

2001 Implementation Report of the Waste Reduction Framework Plan

THE OVERVIEW

1. The Waste Reduction Framework Plan (WRFP) released in 1998 sets out a variety of programmes for handling the huge and increasing volume of solid waste. We have made some good progress in certain areas in 2001 although a lot more remains to be done to address this increasingly serious problem.

2. The new waste prevention and recycling initiatives announced by the Secretary for Environment and Food in September 2001 were a big step forward in enhancing public awareness and community participation in recycling of domestic waste. A Recovery Park will be set up in Tuen Mun to provide more space for exclusive use by the recycling industry. The Government would also seek approval from the Legislative Council to inject \$100 million into the Environment and Conservation Fund, mainly for supporting community-based waste prevention and recovery programmes with sustainable effect.

3. In the domestic sector, a number of trials and new attempts have been carried out to gauge and enhance the effectiveness of various modes of waste recovery programmes e.g. centralized collection of plastic bottles, placement of waste separation bins on each floor of two public housing estates. Waste separation bins have been placed in over 1,000 housing estates including all the 179 public housing estates and over 800 private housing estates. The number of waste separation bins in public places, schools and public/private housing estates has been significantly increased from 8,000 to over 19,600 in 2001.

4. In the commercial sector, the number of participants joining the Wastewi\$e Scheme has been increasing and 37 organizations were awarded Wastewi\$e logos in 2001. The 37 logo recipients together have avoided dumping of 115 tonnes of paper, more than 200,000 pieces of plastic cups, and 45,000 pieces of batteries; recycled 27,000 tonnes of paper, 1,000 tonnes of metals (including aluminium cans), 170 tonnes of plastics; etc. They also procured 160 tonnes of recycled paper and more than 800 refilled toner cartridges. Several trades (e.g. tyres, beverage bottles, batteries, electrical and electronic appliances and computers) have responded positively in a view-sharing session on

producer responsibility schemes with the Environmental Protection Department (EPD) held in November 2001. In particular, mobile phone manufacturers and network service providers and distributors have joined hands to implement a 12-month pilot scheme to collect used mobile phone batteries for recycling for the first time in April 2002.

5. Ground breaking accomplishment has been made in food composting during the past year. About 20 composters have been put into use in various establishments including 15 housing estates and two government institutions. Tenders for the composting facility at Ngau Tam Mei would be invited before mid-2002.

6. In the past year, the Waste Reduction Committee continued to promote public and private sector actions to reduce and recover waste. Also, the seven Waste Reduction Task Forces continued to work towards the common goal of encouraging waste reduction in their respective sectors.

RESULTS ACHIEVED IN 2001

7. The volume of municipal waste dumped in landfills amounted to nearly 3.4 million in 2001, which was the same as the 2000 level. While this disposal quantity has exceeded the WRFP target of 3.2 million by around 190,000 tonnes for 2001, this was a clear sign of improvement when compared with the last five years when municipal waste has been growing at 3.5% on average each year.

8. In 2001, Hong Kong has recovered 1.94 million tonnes of waste which is 180,000 tonnes more than 2000. Over 108,000 tonnes of paper, 2,100 tonnes of aluminium cans, and 650 tonnes of plastics were recovered from housing estates and public areas. The quantity of major recyclables recovered has all gone up except for paper. While the absolute quantity of paper recovered has dropped, the paper recovery rate has indeed increased from 57% in 2000 to 58% in 2001.

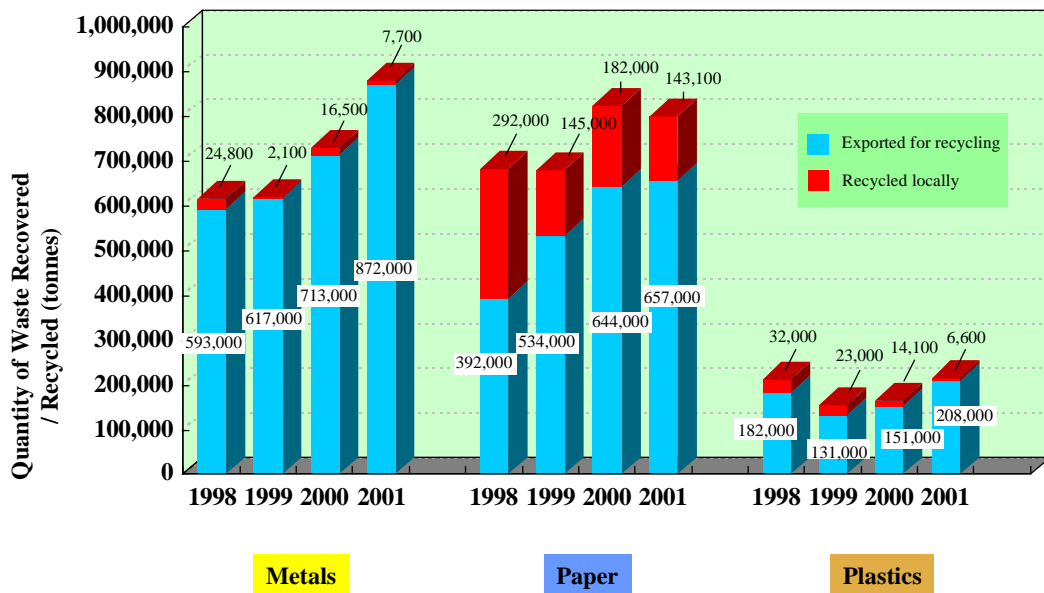
Table 1 –Quantities of solid waste disposed of at landfills and inert construction & demolition (C&D) material at public filling areas (in tonnes per annum) (1998 - 2001)

Year	Disposal Outlets				
	Landfills				Public Filling Areas
	Municipal Solid Waste	C&D Waste	Special Waste	Total Solid Waste Landfilled	Inert C&D Material Reused in Land Reclamation
1998	3,187,000	2,567,000	290,000	6,044,000	9,374,000
1999	3,383,000	2,882,000	321,000	6,586,000	10,665,000
2000	3,404,000	2,730,000	398,000	6,531,400	11,028,000
2001	*3,395,000	2,339,000	405,000	6,138,000	11,837,000

Note: Figures may not add up to total due to rounding-off.

*The disposal quantity of MSW exceeded the target set for 2001 in the WRFPP by 191,000 tonnes.

Figure 1 – A summary of recovery figures of major recyclable materials (1998 - 2001)



Notes:

- Exported figures are provided by Census and Statistics Department.

PROGRESS REVIEW IN 2001

Major Initiatives on Waste Reduction

9. Subsequent to a review of the WRFP, the Secretary for the Environment and Food announced on 11 September 2001 the following seven major new initiatives to boost separation and recycling of solid waste, particularly from households, in Hong Kong :

- *Setting up a 20-hectare Recovery Park in Tuen Mun for waste recovery and processing operations by 2004*
- *Planned injection of \$100 million into the Environment and Conservation Fund subject to approval by the Finance Committee of the Legislative Council*
- *Enhancing collection of separated waste and adding 8,000 newly designed separation bins in strategic public locations*
- *Introduction of a helpline(2755 2750) on recycling*
- *Enhancing public education and community work*
- *Government setting examples on waste reduction*
- *Involving the business community in waste prevention and recovery through producer responsibility schemes*

10. Following the announcement of the above waste reduction initiatives, a multi-media publicity package (including broadcasting of Announcements of Public Interests in electronic media and on buses, visits by theme van on waste problems to shopping centres and schools, special campaigns/exhibitions, talks, etc.) and a number of community recycling projects were launched to spread the waste reduction message to various sectors.

Waste Reduction Initiatives of the Construction Industry

11. Starting from 1 January 2001, the Works Bureau required all public works projects to prepare a waste management plan. The plan is a successful tool to arouse awareness of waste reduction in construction sites and to mandate proper waste management on site. In addition, more stringent control and auditing of the waste management plan are being considered to improve waste reduction on site. The Works Bureau is also considering setting aside separate payment items for waste management for implementation in all public works projects.

12. Starting from September 2001, the Works Bureau required all site hoardings and signboards for public works projects to be made of reusable metal modules.

13. Trial use of recycled aggregates as road sub-base had been conducted at the Tolo Highway widening project. Interim findings would be available in mid-2002. Recycled aggregates are now permissible to be used in low strength concrete since November 2001. The Government has also commenced the preparation of the specifications for higher strength concrete using recycled aggregates. The specifications will be promulgated in first half of 2002. The Government will operate a recycled aggregates facility at Tuen Mun in mid-2002. A study investigating the commercial viability of setting up a similar facility at Kai Tak commenced in March 2001.

14. To cater for the shortage of public filling capacity, the Government has planned to set up fill bank(s) at Tseung Kwan O Area 137 and Tuen Mun Area 38 to provide temporary storage of public fill. The first fill bank will be opened in late 2002.

15. An invitation to Expressions of Interest for the provision of service to handle construction and demolition material for reuse and recycling in projects outside Hong Kong was issued in December 2001. We have received proposals from 11 organizations and the Civil Engineering Department is evaluating them.

16. EPD has launched a web site since February 2001 to promote C&D material minimization. EPD has also issued a set of publicity materials including a leaflet, posters and video for promoting waste reduction in the construction industry. The publicity package has been used for reaching out to various professional institutions and the construction industry.

Waste Reduction in the Domestic Sector

17. Being one of the major waste reduction initiatives in the domestic sector, the Waste Recycling Campaign entered its fifth phase in 2001. By end 2001, waste separation bins have been set up in 159 and 20 public housing estates managed by the Housing Department and Housing Society respectively as well as over 800 private housing estates. Altogether, they have covered about 68% of the population in Hong Kong. The target to have 1,000 estates participating in Phase V of the Campaign has already been achieved. The results of the Waste Recycling Campaign are summarized in Table 2 below:

Table 2 - Recovery results of Waste Recycling Campaign organized by ECC, HD and HS for housing estates

		Phase I (March-May 1998)	Phase II (Oct 1998 – Mar 1999)	Phase III (Jul 1999 – Mar 2000)	Phase IV (Jun 2000 – Mar 2001)	Phase V (Jun 2001 – Mar 2002)
No. of estates		41	132	300	716	1050
No. of households (coverage of population in Hong Kong)		159,988 (8%)	458,500 (23%)	809,064 (40%)	1,193,155 (59%)	1,429,016 (70%)
Recovery Per Month (kg)	Paper	880,300	1,560,900	5,247,600	8,762,800	10,959,400
	Al cans	7,000	38,700	76,200	153,700	420,500
	Plastic bottles	N/A	N/A	25,600	71,600	75,600

18. Also a number of trials and new attempts were carried out in 2001 to examine the effectiveness of various modes of waste recovery programmes. EPD has conducted trials on a centralized collection of plastic bottles on a regional basis since April 2001. Two contractors were commissioned to collect plastic bottles once every two weeks for over 280 public and private housing estates. The results have been rather encouraging and the average plastics recovery of these estates increased significantly from 34 kg/estate in April 2001 to 89 kg/estate in April 2002.

19. The Central and Western District Council (CWDC) and EPD jointly organized a Materials Recycling Scheme at Mid-Levels for 12 months starting from March 2001. 25 sets of waste separation bins were placed at public venues to facilitate residents of Mid-Levels in recycling wastes. A collector was commissioned by EPD/CWDC to collect recyclables from these bins. This was a good example of collaboration between EPD and District Councils in running community projects. EPD has also been collaborating with other District Councils and community groups in organizing waste reduction programmes at various districts, such as setting up mobile recyclable collection points; provision of training to student Environmental Protection Ambassador etc.

20. Moreover, the Environment and Conservation Fund has provided funding support for green groups and community organizations to implement waste recovery programmes at district community level. Such programmes include a municipal solid

waste separation programme in Un Chau Street Estate targeting 9,000 residents; a village pilot separation and recycling programme targeting 22 rural villages in Tai Po, Sai Kung and Tsuen Wan; setting up of a recycling exchange square in Wong Tai Sin where residents can hand over recyclables in exchange for environmentally friendly products; a green action campaign in Tai Kok Tsui and a plastic bottle recycling rally in Tin Shui Wai etc. Another four projects will soon commence.

21. For the Public Housing Sector, following the successful pilot schemes of placement of separation bins on each floor of two housing blocks at Kwong Tin Estate (廣田邨) and Choi Wan Estate (彩雲邨) in September and October 2000, Housing Department has expanded this trial scheme in mid-November 2001 to two other housing estates, namely Chun Shek Estate (秦石邨) and Chak On Estate (澤安邨). Preliminary results show that the quantity of recyclables collected has been on the rise since the launch of the trial scheme.

22. In 2001, the Environmental Protection Ambassador Scheme was extended to cover the public housing sector. Over 500 residents or staff in both public and private housing sectors participated in the scheme. Seminars and visits were organized to enrich the environmental knowledge of the participants who could then organize recycling activities in their neighbourhood.

Waste Reduction in the Commercial and Industrial Sector(s)

23. By December 2001, 154 establishments have joined the Wastewi\$e Scheme. EPD has awarded three batches of Certificates of Wastewi\$e Logo to 37 establishments coming from construction industry, property management, utilities, manufacturing industry, hotel, hospital, insurance firm, trading company, and the Government. Two presentation ceremonies and news supplements were arranged in June 2001 and January 2002 to compliment the efforts of the Wastewi\$e Logo recipients.

24. As regards the development of producer responsibility schemes, EPD held a view-sharing session with business representatives for four waste types (i.e. electrical & electronic appliances including computers, batteries, tyres, and beverage containers), green groups and academics on 14 November 2001 to seek their support in setting up an extended producer responsibility programme for Hong Kong.

25. In order to provide a recycling outlet for the end-of-life mobile phone batteries, EPD has been assisting the trade concerned in setting up an industry-initiated recycling

programme. Many discussions have been held with the key stakeholders to work out the details of the pilot programme including collection network for recovering waste batteries, selecting appropriate recycling facility, publicity and cost sharing. The pilot programme will be rolled out in April 2002 for a period of 12 months.

Food Composting

26. Further to the 1-kg composter tested by EPD since July 2000, EPD installed a 50-kg electrical composter at the Island West Transfer Station in February 2001. The machine could convert about 50 kg of food waste per day into compost with a weight reduction of 80% - 90%. The compost has been used as soil conditioner. EPD has introduced electrical composters to different interested parties including schools, tertiary institutions, estate management companies, Government departments, restaurants and hotels. Many of them have shown keen interest in setting up composters at their establishments.

27. Recognizing the need for a good market for end products, the Government will review the specifications for compost for different uses. Trials have been carried out to test the performance of the compost produced from composters. Since September 2001, 100 kg of the compost collected from the 50-kg composter at Island West Transfer Station has been given to Kadoorie Farm for growing maize, tomato and cauliflower.

28. Similar kinds of composters are being tested at the district level. Fifteen 100-kg composters have been installed at 15 housing estates in Shatin as part of the Phase I of the food waste composting competition organized by Shatin District Council. Phase I of the competition would end in February 2002 but Phases II and III will start in April and August 2002 respectively.

29. Eight proposals were received in response to an Expressions of Interest exercise for the development of a composting facility at Ngau Tam Mei. Tenders for the facility will be invited before mid-2002.

REVIEW ON THE IMPLEMENTATION OF THE WRF

30. In addition to the achievements mentioned above, the implementation progress for other waste reduction initiatives of the WRF is summarized at Annex.

ACTION AREAS IN 2002

31. While the commercial and industrial waste has achieved a high recovery rate of over 50%, the domestic waste recovery rate remains at a relatively low level. Hence, we need to continue to work hard so as to raise the recovery rate of domestic waste to 20% by 2007.

32. We have already set aside 20 hectares of long-term land at Tuen Mun Area 38 for setting up of a Recovery Park for waste processing and recovery operations. The site would have its own waterfront access to facilitate export of processed materials to manufacturers. The first phase of the Park is expected to be in operation in 2004. We will continue to identify suitable land in different districts for the exclusive use of the recycling industry under short term tenancies.

33. We will continue to step up publicity programmes to promote public awareness and community participation in waste recycling in 2002. To assist community organizations and green groups in organizing district-based waste recycling programmes, we will seek approval from the Finance Committee to inject \$100 million into the Environment and Conservation Fund.

34. Recycling initiatives will be launched within the Government with a view to setting an example for the community. In 2002, the Government will develop a procurement guideline that encourages waste prevention and recycling. Priority has been given to promoting the use of recycled paper, retreaded tyres and compost from organic waste.

35. As a continued effort to mobile phone batteries recovery, sectoral producer responsibility schemes will be rolled out for waste types that are difficult or uneconomic to recycle, such as waste tyres and computers. Key stakeholders from different business sectors will be engaged in the formulation of industry initiated recovery schemes. We will evaluate the submissions received in response to two invitations for expressions of interest for recycling waste tyres and glass bottles and examine the way forward in recycling these wastes.

36. Even if we are able to reduce as much waste as possible and recycle as much as we can, there will still be nearly four million tonnes of waste that are not recyclable and hence require disposal. The Government will invite expressions of interest for large-

scale waste treatment technologies before mid-2002.

ADVICE SOUGHT

37. Members are invited to note the contents of this paper and offer comments.

Waste Reduction Committee
April 2002

Implementation Progress of Waste Reduction Initiatives of the WRF

Initiatives	Progress Up-to-date
<i>Strengthen Support for Waste Separation and Recovery</i>	
Setting up a 20-hectare Recovery Park at Tuen Mun Area 38 by early 2004	<ul style="list-style-type: none"> • Tuen Mun District Council (DC) members generally supported the establishment of the proposed Recovery Park. • A four-month preliminary study on the development and arrangement of the Recovery Park commenced in end of November 2001.
Leasing of land exclusively to the recycling industry under short term tenancy (STT)	<ul style="list-style-type: none"> • In 2001, a seven-year tenancy of a site in Cheung Chau was awarded to a recycling company for recovery and recycling of municipal solid waste generated in Cheung Chau and nearby outlying islands. • 23 STT sites have been made available for waste recycling operation. Several new STT sites in Tai Po, Kowloon East and Tseung Kwan O will be available in the coming months.
Funding support under the Environment & Conservation Fund (ECF) for waste recovery programmes at district community levels	<ul style="list-style-type: none"> • Nine schemes organized by community/green groups have been funded by ECF. Five of them have started. • 2 DEMOS projects were approved to try out community composting and on-site shredding for plastic bottles.
Provision of 8,000 new waste separation bins in the territory	<ul style="list-style-type: none"> • About 19,600 waste separation bins have been placed in public venues (including kerbside, bus termini, refuse collection points, public transport exchanges, MTR/KCR exits, parks, leisure venues, Government buildings and country parks), tertiary institutions, secondary/primary schools and public/private housing estates. We plan to increase the total number to 28,000 in 2002.
Collection of recyclables from public places, leisure facilities, Government buildings and country parks	<ul style="list-style-type: none"> • FEHD started a two-year central collection contracts on 16 Dec 2001 to collect recyclables from waste separation bins at public venues. The contractor is required to maintain proper records and produce documentary proof showing that the collected recyclables have been delivered to recyclers.

Waste Recycling Programme in Schools	<ul style="list-style-type: none"> • 806 primary and secondary schools have joined Phase I and Phase II Programme. • ECC has commissioned a recycler to collect these recyclables from participating schools. FEHD will be responsible for the collection service for schools in mid-2003.
Invitations for Expression of Interest on Recycling of Glass Bottles and Waste Tyres	<ul style="list-style-type: none"> • Four and 16 proposals were respectively received in response to the EoIs on recycling glass bottles and waste tyres by end Jan 2002. EPD is now examining these proposals.
EPD's Recycling Helpline	<ul style="list-style-type: none"> • The Helpline has been widely publicized on all publicity materials. A TV commercial was launched on 5 Nov 2001. • The average number of calls each day has increased more than 10 times to over 100 since Nov 2001.
<i>Publicity Work</i>	
Public education and publicity programmes	<ul style="list-style-type: none"> • Roadshows by a LPG theme van and exhibitions in large commercial complex began in Aug 2001. Broadcasting of new Announcements of Public Interest in electronic media and TV commercials on waste separation, posting of waste separation message on bus body's side panels began in Sept 2001.
<i>Waste Reduction in the Government</i>	
Formulating green procurement guidelines	<ul style="list-style-type: none"> • Development of procurement guidelines in progress.
Use of recycled paper and reducing overall paper consumption	<ul style="list-style-type: none"> • 31% of total consumption (2.25 million reams) of A4 and A3 photocopying paper were recycled papers. • A list of recycled paper product suppliers has been compiled for public reference. This list will be uploaded to the appropriate website in early 2002.
Use of retread tyres	<ul style="list-style-type: none"> • Use of retreaded tyres was extended to cover more than 200 heavy Government vehicles by end of 2001. Subject to findings of a review of this pilot scheme in 2002, the scheme will be extended to all medium and heavy Government vehicles.
Use of environmentally-friendly building materials	<ul style="list-style-type: none"> • Architectural Services Department had commenced a study on the use of environmentally-friendly materials, including carpets, in Government buildings. • A consultancy study for the development of environmental guidelines for material selection and builder's works practices is being arranged.

<i>Other Sectoral Waste Recycling Programmes</i>	
Plastic bottles recycling pilot scheme for hotels	<ul style="list-style-type: none"> • 23 hotels in Kowloon (participation rate, 56%) and 20 hotels on Hong Kong Island (60%) have joined the scheme. Monthly recovery quantity was about five to seven tonnes in 2001.
Extending the waste recycling programme launched by the Airport Authority (AA) and its principal business partners to more business partners	<ul style="list-style-type: none"> • The monthly average quantity of materials recovered from the premises of the AA and the Government departments at the airport was about 56 tonnes in 2001.
<i>Other Waste Issues</i>	
Developing large-scale waste treatment facilities	<ul style="list-style-type: none"> • Technology suppliers and facilities operators from Hong Kong and other places will be invited to express interest in developing large-scale waste treatment facilities before mid-2002. Preparation work is underway.
Proposed landfill charging scheme	<ul style="list-style-type: none"> • Government has made a proposal to the Legislative Council Environmental Affairs Panel in March 2002 for consideration.