

For discussion
on 25 February 2008

Legislative Council Panel on Environmental Affairs

Update on the Progress of the Key Initiatives in the “Policy Framework for the Management of Municipal Solid Waste (2005-2014)”

PURPOSE

This paper updates Members on the progress of the key initiatives in the “Policy Framework for the Management of Municipal Solid Waste (2005-2014)” (Policy Framework).

BACKGROUND

2. To address our serious and imminent waste problem in a holistic manner, the Administration published the Policy Framework in December 2005, which sets out a comprehensive waste management strategy for the next ten years. Encompassing initiatives on waste avoidance at source, waste recovery and recycling and bulk reduction of waste, the Policy Framework aims to achieve the following waste management targets -

- (a) to reduce the amount of municipal solid waste (MSW) generated in Hong Kong by 1% per annum up to the year 2014, based on the 2003 levels;
- (b) to increase the recovery rate of MSW to 45% by 2009 and 50% by 2014; and
- (c) to reduce the total MSW disposed of at landfills to less than 25% by 2014.

3. While the statistics on MSW generation and recovery for 2007 are being compiled, landfill disposal figures for the year are now available. Domestic waste disposed of at landfills continued to drop by another 4% in 2007 to about 2.32 million tonnes, despite an increase of about 1% in our local population. This was the third consecutive year recording decrease,

which amounted to a cumulative decrease in landfill disposal of domestic waste by about 6.9% since the launch of the Policy Framework. We consider factors contributing to the trend include the continuing expansion in the coverage of the source separation of waste programme, which lead to a rising recovery rate for MSW. We already achieved a recovery rate of 45% back in 2006, three years ahead of the target laid down in the Policy Framework. We would continue to promote waste recovery rates with a view to achieving the target of 50% by 2014.

4. There is, however, no room for complacency. Based on available statistics, the landfill disposal of commercial and industrial (C&I) waste increased by almost 16% to 1.12 million tonnes in 2007, which was probably driven by robust economic growth and strong tourism influx. As a result, the *overall* landfill disposal of MSW (i.e. domestic and C&I waste) increased slightly by 1.6% to about 3.44 million tonnes. It is therefore necessary for us to speed up the implementation of waste reduction initiatives and the development of waste treatment infrastructure, while sustaining our momentum in waste recovery and recycling.

5. Against the above background, we set out below the implementation progress of the major initiatives under the Policy Framework.

KEY INITIATIVES IN THE POLICY FRAMEWORK

Waste Reduction at Source

6. As highlighted in the Policy Framework, we should adopt the “polluter pays principle” to provide economic incentive for the public to reduce waste and promote recycling. In line with this principle, the producer responsibility scheme (PRS) is a well-proven tool that enables manufacturers, importers, wholesalers, retailers and consumers to share the eco-responsibility of reducing, recovering and recycling certain products so as to minimize their environmental impact.

7. In mid-2007, we conducted a two-month public consultation on the phased introduction of a PRS in the form of a 50-cent environmental levy for each plastic shopping bag distributed by chain or large supermarkets, convenience stores and personal health and beauty stores in order to reduce the indiscriminate use of plastic shopping bags. The proposal received general support from public and this Panel. In response to this overwhelming support, we introduced the Product Eco-responsibility Bill (PER Bill) into the Legislative Council (LegCo) in January 2008. Taking

the form of an “umbrella” legislation, the PER Bill will provide the legal basis for the implementation of the environmental levy scheme, and will enable us to introduce new statutory PRSs for other products if necessary. The Administration is working closely with the Bills Committee set up for the early enactment of the Bill.

8. MSW charging is another commonly adopted measure to promote waste reduction and recovery. We completed a three-month trial in February 2007 to examine the logistical arrangement for introducing a variable rate charging scheme using designated garbage bags. The findings of the trial have identified a number of practical issues, including possible flytipping and enforcement problems and the need for complementary measures such as provision of source separation facilities to encourage compliance and waste recovery. Drawing reference from overseas experience, we note a key prerequisite for a successful variable rate scheme is the readiness to trace MSW to its source. Given Hong Kong’s multi-storey multi-tenant household setting and the prevailing waste collection arrangements, a variable rate charging scheme would likely be subject to implementation difficulties in terms of ascertaining the amount and sources of MSW on individual household basis. It would be necessary to examine alternative means of charging, such as a fixed charge or flat rate system while building in appropriate incentives to encourage waste reduction and recycling.

9. To take the matter forward, we plan to conduct a comprehensive territory-wide baseline survey to collect information on the waste generation pattern and waste collection modes under different types of buildings and C&I operations. The information collected would form the basis for the development of a MSW charging scheme for domestic and C&I waste.

Waste Recovery and Recycling

10. Launched in January 2005, the source separation of domestic waste programme is a territory-wide programme which aims at providing suitable recycling facilities for domestic waste at locations as close as possible to their generation sources, and at the same time broadening the types of recyclables to be recovered. It encourages community participation in recycling and facilitates the provision of a reliable source of materials for the recycling industry.

11. As at January 2008, there were 833 housing estates participating in the programme, covering about 1 million households and some 45% of the

population. Around 30% of them have implemented a floor-to-floor mode of waste separation, while the remaining set up waste separation facilities on the ground floor to collect different types of recyclable materials. The participating estates have reported an average of about 10% reduction in waste disposal since their participation in the programme. We will continue to press ahead with the programme with a view to achieving the Policy Framework's target of covering 1,140 and 1,360 estates by the end of 2009 and 2010 respectively.

12. While source separation has proven to be effective in enhancing waste recovery and recycling, the multi-storey and compact living environment in Hong Kong very often limits the space available for placing suitable waste recovery facilities near to the waste generation sources. To encourage property developers to provide suitable floor-based refuse storage and material recovery facilities, the Buildings Ordinance and its subsidiary legislation were amended in as early as 2000 to lay down the recommended specifications for such facilities, and to exclude such facilities from gross floor area calculation. Yet, since the Buildings (Amendment) Ordinance 2000 came into operation in late 2000, few new building developments have been provided with refuse storage and material recovery room on every floor. We therefore propose to amend the Building (Refuse Storage and Material Recovery Chambers and Refuse Chutes) Regulation (Cap.123H) to mandate the provision of refuse storage and material recovery room on every floor of new domestic buildings and the domestic part of composite buildings, with certain exemptions for small scale developments and buildings intended for used as hotels, guest-houses, etc. A detailed proposal, which has already been endorsed by the Advisory Council on the Environment, is attached at **Annex**. Subject to Members' support, we plan to table the legislative amendment to the LegCo within this legislative session, with a view to bringing the new requirement into operation by the end of this year.

13. As for C&I waste, the recovery rate has been maintaining at a relatively high level of some 60% over the years. Notwithstanding this, C&I waste disposed of at landfills continued to increase. In view of this trend, we see a strong case to stage targeted promotion on source separation for C&I buildings. Since the launch of a promotional programme in October 2007, some 350 buildings signed up to the programme, covering commercial and Government office buildings, shopping arcades, industrial buildings, warehouses and car parks. We would closely monitor the waste recovery rates and waste disposal in these buildings.

14. We are in parallel exploring with manufacturers and suppliers of relevant products the feasibility of introducing voluntary PRSs to recover and

recycle such products. In this regard, a territory-wide Computer Recycling Programme (CRP) was launched in January 2008. Funded by 20 local and international computer equipment suppliers, the CRP is the second voluntary PRS after the Rechargeable Battery Recycling Programme, with an annual recovery target of 50,000 units of used computer equipment in the first two years of its operation. We have also secured the agreement of fluorescent lamp suppliers to launch a territory-wide, trade funded recycling programme for fluorescent lamps in March 2008.

15. We will continue to promote the introduction of voluntary PRSs in light of the experience gained from the above-mentioned programmes. In particular, we have already started discussion with electrical and electronic equipment suppliers and other stakeholders on the feasibility of organizing a voluntary trade-funded WEEE (Waste Electrical and Electronic Equipment) recycling programme.

16. The continual expansion of the source separation of MSW and the introduction of the new voluntary PRSs would help lay a solid foundation for a “circular economy” in Hong Kong, whereby our waste could be turned into useful products and channeled back to the economic chain. To add further impetus to the development of a “circular economy”, we are developing an EcoPark in Tuen Mun to provide long term land at affordable costs for the local environmental and recycling industries. The construction of phase one has been completed and two batches of tenancies were awarded in April 2007 and December 2007 respectively. Tenders of another batch of Phase I lots have been invited and the tenancies are expected to be awarded by mid 2008.

Towards a More Sustainable Waste Management Approach

17. Notwithstanding our efforts and progress in waste reduction and recycling, there remains unavoidable waste that needs to be disposed of properly. Our three strategic landfills would start to approach their capacity one by one in the early to mid 2010s and their extension is necessary to provide the final repository of our waste. In this connection, we have already completed the feasibility and environmental impact assessment studies on the extension of the North East New Territories Landfill, while those for the South East New Territories and West New Territories Landfill extensions are in progress. As set out in the Policy Framework, our target is to commission the landfill extensions by early to mid-2010s.

18. Landfill extensions alone will not resolve our waste problem. We need to adopt a more sustainable approach to reduce the volume of waste that

requires disposal and conserve our landfill space as the final repository of the residue waste. As laid out in the Policy Framework, we will develop integrated waste management facilities (IWWMF) with incineration as the core technology to substantially reduce the volume of unavoidable waste, thereby extending the life span of the existing landfills and their extension.

19. The IWWMF will be developed in phases having regard to the size of the overall waste problem. The first phase will have a treatment capacity of about 3,000 tonnes per day (tpd). It will also incorporate a small scale sorting and recycling plant to recover recyclable materials from mixed MSW. The first phase of the IWWMF will occupy a total area of about 10 hectares, and the result of our comprehensive site search exercise concludes that the sites at Shek Kwu Chau and Tsang Tsui Ash Lagoons are suitable for consideration as potential sites for its development. We will carry out the detailed engineering and EIA studies for both sites to ascertain their ultimate suitability. Subject to the study findings, we aim to make a final decision on the choice of site and to commence construction as soon as possible with a view to commissioning in mid-2010's. A more detailed report on the progress of the development of the IWWMF and the site selection exercise is set out in the information note issued to this Panel on 29 January 2008 (paper no. CB(1)724/07-08(01)).

20. Food waste constitutes some 28% of our C&I waste disposed of at our landfills. To gather experience and information on the collection and treatment of organic waste, a pilot plant with a capacity of 4 tpd will be commissioned in mid-2008 to process source-separated food waste from C&I premises. Furthermore, as part of our long-term waste treatment strategy, we will develop an Organic Waste Treatment Facility (OWTF) in two phases, with each phase handling 200 tonnes of source separated organic waste from the C&I sector per day. Biological treatment technology, like composting or anaerobic digestion, will be adopted. The first phase of the OWTF is planned to be built in Siu Ho Wan of Lantau Island, and the target commission date is mid 2010's. The second phase will be of similar capacity and to be built in Sha Ling of the North District by late 2010's.

Public Education and Partnership

21. The successful implementation of the initiatives under the Policy Framework ultimately hinges on public support and participation. We have therefore continued to press ahead with public education programmes on waste reduction and recovery. For example, through the Hong Kong Green School Award and the Student Environmental Protection Ambassador Scheme,

training sessions, education programmes and topic specific seminars were organized to encourage teachers, students and parents to adopt a greener lifestyle, such as the use of reusable or recyclable lunch boxes and the reduction of plastic shopping bags. The Environmental Campaign Committee also continued its partnership with the District Councils and non-governmental organisations in promoting waste reduction and recycling in celebration of the World Environment Day and the Hong Kong Environmental Protection Festival.

22. In end 2006, the Environment and Conservation Fund (ECF) Committee agreed to reserve \$10 million for a dedicated public education programme to promote environmental initiatives under the Policy Framework. Six applications with a total funding of about \$3 million have been approved so far. These projects cover a wide range of topics, including reduction of plastic shopping bags, green procurement, green festive packaging, and the recovery and recycling of WEEE, etc. The recent approval by the LegCo to inject \$1 billion into the ECF will further strengthen our funding support to environmental education and research initiatives, including those on waste reduction and recovery. We welcome partnership with district and community organizations to promote awareness on environmental protection and to adopt greener lifestyles.

23. We have also been promoting general awareness on waste reduction and recovery through local media. A series of TV and radio announcements of public interests (APIs) under the theme of “I love Hong Kong, I love Green” to promote greener lifestyle was launched in October 2007. Other APIs on source separation, simple packaging and reduction of plastic shopping bags were also rolled out during 2007. We will continue our publicity drive to enhance public awareness of the four Rs: Reduce, Reuse, Recycling and Responsibility.

ADVICE SOUGHT

24. Members are invited to note the implementation progress of the key initiatives under the Policy Framework. Members are also invited to comment on the proposed mandatory provision of refuse storage and materials recovery room as set out in paragraph 12 and **Annex**.

Environmental Protection Department
February 2008

Proposed Mandatory Provision of Refuse Storage and Material Recovery Room on Every Floor of New Domestic Buildings and the Domestic Part of New Composite Buildings

Background

Hong Kong is faced with an imminent waste problem as our landfills, which are currently the only means for waste disposal, will be running out of space in the early to mid 2010's. To reverse the rising trend of waste requiring disposal, the Government has been taking various measures to promote waste reduction and enhance source recovery of waste for recycling. One of the key measures being implemented, as initiated in the 2004 and 2005 Policy Agenda, is a territory-wide programme of source separation of waste which was rolled out in January 2005. This programme aims to make it more convenient for residents to separate domestic waste at source by encouraging and assisting property managers and residents to set up waste separation facilities on every floor of their buildings and to include the collection of more recyclable materials other than waste paper, aluminium cans and plastic bottles, such as other metal containers, mixed metal items, plastic bags and packaging, mixed plastic items, used clothing, electrical and electronic appliances, and computers. Through source separation and other measures contained in the "Policy Framework for the Management of Municipal Solid Waste in Hong Kong (2005-2014)", the domestic waste recovery rate has increased from 14% in 2004 to 20% in 2006.

Problem

2. A major problem encountered in implementing the source separation of domestic waste programme is that the majority of domestic buildings and the domestic part of composite buildings in Hong Kong do not have a refuse storage and material recovery room on every floor and there is often a lack of space for placing waste separation facilities. Improper placing of waste separation facilities in the lift lobbies, corridors and staircases of these buildings may pose a fire hazard to occupants.

3. The Regulations enacted under the Buildings (Amendment) Ordinance 2000 require certain new building developments to be provided

with refuse storage and material recovery chamber and specify the minimum floor space of such chamber based on the total usable floor space of the building. The Regulations also set out the design requirements of refuse storage and material recovery room to be provided on every floor of a building, and the provision of such room is optional instead of mandatory. The Building (Planning) Regulation 23(3)(b) was also amended to allow refuse storage and material recovery chambers and refuse storage and material recovery rooms to be disregarded in the gross floor area calculation. However, since the Buildings (Amendment) Ordinance 2000 came into force in November 2000, it is noted that few new building developments have been provided with refuse storage and material recovery room on every floor.

Proposal

4. In view of the necessity of providing sufficient space on every floor to facilitate source separation of waste for material recovery, it is proposed to amend the Regulations to make the provision of refuse storage and material recovery room on every floor a mandatory requirement for new domestic buildings and the domestic part of new composite buildings. Apart from facilitating the recovery of recyclable materials, the provision of a refuse storage and material recovery room on every floor of buildings can also help to prevent potential fire hazards and hygiene problems.

5. It is proposed that every new domestic building and the domestic part of every new composite building shall be provided with a refuse storage and material recovery room on every floor. Domestic units with more than one floor (e.g. maisonette or duplex) shall be provided with refuse storage and material recovery room on at least one of the floors concerned. Refuse storage and material recovery room is not required on any floor that is not constructed or intended for habitation (for example, a floor used for ancillary club house, recreation facilities, carpark or refuge), or on any floor where a refuse storage and material recovery chamber or refuse storage and material recovery chamber with vehicular access is provided.

6. Buildings constructed or intended to be used as hotels, guest-houses, boarding-houses, hostels, dormitories, or similar accommodation will not be included in this proposal for the mandatory requirement for the provision of refuse storage and material recovery room on every floor.

7. To address the concerns of some developers that mandatory requirement for provision of refuse storage and material recovery room on every floor of new domestic buildings and the domestic part of new composite buildings might cause hardship to some small developments (e.g.

villa type developments) and having regard to the prevailing provisions under the Buildings (Amendment) Ordinance 2000, it is proposed that developments as listed in the **Appendix** be exempted from such mandatory requirement. In addition, a further exemption criterion based on usable floor space is being finalized.

8. It is proposed that the amended Regulations will operate following the existing arrangement relating to the requirement for the provision of refuse storage and material recovery chamber or material recovery chamber in new buildings, whereby building plans showing the provision of the required refuse storage and material recovery room on every floor are required to be submitted to the Building Authority for approval before building works can commence.

Consultation

9. The proposal was presented to the Waste Management Subcommittee of the Advisory Council on the Environment (ACE) at its meeting on 3 December 2007 and was supported by members of the Subcommittee. The ACE has endorsed the proposal.

10. The Building Sub-Committee of the Lands and Building Advisory Committee has been consulted and members of the Sub-Committee supported the proposed amendment.

Way Forward

11. We plan to take forward the proposal by tabling the Building (Refuse Storage and Material Recovery Chambers and Refuse Chutes) (Amendment) Regulations to the Legislative Council within this legislative session. Members are invited to comment on the proposal.

Appendix

Proposed exemptions (i) and (ii) under paragraph 7 of this paper:

”(i) domestic or composite buildings with a single staircase (including New Territories Exempted Houses), or

(ii) domestic or composite buildings having not more than three main domestic storeys and intended to be used for occupation by a single family;”

| | Housing type | (i) Single Staircase | (ii) Single family occupation and not more than 3 floors | Exemption? (‘Yes’ for either (i) or (ii); or ‘Yes’ for both (i) and (ii)) | Refuse Storage & Material Recovery Room required on each floor? |
|----|---|-----------------------------|---|--|--|
| 1. | with single staircase occupied by single family and not more than three floors (e.g. most houses/villas) | Yes | Yes | Yes | No |
| 2. | with single staircase occupied by single family and <u>more than three floors</u> (e.g. four-storey house occupied by a single family; it is uncommon) | Yes | No | Yes | No |
| 3. | with single staircase occupied by <u>multiple families</u> and not more than three floors (e.g. New Territories Exempted Houses) | Yes | No | Yes | No |
| 4. | with single staircase occupied by <u>multiple families</u> and <u>more than three floors</u> * (e.g. four-storey single block building in old district) | Yes | No | Yes | No |
| 5. | with <u>double staircases</u> occupied by single family and not more than three floors (uncommon) | No | Yes | Yes | No |

* According to Building (Planning) Regulations, buildings which exceed four storeys in height where its main staircase is not connected to the roof, or buildings which exceed six storeys in height or 17 m above the ground level, shall be provided with a secondary staircase of fire escape. Such buildings will be required to be provided with refuse storage and material recovery room on every floor.