Solid Waste Management in Singapore



National Environment Agency

Strategy 1 : Waste Minimization

Singapore Packaging Agreement

- Prevent waste generation at source
- > Jointly developed by Government, Industry & NGOs; signed Jun 07; valid for 5 years
- Signatories
- set targets voluntarily
- formulate action plans to reduce and reuse packaging waste
- 122 signatories

Closing the Waste-to-Resource Loop



Strategy 2 : Recycling

Recycling of Industrial and Commercial Waste (378,900 tonnes, 99%)

- Used Slag
 - C & D Waste
- Ferrous Metal
- > Wood / Timber Paper / Cardboard ۶

Food Waste

Plastics

- (921,800 tonnes recycled, 99%) (1,127,500 tonnes recycled, 94%)
- (190,000 tonnes recycled, 70%)
- (738,200 tonnes recycled, 53%)
- > Horticultural Waste (99,200 tonnes recycled, 40%)
 - (102,400 tonnes recycled, 16%)
 - (78,100 tonnes recycled, 11%)



Strategy 2 : Recycling

Recycling of Domestic Waste

- > National Recycling Programme (NRP)
 - For HDB / Landed Premises
 - Participation rate = 63%
 - Door-to-door fortnightly collection
 - 1,600 centralised recycling depositories
- Mandatory provision of recycling receptacles for all condominiums
- > School Recycling Corner Programme (100%)
- > Annual Recycling Week
- > Public Areas (4,160 recycling bins)





Overall Recycling Rate



Strategy 3 : Waste-to-Energy

A Cost Effective Method of Refuse Disposal as:

- volume of refuse can be reduced by 90%
- > energy can be recovered for power generation
- scrap metal can be recovered for recycling \geq



Strategy 4 : Reduce Waste To Landfill



Waste Collection System

Domestic & Trade Premises

- Waste collection privatised in 2001
- Improve collection efficiency and service ۶ quality

Industrial & Commercial Premises

≻ Waste generators are free to engage licensed general waste collectors

Public Waste Collection Sectors





Waste-to-Energy Plants

Location	Year	Cost (\$)	Capacity (t/d)
TIP	1986	200 million	1,700
SWTE	1992	560 million	2,100 (contracted)
TSIP	2000	890 million	3,000
KSTP	2009	160 million	800 (contracted)
		Total	7,600





Public-Private-Partnership (PPP)

DBOO IP

- The Keppel Seghers Tuas Waste-to-energy Plant is developed under the Design-Build-Own-Operate (DBOO) scheme
- The plant is providing incineration services to NEA over the 25-year period from 2009 to 2034

Divested SIP

- > Senoko Plant was divested in Sep 09
- The plant is providing incineration services to NEA over the 15-year period from 2009 to 2024



Semakau Landfill



In the longer term...

- Sustainable Development Blueprint
 Key goals and initiatives for the next 10 to 20 years
- Boosting our Resource Efficiency, we aim to attain recycling rate of:
 - 65% in 2020 (Intermediate goal)
 - 70% in 2030



