

**Rezoning of Sites to Facilitate the Implementation of
The Government's Integrated Waste Management Policy
for Hong Kong**

Integrated Waste Management Action Group
www.wastehk.org

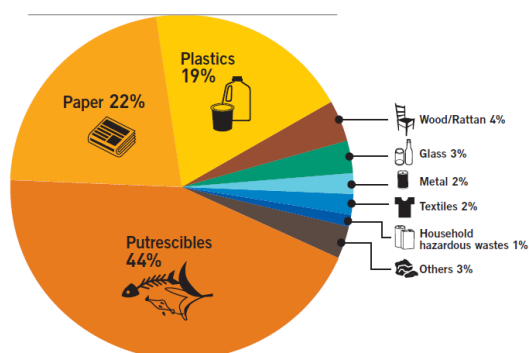
Integrated Waste Management Action Group : s12A Application

A new approach which:

- involves the broader community
- is more environmentally sensitive
- can be implemented in a shorter timescale
- is more economically viable
- is more flexible to cater for technology advances
- distributes the responsibility regionally

Hong Kong: Blueprint for Sustainable Use of Resources 2013-2022 and The Integrated Waste Management Facilities

“The Blueprint” <http://www.enb.gov.hk/en/files/WastePlan-E.pdf>



Composition of waste going to landfill in 2011. The average daily weight of waste disposal was 9000 tons in 2011

(Source: Extracts from “Blueprint for Sustainable Use of Resources 2013-2022” (“The Blueprint”).

Current Distribution of Waste Management Facilities



IWMAG's S12A Application

- Aims for radical waste reduction going to landfill
- Each located in areas with compatible neighbouring activities
- 3 have marine access
- Rezoning of four regional IWMF sites to respond to local needs – more balanced approach
- Each IWMF supported by local recycling centres, fed by territory-wide collection and separation network
- Each IWMF should include a range of facilities for managing waste
- Use best technology which meets performance criteria – technologically neutral
- Encourage significant investment in each sector of waste management

Minimize Waste to Landfill - Process to Include

Priority Actions

- Reduce waste before reaching landfill – waste charging
- Mechanically sort waste on arrival at IWMF
- Recycle sorted waste from sorting at IWMF
- Composting plant integrated as part of IWMF

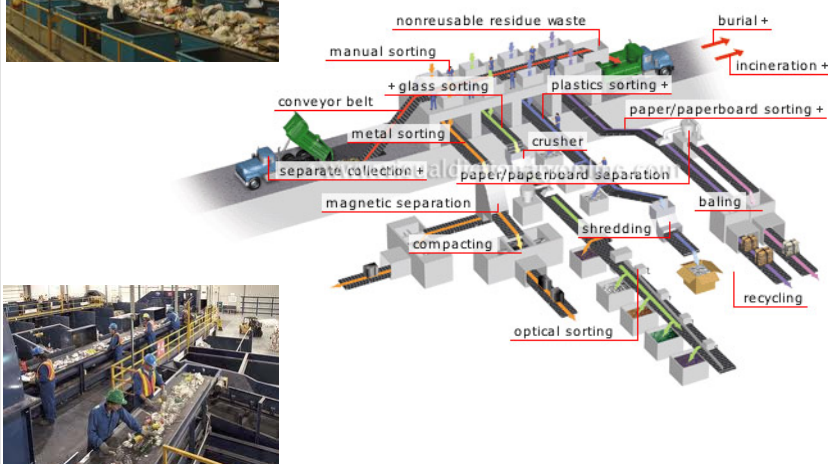
Last Resort Actions

- Heat treatment of residual waste material as part of IWMF
- Reuse residual material from heat treatment where possible
- Remaining material sent to landfill

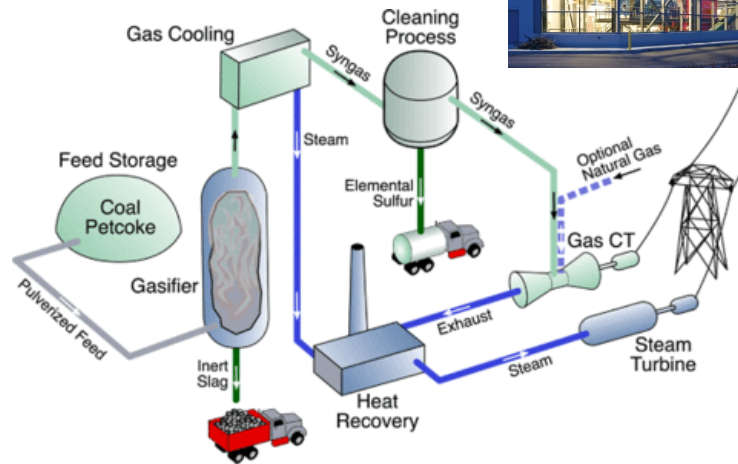
Priority Action : Mechanical Sorting



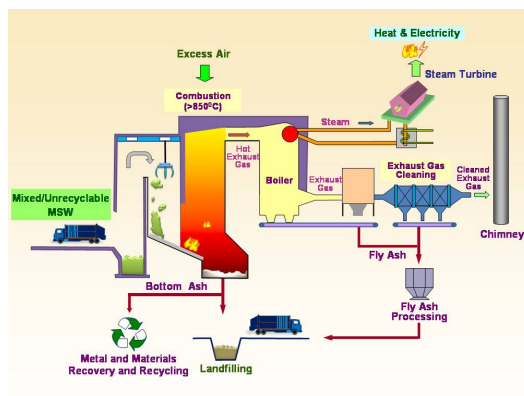
Sorting Plant : Facility that Receives Waste and sorts recyclables for delivery to a Recycling Centre



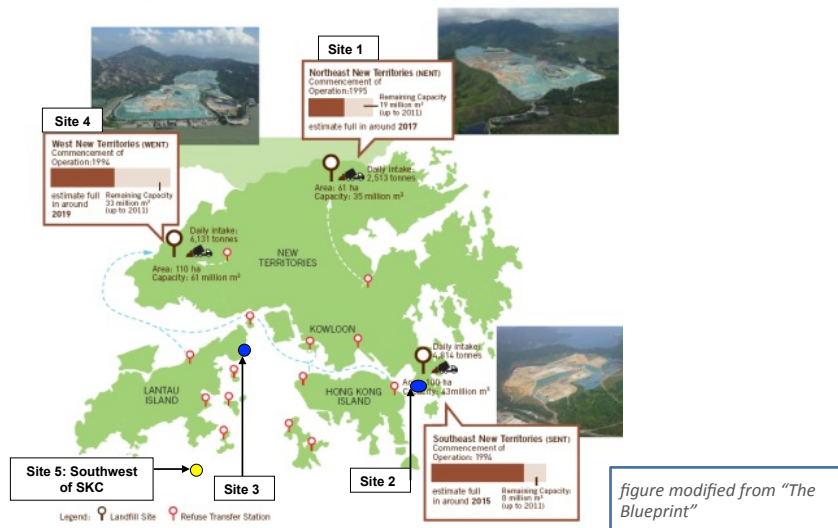
Last Resort Action: Gasification Plant



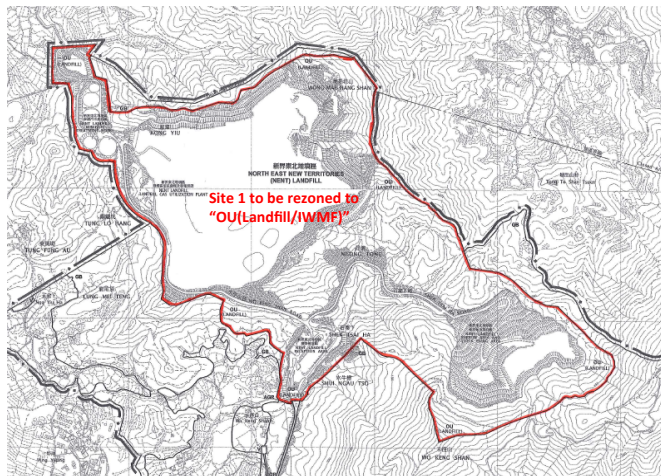
Last Resort Action: Incinerator



**Landfills and 4 Proposed IWMF Sites : Shek Kwu Chau (site 5)
rezoned for Marine Reserve**



SITE 1 : TA KWU LING LANDFILL



Site 1 (NENT Landfill in Ta Kwu Ling) proposed to be rezoned from "OU(Landfill)" to "OU(Landfill/IWMF)" (155ha)

SITE 2 : TSEUNG KWAN O, AREA 137



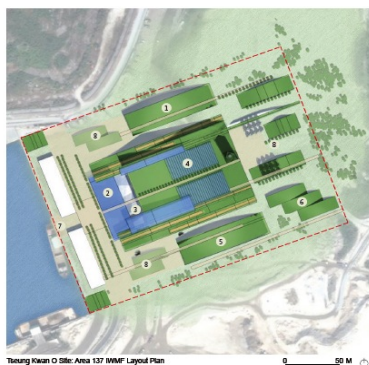
Site 2 (Part of Area 137, Tseung Kwan O) is proposed to be rezoned from "OU(Deep Waterfront Industry)" to "OU(IWMF)"(8.3ha)



SENT Landfill Extension includes Part of Area 137
(Source: SENT Landfill Extension Feasibility Study, EPD)



An Aerial View of IWMF in Relationship with Neighbourhood at Site 2



Indicative Layout Plan of the IWMF at Site 2

- 1 Administration Building
- 2 Visitor / Education Center
- 3 Viewing Deck/ Glass
- 4 Waste to Energy Plant
- 5 Recycle Center
- 6 Supporting and Ancillary Facilities
- 7 Berth Area
- 8 Open Space
- Site Boundary (Area: 80,000sqm)

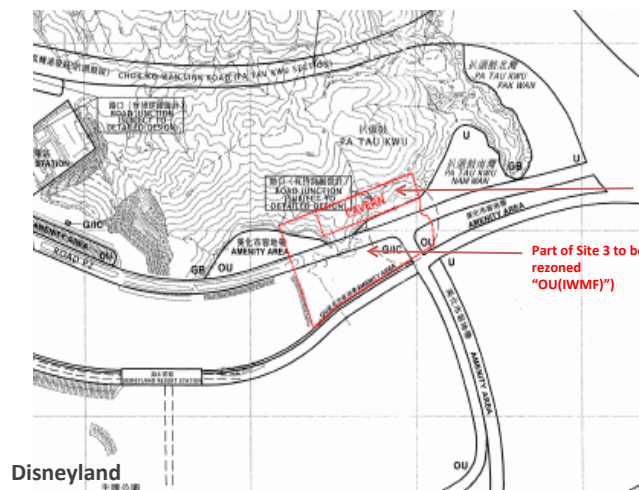


A photomontage to show the IWMF at Site 2 viewed from a Boat

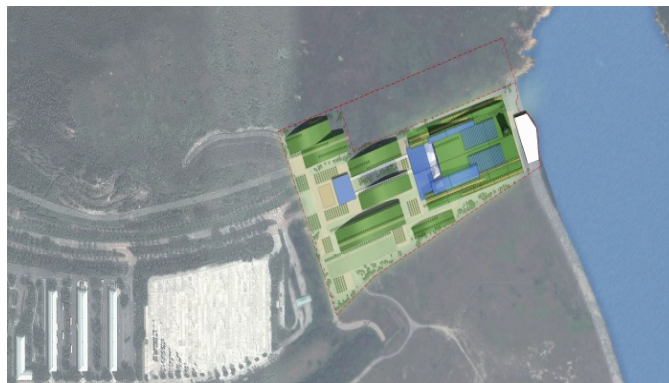


Wheelabrator Westchester L.P. Waste-to-Energy Facility
(Source: <http://wheelabrator technologies.com/plants/waste-to-energy/wheelabrator-westchester-lp/>)

SITE 3 : NORTHEAST LANTAU (DISNEY)



Location of Site 3 (Pa Tau Kwu in NE Lantau) shown on the Northeast Lantau OZP No. S/I-NEL/12. It is currently Vacant and is covered by a number of Zonings. It is proposed to be rezoned to "OU(IWMF)" and Green Belt (1) (9.8ha)



Aerial View of the IWMF at Site 3 with the Surrounding



An Indicative Layout Plan of the IWMF at Site 3

- ① Administration Building
- ② Visitor / Education Center
- ③ Viewing Deck/ Glass
- ④ Waste-to-Energy Plant
- ⑤ Recycle Center
- ⑥ Supporting and Auxiliary Facilities
- ⑦ Berth Area
- ⑧ Open Space
- ⑨ Cavern (Area: 21,000 sqm); Composting Plant, Sorting plant
- Site Boundary (Area: 771,100sqm) - excluding cavern area

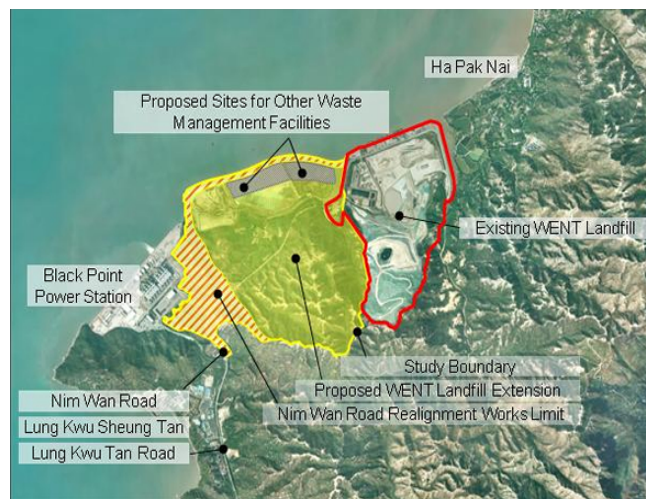


Photomontage showing the IWMF at Site 3 viewed from a Boat



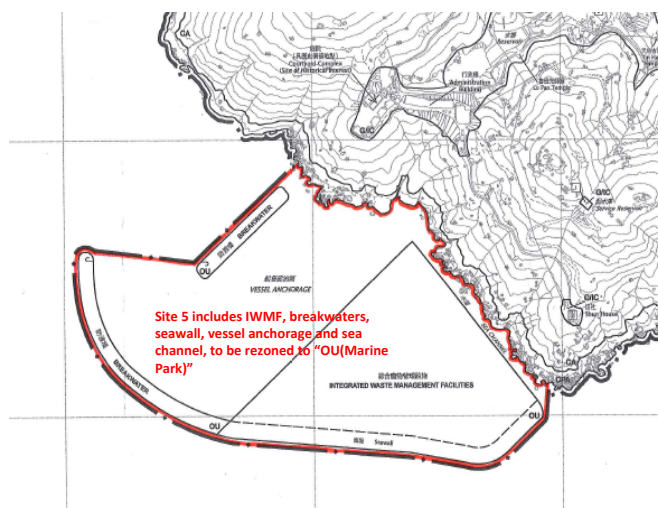
Example 1: Spittelau incineration plant in Vienna, Austria, designed by famous painter and designer Friedensreich Hundertwasser.

SITE 4 : WENT



Location of WENT Landfill and its Extension. The "Proposed Sites for Other Waste Management Facilities" shown on the Figure are the Proposed IWMF Site at Tsang Tsui Ash Lagoon under the Site Search Study 2008 and the site for Tuen Mun Sludge Treatment Facility (Source: *WENT Landfill Extension Feasibility Study, EPD*)(240ha)

SITE 5 : SHEK KWU CHAU



Site 5 (Water to the southwest of SKC) is proposed to be rezoned to "OU(Marine Park)"

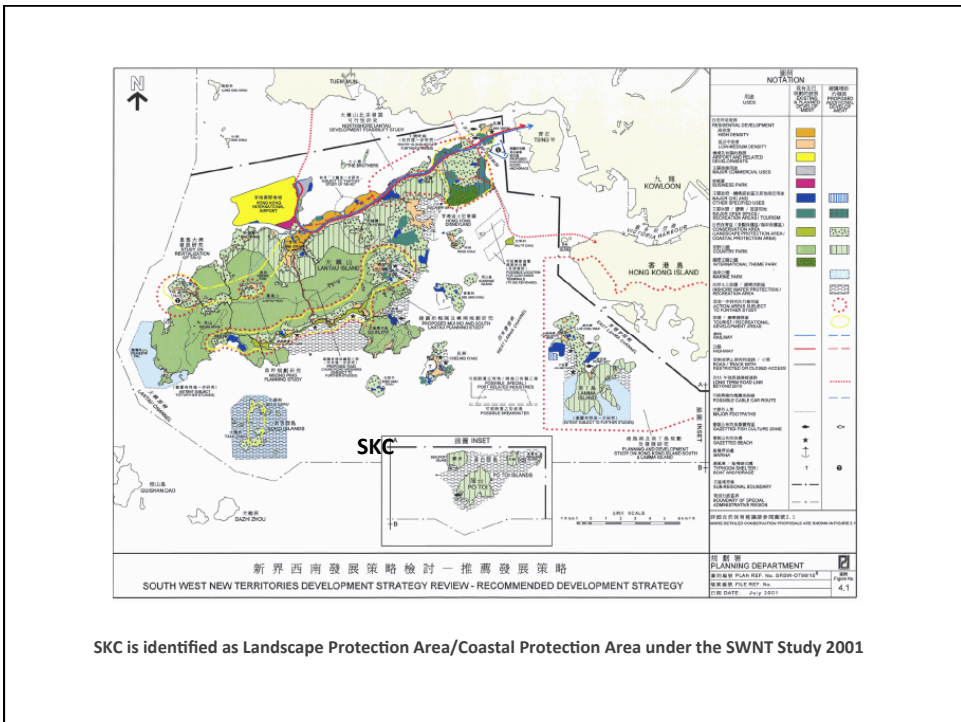


A Photomontage showing the Government's Proposed IWMF on the Artificial Island off SKC. It is prepared based on the figures in the Legislative Council Brief titled "Development of the Integrated Waste Management Facilities" by EPD, February 2011.

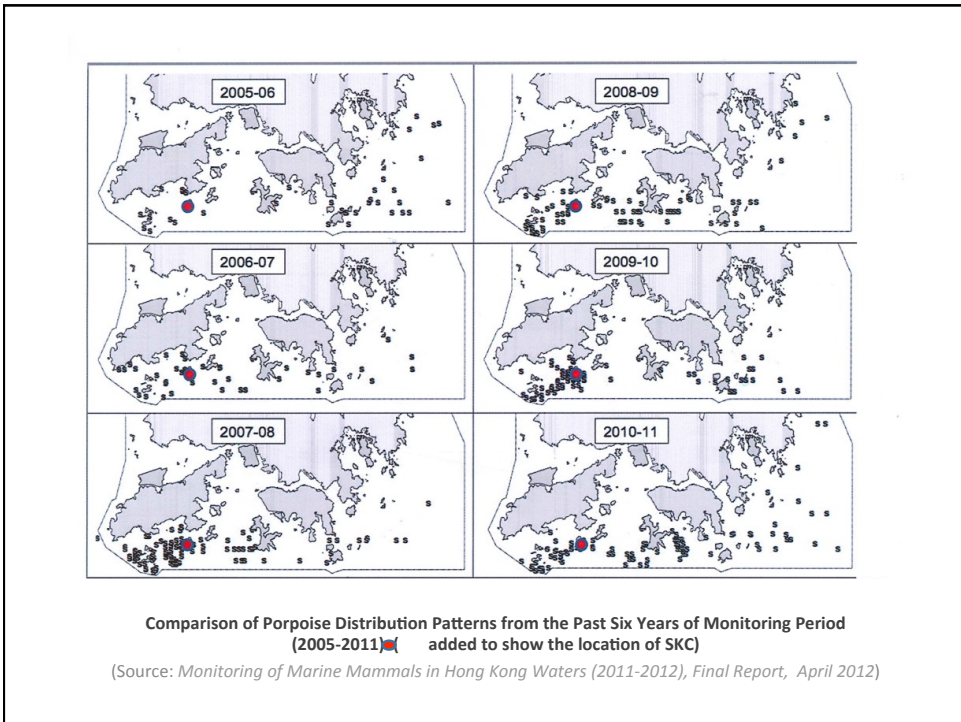
SKC and its Surrounding Water

"As the island is home to a number of rare species of conservation concern, WWF considers SKC should be protected by conservation zonings or as an Site of Special Scientific Interest."

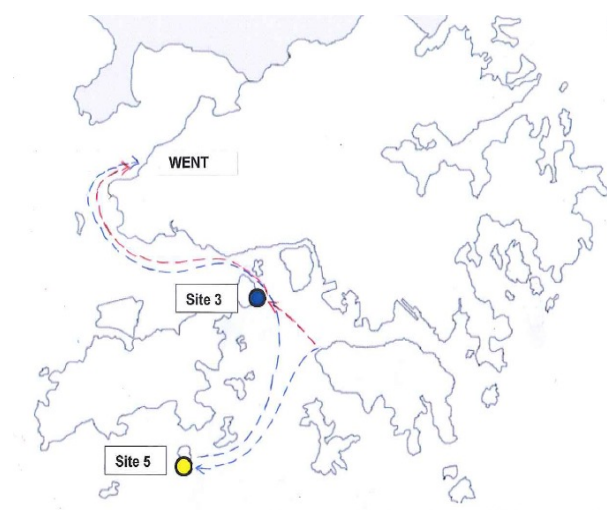




SKC is identified as Landscape Protection Area/Coastal Protection Area under the SWNT Study 2001



ECONOMIC ASSESSMENT



Transportation route of Waste from Urban Area to IWMF and Residual Ash to WENT Landfill for Site 3 (route in red) is much shorter than that of Site 5 (route in blue).

GHK's comparison of Govt's v IWMAG's Proposal

Cost	Government's proposal	IWMAG's Proposal
Capital Costs	<ul style="list-style-type: none"> - \$14.96 billion (MOD, April 2012 Estimate) including reclamation cost (est. \$2.4 billion). - Additional costs required to upgrade the electricity grid in southern Lantau and to fully extend Hong Kong's existing landfills. 	<ul style="list-style-type: none"> - Facility construction cost to be determined. - Reclamation and grid upgrading costs are not required. - It may be possible to defer and/or avoid some landfill extension costs if waste recovery improves significantly.
Operating Costs	<ul style="list-style-type: none"> - \$353 million p.a. - Transportation costs between RTs, SKC and on to WENT. - Cost of operating fully extended landfill 	<ul style="list-style-type: none"> - Facility operating cost to be determined. - Transportation costs between RTs and the four facilities are likely to be lower. - It may be possible to defer and/or avoid some landfill extension operating costs if waste recovery improves significantly.
Opportunity Cost	<ul style="list-style-type: none"> - Some costs in terms of use of waterbody and seabed that would be reclaimed. - Significant opportunity cost involved in extending the landfills. 	<ul style="list-style-type: none"> - Some opportunity cost at two sites: Area 137 and northeast Lantau. Both sites still vacant long after reclamation so cost may not be large.

Risk	<ul style="list-style-type: none"> - Increased risk of impact of malfunction (all eggs in one basket) Sea access only increases risk. 	<ul style="list-style-type: none"> - Reduced impact of malfunction at one site (other sites still operational). - Allows delivery of waste by road.
Flexibility	<ul style="list-style-type: none"> - Large investment in super incinerator ties Hong Kong to this treatment method 	<ul style="list-style-type: none"> - Involves development of a more diversified range of regional waste treatment facilities. - Provides greater flexibility to adjust facility provision as new waste treatment technologies come on stream - There may be investment opportunities in recycling industries in Hong Kong.
Environment	<ul style="list-style-type: none"> - Major impact on ecosystem around SKC. - Visual impacts for residents and visitors to South Lantau, although mitigated by proposed greening measures. 	<ul style="list-style-type: none"> - Two of the four sites may have environmental impact implications. - Northeast Lantau site – some use of green belt, but marginal impact considered small. - Area 137- visual impacts, although unlikely to be worse than alternative use of the site : deep waterfront industry. - Facility may also reduce the noise and air quality issues of trucks garbage driving through Tseung Kwan O - May improve the quality of environment around existing landfills.

THANK YOU

Please make a submission to the Town Planning Board
by 20 December

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