chemical substances such as cosmetics, medicine and other greasy liquids. The process itself could cause other environmental impacts. As regards bottles containing

food/sauce, in addition to thorough cleansing, which may add costs to the treatment process, imposing a recycling fee on these common general household items may generate concerns in the community. Experience from other countries also indicates that PRS on glass bottles usually is confined to waste glass beverage bottles. Through the voluntary programmes, we are educating the public to properly cleanse glass bottles before dropping them into recycle bins. Therefore at this stage we consider it more appropriate to focus at waste glass beverage bottles under the proposed PRS.

14. On the other hand, many consumer products such as fluorescent lamps and cathode ray tube computers or televisions also contain glass but such glass materials might contain hazardous substances such as lead and mercury and have to be properly detoxified through specialized processes. There are also other types of glass such as tempered glass, glass cookware etc, that are not suitable for recycling in any case. In total, non-bottle type waste glass accounted for only 16% of all waste glass. We would stage appropriate publicity and public education so as to ensure that these glass materials would in future be segregated from waste glass beverage bottles without affecting the recycling operations under the mandatory PRS.

#### *Certain Beverage Suppliers Exempted from Recycling Fee*

15. As mentioned in paragraph 9(c) above, we intend to impose the recycling fee at the supplier level. By “suppliers”, we refer mainly to food importers and food distributors registered under the Food Safety Ordinance (Cap. 612) who carry on food distribution and importation businesses. They have to pay to the General Revenue a recycling fee (on the basis of the volume of beverages traded). At this stage, we are unable to determine the level of the recycling fee until after the tendering process for the GMC contract. In line with the “polluter pays” principle, the aggregate income generated from such fee should be able to cover the full costs of the PRS. Overseas experience suggests an indicative figure of around \$1 per litre. Among the some 150 tpd waste glass beverage bottles generated in 2011, about 130 tpd are from alcoholic beverages and 20 tpd are from non-alcoholic beverages. With this profile, and given that there are non-glass packing alternatives for the majority of non-alcoholic beverages, we do not expect that the recycling fee would cause major concerns from livelihood angle.

16. On the other hand, there remain several beverage suppliers who have put in place a deposit-refund system to collect their own glass

beverage bottles for rebottling of their products and arrange proper recycling when the bottles are spent. Re-bottling is a common means to reuse glass beverage bottles internationally. It is an environmentally friendly application in that it requires less additional energy and other natural resource when compared to producing new bottles, and thus having the greatest eco-footprint saving. But we understand that these re-bottling operations can be costly in Hong Kong and difficult to achieve commercial viability. We therefore propose that where beverage suppliers have put in place alternative recycling arrangements on their own comparable to the PRS, they may be excluded from the recycling fee so as to encourage them to continue with such arrangements.

### **Timetable**

17. Assuming favourable response from the public consultation, we plan to report back to the Legislative Council (“LegCo”) on the way forward within 2013 and accordingly prepare the legislative proposals for introduction into the LegCo as soon as practicable in 2014.

18. Pending completion of the legislative procedures, we will continue to support the expansion of voluntary recycling programmes. This is to step up the momentum of community support and to reinforce the Government’s commitment in promoting waste reduction and recovery. For instance, we will continue to provide recycle bins to private housing estates and buildings for waste glass bottle recycling through the support of the Environmental Campaign Committee. We will also continue to support the voluntary recycling programmes and assist in their progressive expansion. In addition, we will work with relevant government departments to implement waste glass bottle recycling (e.g. by placing recycle bins) in government venues and public places. We will also work with the property management of public and private premises with dining facilities to facilitate their glass recycling on a voluntary basis.

19. On the consumption end, in conjunction with Development Bureau, works departments and Housing Authority, we proactively promote the wider use of recycled glass materials through according priority use in suitable public works. We will separately enlist the support of the private construction sector to use recycled glass materials in the private sector, e.g. eco-partition wall bricks for which there is also a considerable demand in the private market.

## OTHER OPTIONS

20. The proposal as outlined above represents a government-led approach which is also adopted in jurisdictions such as Japan, South Korea and Taiwan (see Annex C to the Consultation Document). Other jurisdictions have adopted different alternatives, which could broadly be classified into the following approaches –

- (a) a “manufacturer-led” approach as already adopted in Germany, Sweden and California of the United States, with beverage manufacturers taking up certain statutory responsibility to arrange the collection and recycling of waste glass beverage bottles up to a prescribed target set by the Government; or
- (b) a non-statutory approach as in Australia and Singapore where beverage manufacturers have entered into mutual agreements with the Government for the former to undertake efforts to minimize the generation of waste glass beverage bottles and to achieve a certain target recovery rate.

We do not consider these options viable in Hong Kong because for (a) above the relevant manufacturing base is non-existent in our city and thus it is difficult for the trade to organize stakeholders for the collection and recycling arrangement and for (b) above we have already accumulated operational experience to move from voluntary, non-statutory schemes to mandatory measures. Notwithstanding, we have set out the relevant overseas experience in the Consultation Document for reference and would also welcome views on this front.

21. Separately, we have considered but propose not to include other types of beverage containers under the mandatory PRS at this stage. At present, beverages available in Hong Kong are also packed in aluminium cans, carton boxes (i.e. Tetra Pak®) and plastic bottles. There is a vibrant private market for the collection of waste aluminium cans and a mandatory PRS is unlikely to create further major environmental benefits. As regards Tetra Pak®, specialized processing plants are required to recover the paper and metal content but so far there is none in Hong Kong. We have carefully considered the merits of a mandatory PRS for plastic beverage bottles and considered the current approach more preferable. In general, we defer to for-profit private recyclers as they are taking the lead but we have provided a buffer against any commodity price fluctuation by supporting an ECF-funded non-profit recycling centre in



the EcoPark as a secured outlet for waste plastics. We will review the case for introducing a PRS on beverage plastic bottles and Tetra Pak® packaging from time to time in the light of developments both locally on other PRSs and in our neighbouring cities.

### **ADVICE SOUGHT**

22. Members are invited to offer views on the above proposal.

**Environment Bureau/Environmental Protection Department  
February 2013**