# Food Waste Management in Hong Kong : Challenges and Opportunities

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Assistant Director

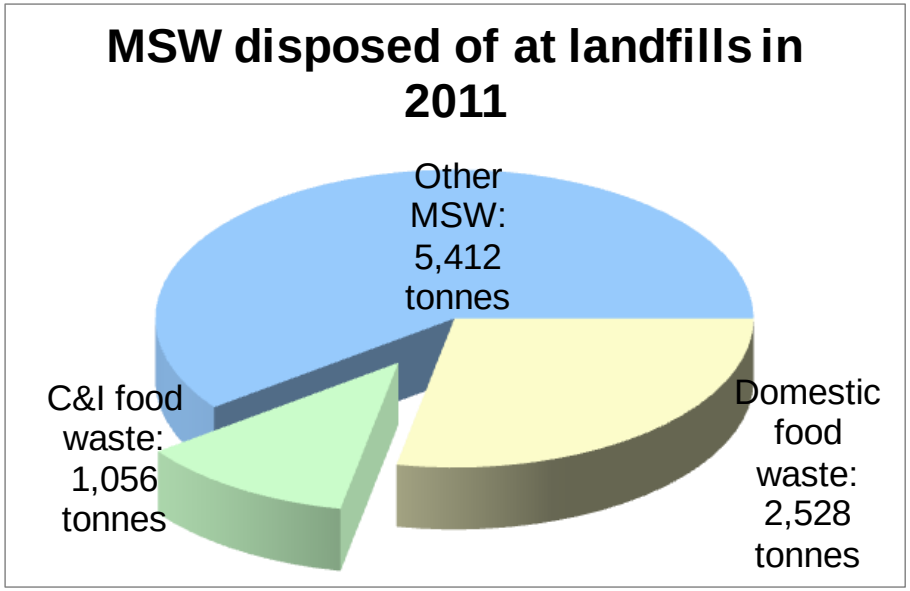
Environmental Protection Department

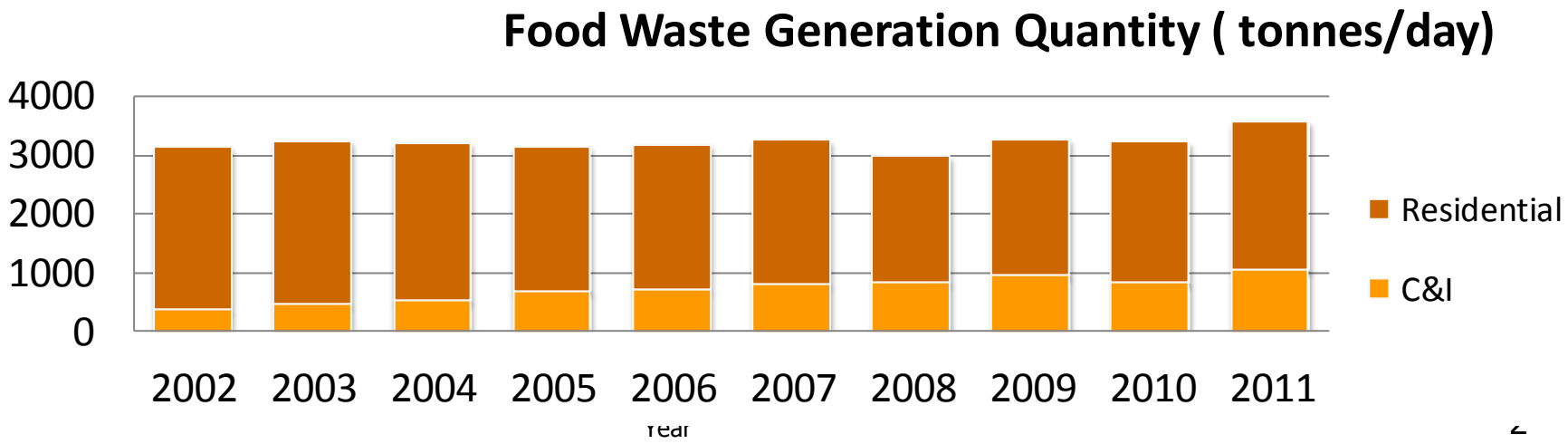
11 June 2013



# Overview of Food Waste Problem : One of our biggest challenges

- Food Waste accounts for about 40% of MSW in Hong Kong
- C&I food waste is continuously increasing





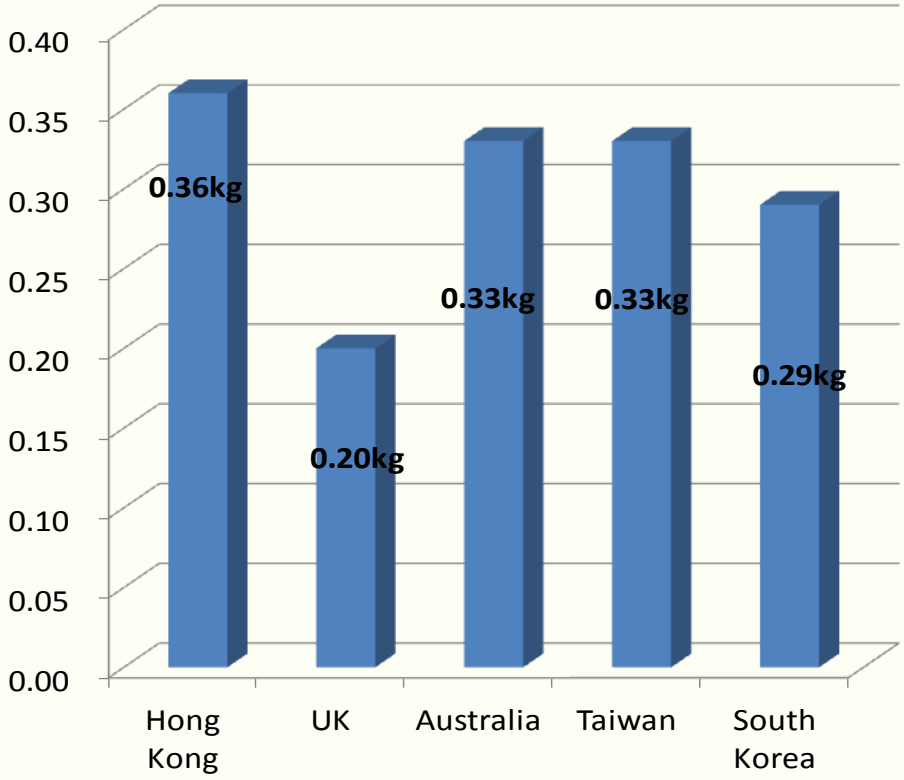

Food waste we dumped
= **3,600** tpd
= weight of **300** double decked buses



Source : http://www.chinadailyapac.com/article/food-thought

# Major Challenges of Food Waste Management in Hong Kong

- reduce food waste per capita to levels of other similar cities




**Food waste per capita per day**

**Where Hong Kong sits amongst other places**

# Major Challenges of Food Waste Management in Hong Kong

- Source separation and delivery in the context of multi-storey buildings



collecting source-separated food waste at the doorsteps of the residents



collecting source-separated food waste at lobby

# Major Challenges of Food Waste Management in Hong Kong

- Limited agricultural sector






limited use of compost in Hong Kong

# Major Challenges of Food Waste Management in Hong Kong

- Technologies and solutions in a high density environment



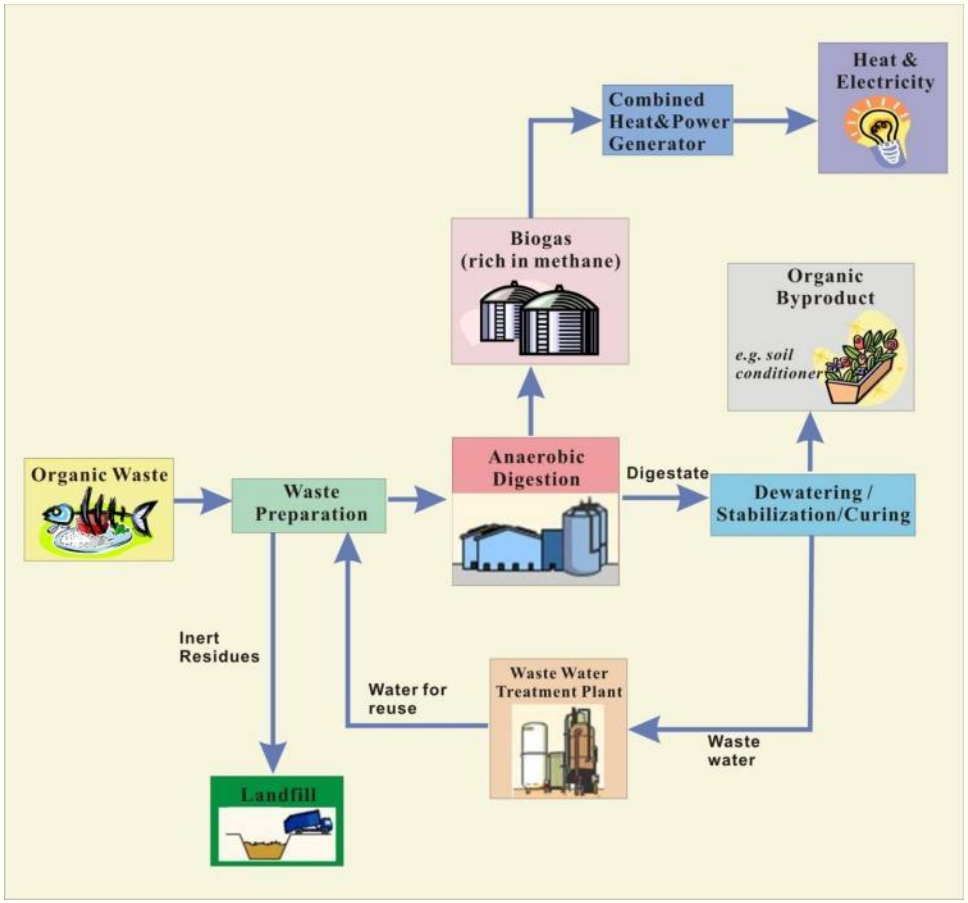

large scale food waste treatment facility



on-site small scale composter

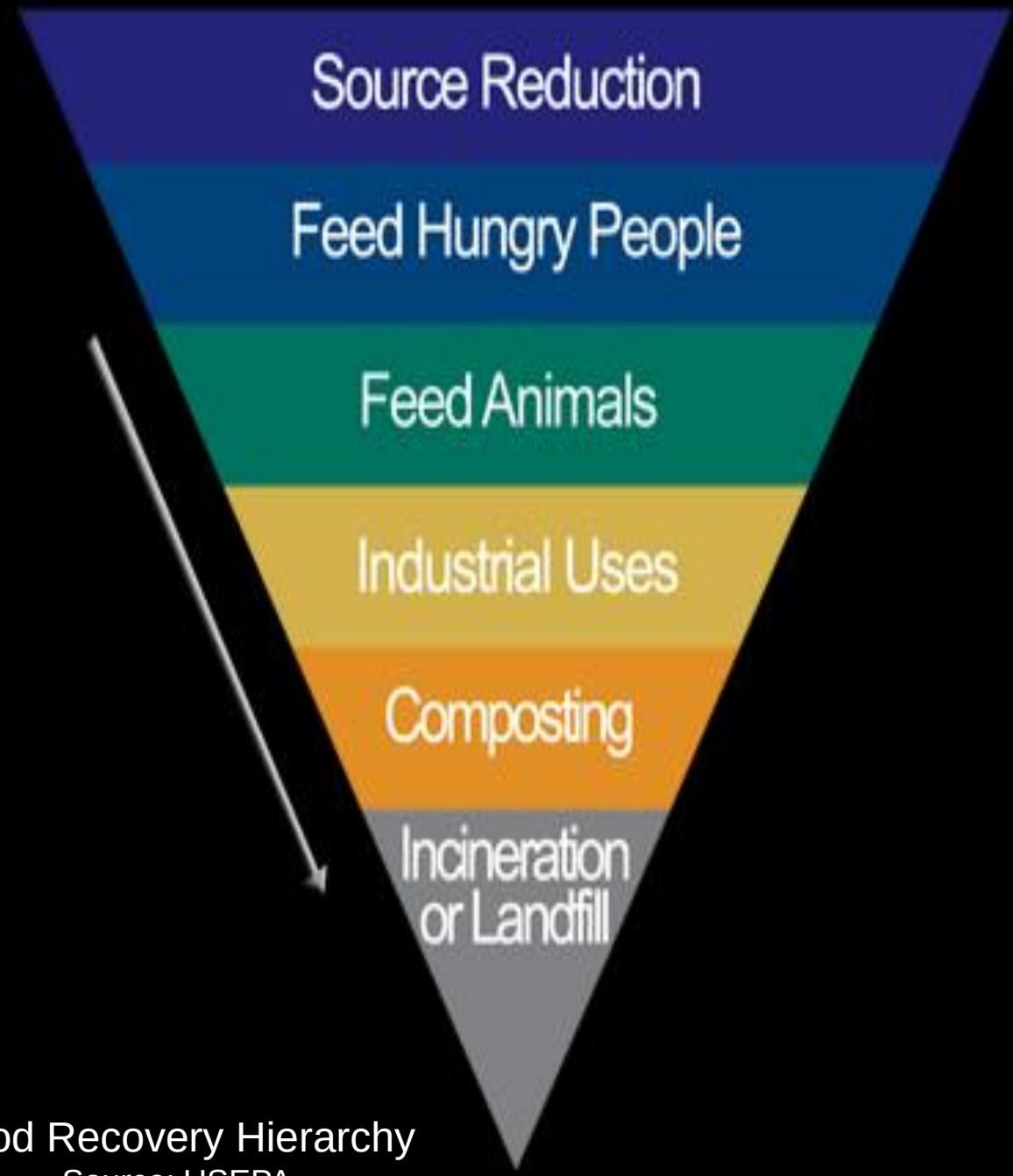
# Major Challenges of Food Waste Management in Hong Kong

- Energy from food waste and greenhouse gas reduction



# Turning Challenges to Opportunities

# Reduction at Source




Food Recovery Hierarchy
Source: USEPA




# C&I sector

# 屋苑廚餘循環再造項目

## Food Waste Recycling Projects in Housing Estates



技術查詢 Technical Enquiry

屋苑廚餘循環再造項目服務平台聯絡處
Help-desk Service for Food Waste Recycling Projects in Housing Estates

電話 Tel: 2788 5598　傳真 Fax: 2788 5608
電郵 Email: hd-fwrs@hkpc.org
網址 Website: http://hd-fwrs.hkpc.org




# Private Housing












# Public Housing




# Good Practice for our Next Generation

環境保護署
Environmental Protection Department

EcoPark - Working towards a circular economy
環保園 － 邁向循環經濟

# Support our Recycling Industry









# Food Donation


Partnership with our
Community
apm






# Infrastructure for Large Scale Treatment

# Love Food Hate Waste (North London)



Cooking Demonstration







Interactive Workshop




Exhibition

# 2013 Policy Address

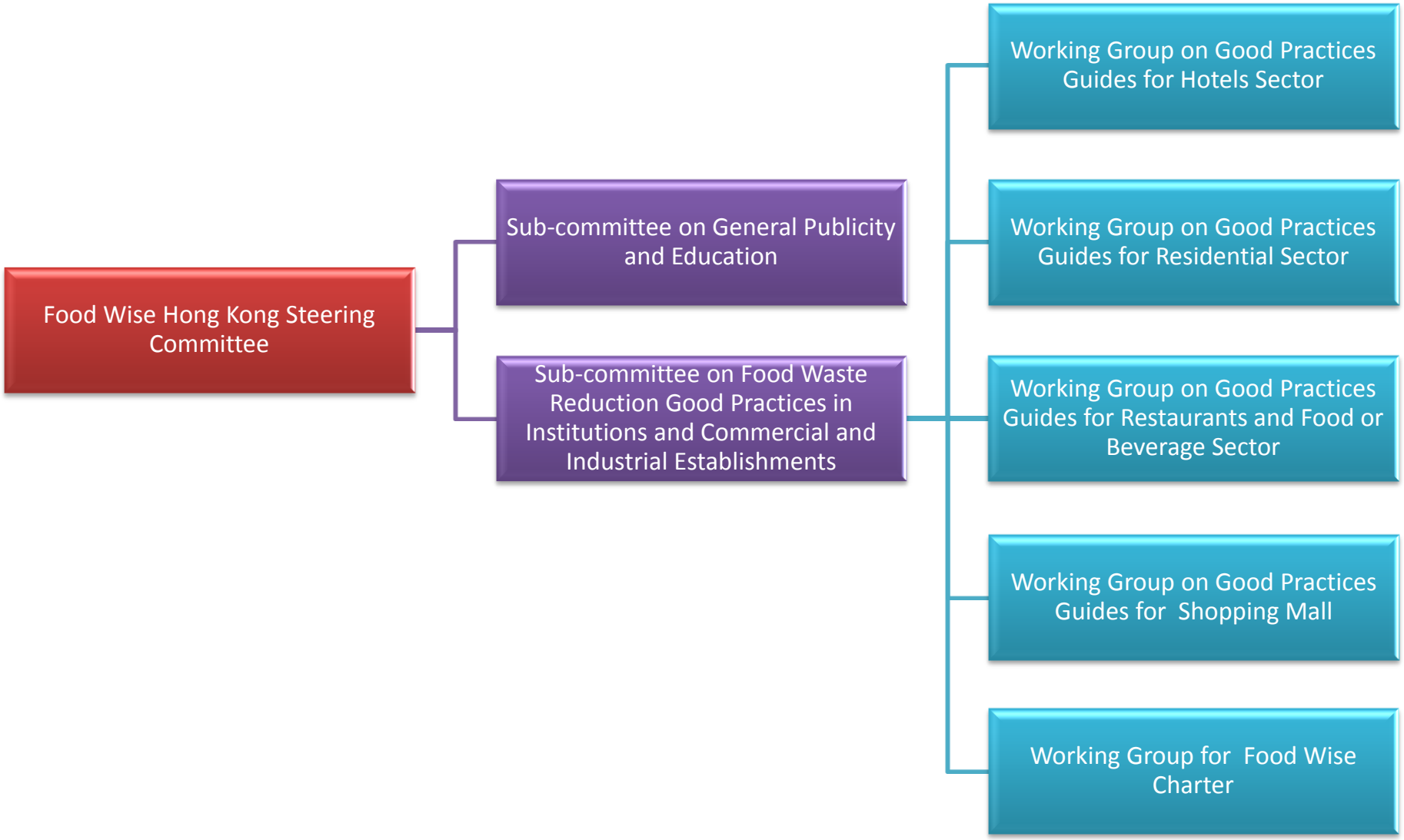
- Reduction of Food Waste

- 142. Food waste imposes a heavy burden on our landfills as it accounts for about 40% of total waste disposed of in landfills. In addition, odour from food waste creates nuisance to nearby residents. The Government has recently launched the "Food Wise Hong Kong Campaign" to mobilise the public as well as the industrial and commercial sectors to reduce food waste. We will build modern facilities in phases for recovery of organic waste so that it can be converted into energy, compost and other products.




惜食香港
Food Wise Hong Kong


翠華
飲
惜


Food Wise Hong Kong Steering Committee
Sub-committee on General Publicity and Education
Sub-committee on Food Waste Reduction Good Practices in Institutions and Commercial and Industrial Establishments
Working Group on Good Practices Guides for Hotels Sector
Working Group on Good Practices Guides for Residential Sector
Working Group on Good Practices Guides for Restaurants and Food or Beverage Sector
Working Group on Good Practices Guides for Shopping Mall
Working Group for Food Wise Charter


Kick-off Event of Food Wise Hong Kong Campaign
Food Wise Ambassador Programme
Food Wise HK
Education and Publicity Efforts
Food Wise Charter
Food Wise Website and Good Practices Guides

# Bookmarks


咪做大嘥鬼
Don't be a Big Waster
食得晒至好買
Think before you buy food
環境保護署 Environmental Protection Department
惜食香港 Food Wise Hong Kong
Food Wise 「惜食」情報 Habits
列出購買清單，
就買得剛剛好！
• 買食物之前，先檢查家中存有的食物並列出購買清單。
• 盡量按照清單的內容進行購買，以免受優惠或折扣的影響而買過量食物。
• 人數少的話，不妨購買散裝的食物，亦可與朋友及鄰居分享家庭裝／優惠裝的食品。
• 定期檢查雪櫃及廚櫃的食物存量及食物的最佳食用日期，避免重覆及過量購買，或食品過期而未能享用。
Have a detailed shopping list to avoid over-purchase.
• Take stock of your food at home and make a shopping list.
• Stick to your buying plan, instead of being a victim of sales pitches.
• Buy individually packed food if you have a small family and share bulk purchases with friends and neighbours.
• Properly manage, and check the food in your fridge and cupboard (e.g. quantity and expiry dates) to avoid buying duplicates, over purchasing and food from expiring.


咪做大嘥鬼
Don't be a Big Waster
食得晒至好嗌
Think before you order food
環境保護署 Environmental Protection Department
惜食香港 Food Wise Hong Kong
Food Wise 「惜食」情報 Habits
點菜前想一想，
食得精明，減少浪費！
• 落單前，先想一想自己是否吃得完所叫的食物，避免過度點菜。
• 有需要時，可以叫餐廳「少飯」。
• 若餐廳供應的菜式份量較大，跟家人和朋友分享，便可以避免吃剩食物。
If you don't want leftovers, order food according to your needs.
• Think how much you can eat before you order. Choose suitable portions to avoid over-ordering.
• Ask for "Less rice" if necessary.
• If the portion is too large, share the dish with your friends. This can help avoid wasting food!


咪做大嘥鬼
Don't be a Big Waster
食得晒至好煮
Think before you cook
環境保護署 Environmental Protection Department
惜食香港 Food Wise Hong Kong
Food Wise 「惜食」情報 Habits
食幾多煮幾多，
慳錢又唔浪費食物！
• 下廚前，先詰詰自己及詢問其他人的食量，避免煮得太多。
• 食飯人數少的話，可揀選份量少的食物。
• 現時互聯網上有不少「輕量食譜」提供，令都市人可煮得經濟之餘，又不浪費食材。
Ask yourself how much you can eat before you cook.
• Before cooking, ask yourself and others how much they want to eat.
• Consider light-portioned food if there are only a few people for the meal.
• Many light-portioned recipes are available on the Internet. Try those recipes to save money and waste less.


咪做大嘥鬼
Don't be a Big Waster
食唔晒都唔好嘥
If you can't finish your food, don't waste it
環境保護署 Environmental Protection Department
惜食香港 Food Wise Hong Kong
Food Wise 「惜食」情報 Habits
善用被丟棄的
剩餘食物／食材
• 外出食飯時，不妨帶走食剩的的餸菜，留待下一餐食用；既減少廚餘，又可節省金錢，一舉兩得。
• 精明地儲存剩餘的食物／食材(如：確保雪櫃溫度適中，分開儲存生及熟食物)。
• 剩餘食材或其切落可以用作烹飪其他菜式(如：魚骨魚頭可做湯料／剩餘白飯可做炒飯)。
Make the best use of leftovers and unconsumed food.
• When you are eating out, always take leftovers home. You can have a free lunch next day. Save money and waste less food!
• Store leftovers and unconsumed food properly (e.g. maintain an optimum temperature in the fridge, separate raw and cooked food).
• Make good use of surplus food and/or food trimmings for a new dish (e.g. fish bone/fish head for soup or specialty dishes, leftover plain rice for fried rice).

# Posters


咪做大陡鬼
Don't be a Big Waster
食得晒至好買
Think before you buy food
家HK
環境保護署
Environmental Protection Department
惜食香港
Food Wise Hong Kong


咪做大陡鬼
Don't be a Big Waster
食得晒至好煮
Think before you cook
家HK
環境保護署
Environmental Protection Department
惜食香港
Food Wise Hong Kong

# Food Wise Hong Kong Campaign Dedicated Website

[www.foodwisehk.gov.hk](http://www.foodwisehk.gov.hk)



# Food Waste Reduction Good Practice Guide

- Food & Beverage Sector
- Hotel Sector
- Residential Sector
- Shopping Mall Sector



# Food Waste Reduction in Food & Beverage Sector

## 飲食業界
## Food and Beverage Sector



要減少廚餘，業界可在運作過程及模式中作出改善，就能實現良好的廚餘管理方法，亦可節省成本。

The food and beverage sector can effectively manage its food waste by improving operational procedures and policies. This change will also lead to cost savings.

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## 飲食業可減少廚餘的運作過程
## Procedures of the Food and Beverage Sector to reduce food waste

(1) 採購

只在有需要時才採購適量的食材，並向認可供應商採購。

(2) 食物儲存

儲存於適當環境、貼上適當標籤及按照「先進先出」的原則。

(3) 烹調

採取適當處理及製作食物的程序。

善用未消耗的食材，製作新菜式。

(4) 避免/減少顧客浪費

主動提醒顧客避免過量點菜及吃剩食物。

在餐牌提供不同選擇。

(1) Procurement

Purchase appropriate quantities of raw materials from approved suppliers.

(2) Storage

Store food in proper environments, date and label food properly and adopt the " first-in-first-out " system.

(3) Cooking

Properly handle and prepare food. Make good use of surplus food and/or food trimmings.

(4) Avoid/reduce customers' wastage

Remind customers to avoid over-ordering and creating leftovers

Provide different menu options to minimize food waste.

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# Food Waste Reduction in Hotel Sector

## 酒店業界
## Hotel Sector

酒店提供餐飲服務，包括自助餐和舉辦宴會等；酒店業可主動檢視現有的運作及管理模式，作出改善，務求改善廚餘問題。

Hotels offer various catering services, includes buffets and banquets. To reduce food waste, the hotel sector can take the initiative to review and improve existing operations and management models.



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## 8大步驟·減少廚餘
## Eight Steps to Reduce Food Waste

01 妥善計劃 (包括：制訂政策、採購及餐牌設計)
Planning (Including policy formulation, purchasing and menu design)

02 食物儲存 Storage

03 食物處理 Handling

04 捐贈 Donation

05 回收 Recycling

06 教育及培訓 Training and Education

07 監察及審核 Monitoring and Audit

08 建立夥伴關係 Partnership

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# Food Waste Reduction in Residential Sector

## 住宅物業界
## Residential Sector

家居所製造的廚餘數量驚人，現時本港每日棄置到堆填區的廚餘當中，約70%來自家居廚餘。住宅物業管理業界與住戶的日常生活息息相關，因此可以從多方面著手，採取不同措施減少廚餘。

The amount of household food waste in Hong Kong is tremendous, it accounts for about 70% of the food waste disposed at landfills each day. Property management companies can have joint efforts with various stakeholders including residents to reduce food waste.



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## 住宅物業界減少廚餘的主要持份者
## Key Stakeholder in Residential Sector to Reduce Food Waste

- 居民
- 物業管理公司
- 環境及衛生承辦商
- Resident
- Property Management Company
- Environmental & Hygiene Contractor



## 「三管齊下」方法
## 3 Rs' Approach

- 減少廚餘
- 重用廚餘
- 循環再造廚餘
- Reduce Food Waste
- Reuse Food Waste
- Recycle Food Waste

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# Food Waste Reduction in Shopping Mall Sector

## 商場業界
## Shopping Mall Sector



商場業界可協助改善廚餘問題，最有效的措施就是鼓勵商場內的食肆從源頭減少廚餘。要順利及有效地實行，有賴商戶、商場管理公司、負責清潔的承辦商、廚餘收集公司的互相配合。

The shopping mall sector can help tackle food waste problem by encouraging restaurants in the mall to reduce food waste at source. A smooth and effective implementation depends on the collaboration of tenants, mall management, cleaning contractors and food waste collection companies.

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## 商場管理公司的減少廚餘措施
## Practices for the Shopping Mall Sector to reduce food waste



(1) 提高商戶/顧客的減少廚餘意識。
(2) 教育顧客-以宣傳單張/錄像發放資訊。
(3) 促進及鼓勵商戶參與減少廚餘活動。
(4) 連繫有興趣的商戶及慈善團體，促進捐贈食物。

(1) Raise customer and tenant awareness on reducing food waste.
(2) Educate customers by disseminating information through promotional leaflets / videos.
(3) Facilitate and encourage tenants to join food waste reducing activities.
(4) Connect interested tenants and charitable organizations to facilitate surplus edible food donation.

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# Food Wise Charter



# Food Wise Charter

## Implementation

**In order to contribute to reducing food waste from the community, we are committed to –**

✓ Promoting best practices and behavioral changes to reduce food waste.

✓ Drawing up plans to promote the awareness and acceptance of food waste reduction best practices by stakeholders within our organisations.

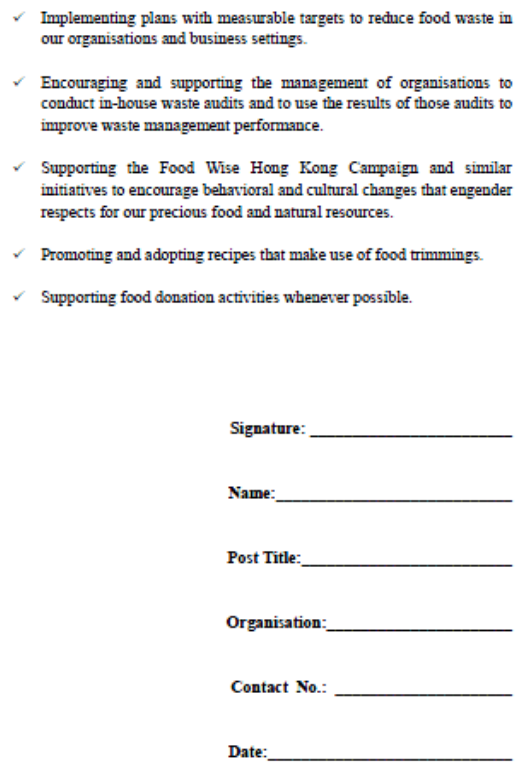
✓ Implementing plans with measurable targets to reduce food waste in our organisations and business settings.

✓ Encouraging and supporting the management of organisations to conduct in-house waste audits and to use the results of those audits to improve waste management performance.

✓ Supporting the Food Wise Hong Kong Campaign and similar initiatives to encourage behavioral and cultural changes that engender respects for our precious food and natural resources.

✓ Promoting and adopting recipes that make use of food trimmings.

✓ Supporting food donation activities whenever possible.



- ✓ Implementing plans with measurable targets to reduce food waste in our organisations and business settings.
- ✓ Encouraging and supporting the management of organisations to conduct in-house waste audits and to use the results of those audits to improve waste management performance.
- ✓ Supporting the Food Wise Hong Kong Campaign and similar initiatives to encourage behavioral and cultural changes that engender respects for our precious food and natural resources.
- ✓ Promoting and adopting recipes that make use of food trimmings.
- ✓ Supporting food donation activities whenever possible.

**Signature:** _____

**Name:** _____

**Post Title:** _____

**Organisation:** _____

**Contact No.:** _____

**Date:** _____

| Dec 2012 to April 2013 | May 2013 | May 2013 to April 2014 |
| --- | --- | --- |
| • Preparation Work | • Kick-off Event for Food Wise Hong Kong Campaign<br>• TV and radio API, posters and bookmarks<br>• 4 sets of Good Practices Guides<br>• Food Wise Charter Level 1 | • Roving Exhibition<br>• Food Wise Ambassador Workshops<br>• Food Wise Charter Level 2 and Level 3<br>• Food Trimmings Cooking Competition<br>• Promote Food Donation |

# Support Required

Sign the Food Wise Charter

Encourage your employees to participate the Food Wise Ambassador Programme and attend the workshops

Implement the Good Practices Guides

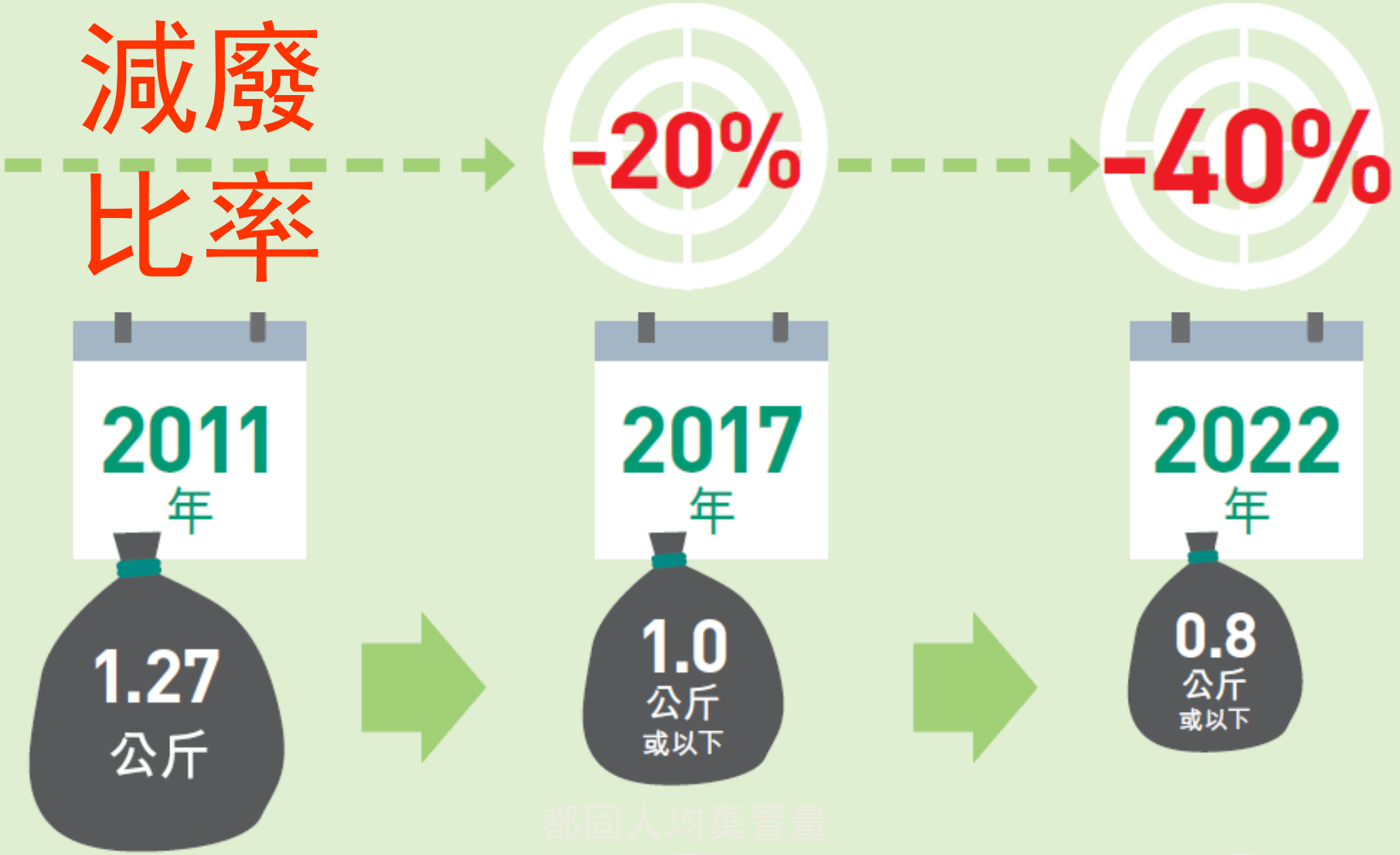
Support the Food Wise Hong Kong Campaign and similar initiatives

# 香港
# 資源循環
# 10年藍圖
# 2013 – 2022

HONG KONG
**BLUEPRINT FOR SUSTAINABLE USE OF RESOURCES**



# 十年減廢目標
2013-2022 **Reduction Target**



# 行動綱領
## Policy Direction



社會動員

**Social Mobilization**



政策法規

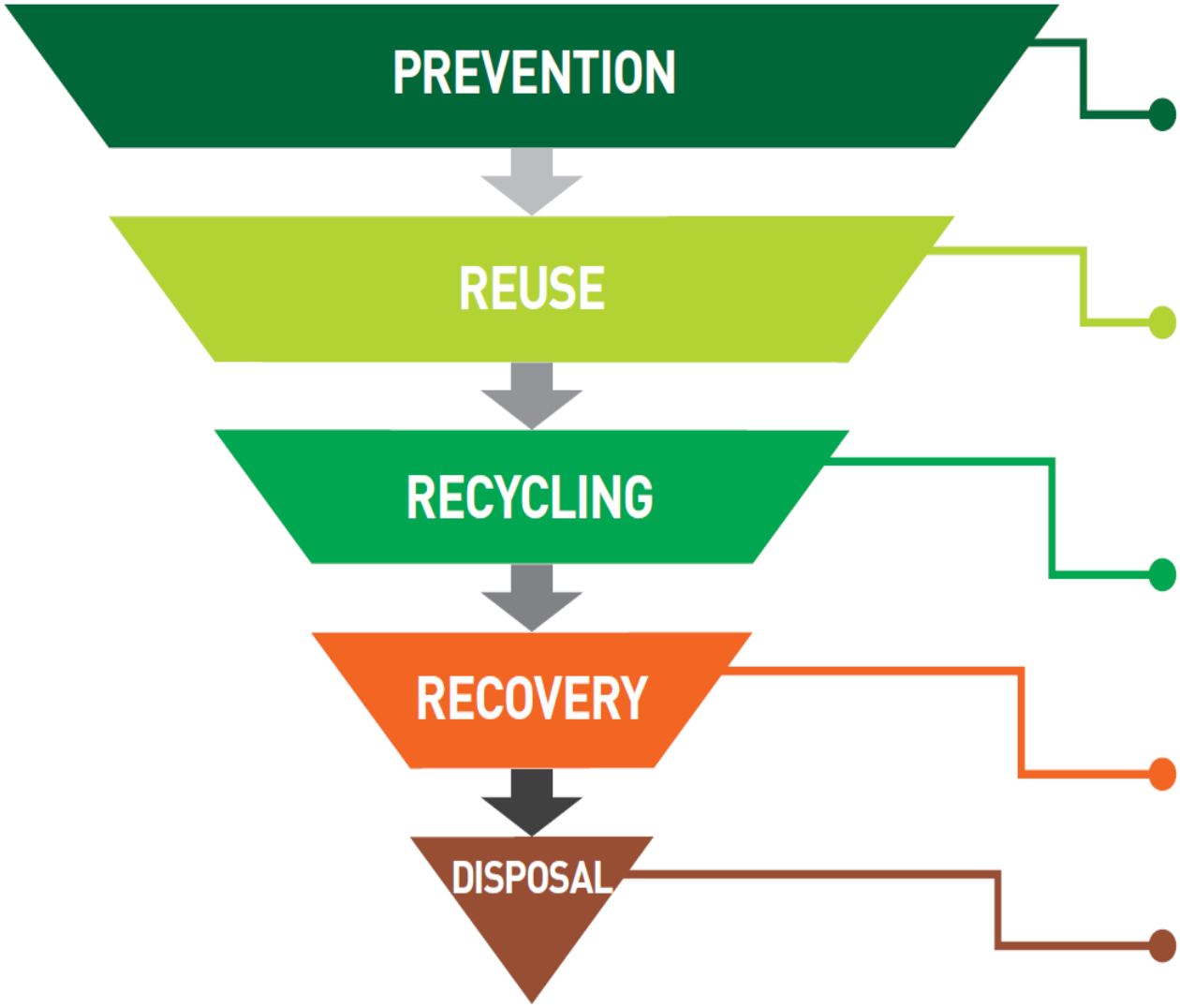
**Policy and Legislation**



基礎建設

**Infrastructure**

# 行動綱領
# Policy Direction




Reduce quantity and types of wastes at source is most desirable but challenging to achieve.

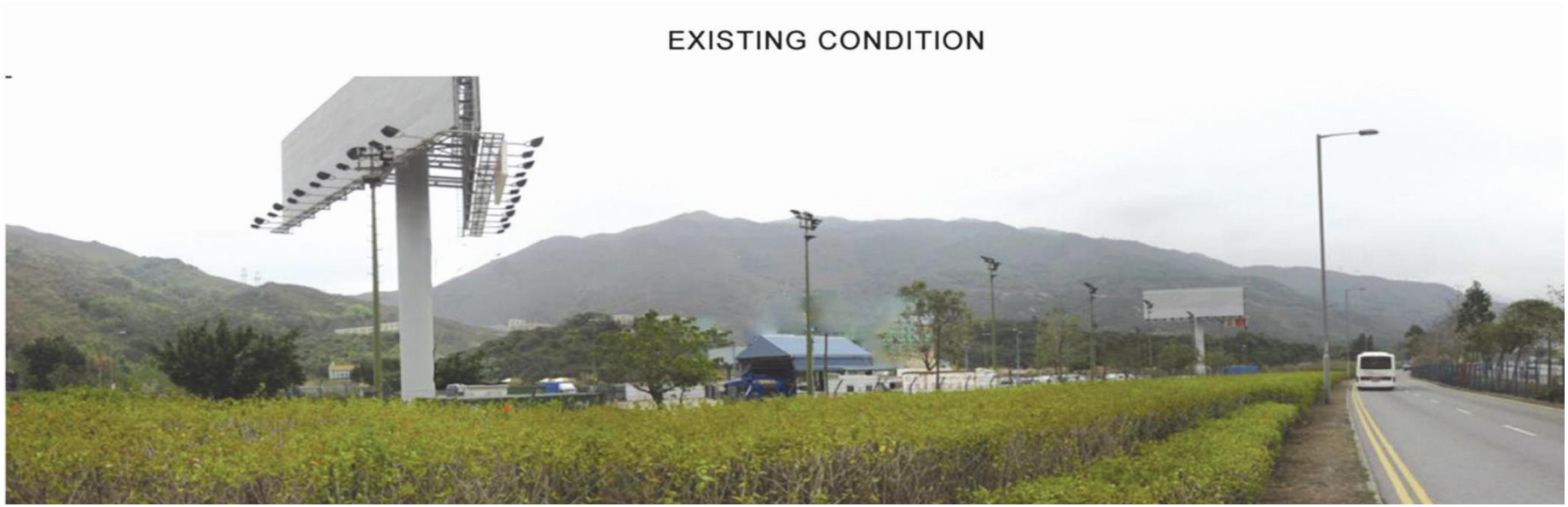
Putting materials and products back into use before thay become waste although not everything can be reused.

Involves reprocessing but may be more environmentally-friendly than using virgin materials. It also reduces landfilling.

Modern technology recovers energy, and recovery minimizes landfill use.

What cannot be taken out of the waste stream needs to be landfilled.

# Locations of Organic Waste Treatment Facilities

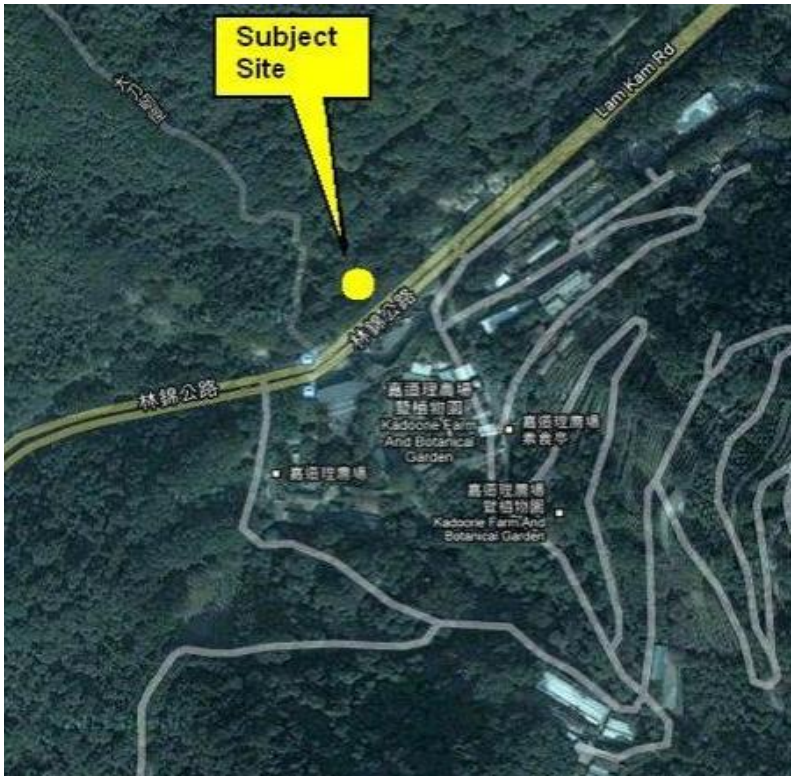



**OWTF 1 at  Siu Ho Wan (小蠔灣 )**

# Locations of Organic Waste Treatment Facilities



**OWTF Phase 2**
**at Sha Ling (沙嶺)**




**OWTF Phase 3**
**at Shek Kong (石崗)**

# Site Search for the 3rd and More Organic Waste Treatment Facilities (Blueprint – "site search for 3rd and more OWTF")



# Key Challenges 1 – Food Waste Collection and Delivery : What is the best arrangement for HK ?

- Model 1: Taipei/Seoul model

  Residents take food waste using their own or given containers to the streets at designated locations and time



# Key Challenges 1 – Food Waste Collection and Delivery : What is the best arrangement for HK ?

- Model 2:  residents take food waste to the collection point in their own estates




- Model 3: residents put the food waste in special containers outside their flats for collection by property management.



# Key Challenge 2 : incentives and mechanisms to induce food waste reduction, separation, collection and recycling ?

- Model 1:
  Taipei model - collection of food waste free of charge



- Model 2:
  UK model - special tax on landfill disposal and high gate fees for MSW at waste to energy plant

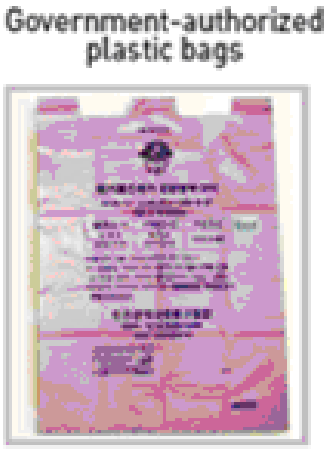


# Key Challenge 2 : incentives and mechanisms to induce food waste reduction, separation, collection and recycling ?

- Model 3: Seoul model - a levy via special bag for food waste collection

- Model 4: large difference in gate fees for different types of facilities, or even free of charge of treating food waste

- Model 5: banning food waste from landfills (ie in some European countries)






# Opportunities for Food Waste Management in Hong Kong

- Job opportunities, contracts, private sector involvement and participation for
  - Waste Management Industry
  - Professionals
  - Academics
  - NGOs

| Post | Construction | | | Operation | | |
|---|---|---|---|---|---|---|
| | OWTF1 | OWTF2 | Total | OWTF1 | OWTF2 | Total |
| Professional/ Technical Staff | 60 | 165 | 225 | 25 | 30 | 55 |
| Labourers | 252 | 362 | 614 | 10 | 17 | 27 |
| Total | 312 | 527 | 839 | 35 | 47 | 82 |

# Opportunities for Food Waste Management in Hong Kong

- Opportunity for partnership in mind-set change






# Opportunities for Food Waste Management in Hong Kong

- Opportunity to make a real difference and contribution to the environment !



## Support from you is crucial for the success of Food Wise Hong Kong Campaign

## Thank you!

