



TOKYO MODEL

# FRESH BLUEPRINT FOR WASTE DISPOSAL

Rapid population growth makes waste management a major concern for all governments. Long-term plans on how to dispose of waste once landfills are full are vital, writes **CHUAH BEE KIM**

**T**HE clock is ticking for Tokyo's landfills. They are expected to be exhausted in 50 years.

Residents may find themselves drowning in garbage one day if proactive steps are not taken to find a solution to the problem.

But Tokyo's woes are a universal problem faced by urbanites living in major cities in many countries, including Malaysia.

Rapid population growth makes the issue of waste disposal a major concern for all governments.

A technology or blueprint to dispose of waste once landfills are full is vital to save the planet and all life on Earth.

Tokyo has such a blueprint, called the Tokyo Model, which discusses municipal waste management systems and their strengths in 23 cities in the

greater Tokyo area.

Residents are well aware of the dangers posed by waste to the environment, but maintaining and creating even wider awareness on a long-term basis is crucial.

Shiratori Nobuyoshi, the Tokyo section chief under the International Cooperation for Waste Management Division at the Clean Authority of Tokyo (CAT23), said when Japan introduced recycling, the recycling culture did not catch on instantly.

He said there were protests and "garbage wars" in neighbourhoods back then.

"Residents living in neighbourhoods where incineration plants or landfills were being built protested the development."

"They knew the importance of recycling, but their mentality in

the beginning was 'not in my backyard'.

"But through dialogue between municipal council members and residents, as well as stricter standards on pollution control for local municipal councils, residents eventually changed their minds."

He was speaking to a group of

journalists from 10 Asean countries who were sponsored by the Japan International Cooperation Agency (JICA) to visit landfill management sites under CAT23 earlier this year.

This came after JICA held an exchange programme where residents from Malaysia and Japan were given an opportunity to visit each other's countries to learn more about waste management.

Shiratori said spreading awareness in Japan about the importance of recycling took many decades, and results could only be seen in the 1970s to 1980s.

He said one of the best ways to promote a recycling culture was for it to be taught to the younger generation, such as preschoolers.



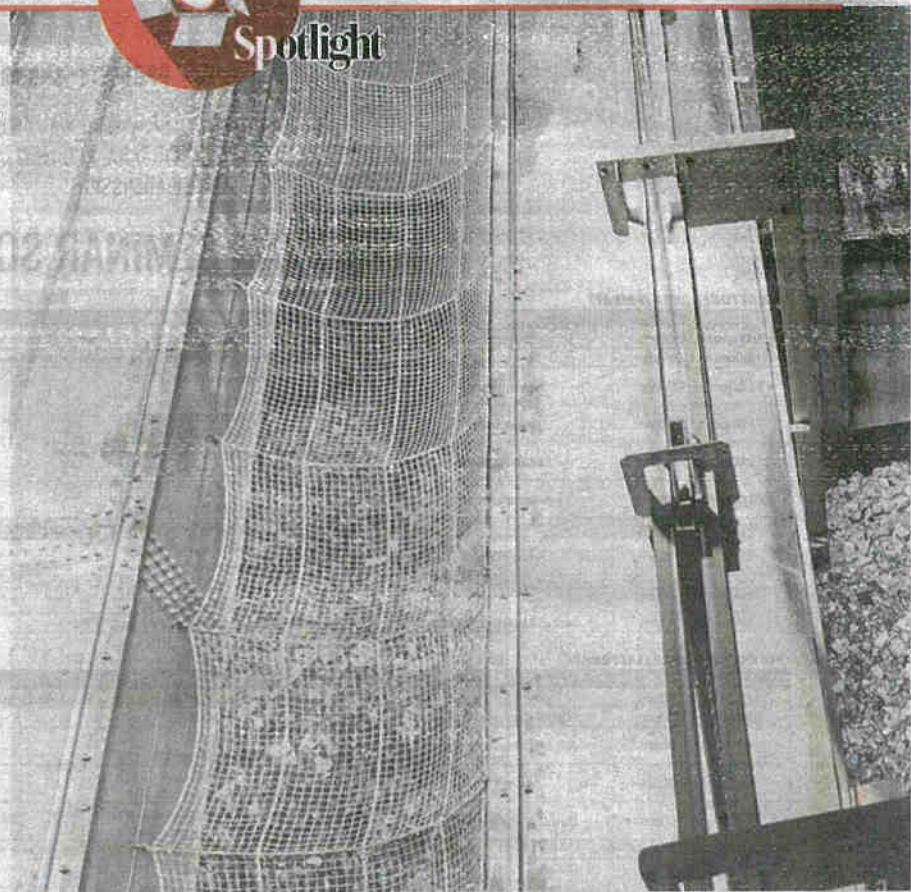
**Residents living in neighbourhoods where incineration plants or landfills were being built protested the development. They knew the importance of recycling, but their mentality in the beginning was 'not in my backyard'.**

**SHIRATORI NOBUYOSHI**  
International Cooperation for Waste Management Division Tokyo section chief

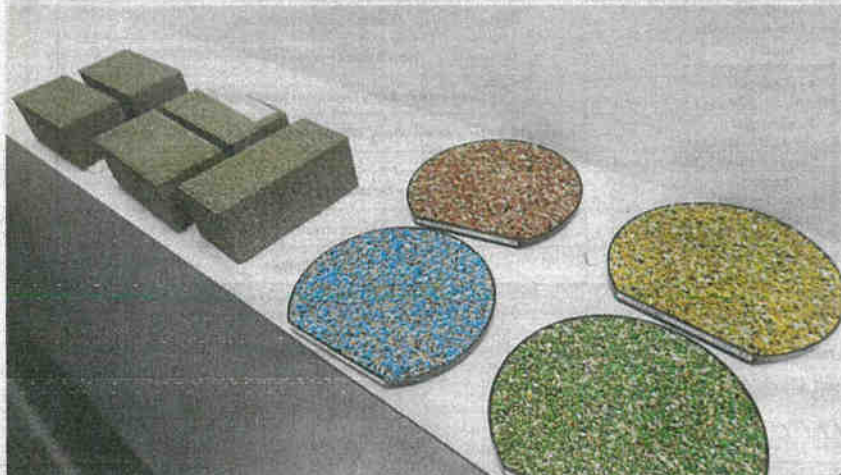
He said stricter standards for incineration plants had been implemented, including measures to prevent noise, excessive vibration and odour, and making sure routes taken by waste collectors did not cause traffic congestion.

"We are pleased to hear that Malaysia is also very serious about environmental protection through the implementation of the law on wastes separation."

Following the implementation of environmental policies under the 7th Malaysia Plan (1996-2000), Japan's co-operation with Malaysia for solid waste treatment increased since 2000 through the training and strengthening of awareness for local governments and residents.



A waste crane lifting rubbish from a waste bunker in Japan.



The bottom ash of incinerators can be melted at a high temperature, which will turn them into sandy slag that can be used in construction.

## 'Malaysians produce too much garbage'

**TWO** years ago, the Solid Waste Management and Public Cleansing Corporation (SWCorp) said the corporation spent RM1.4 billion annually to manage and dispose of solid waste nationwide.

Former SWCorp chief executive officer Datuk Ab Rahim Md Noor had said in May 2015 that the cost was expected to double by 2020.

A study in 2005 estimated that the amount of solid waste collected nationwide could eventually reach 33,000 tonnes a day.

SWCorp has reached this mark: it has been collecting 33,000 tonnes daily since 2012.

"This shows we are producing far more waste than expected," Rahim had said.

Malaysians are expected to produce an estimated 49,000 tonnes of waste by 2020.

This revelation came just before the Federal Government enforced the mandatory separation of waste beginning Sept 1, 2015 to reduce waste that are sent to landfills and promote recycling.

In 2012, the Iskandar Regional Development Authority (Irda) established a framework to ensure the sustainability of Iskandar Malaysia as an economic region of international standing, and for the corridor to be the Malaysian model for a smart city, which means an integration of three basic components — economy, environment and social aspects.

Irda has been working closely with the Japan International Cooperation Agency and Universiti Teknologi Malaysia on initiatives to reduce and mitigate carbon emission in Iskandar Malaysia, including addressing waste management issues.

The initiatives aimed to create a higher quality of life in the economic corridor.

In Johor, two new cells at Seelong Sanitary Landfill were opened in January last year to meet the increasing demand for waste disposal sites.



### SAND, SEA AND SLAG

Among the most successful waste-to-energy and waste recycling initiatives in Japan is at the Ota Incineration Plant, the second largest incineration facility in Tokyo.

CAT23 director Yukio Shouji said the facility generated 2.78 million tonnes of garbage a year.

"Twenty per cent of the burnt waste is converted into energy to generate electricity for the Ota Incineration Plant, while the remaining is sold to a private electricity supply company.

"The bottom ash can also be

melted at a high temperature, which will turn it into sandy slag, to be used in construction."

He said taxes that residents paid also went towards the operation costs of the plant, which had a fleet of 500 trucks.

All 23 cities in the greater Tokyo area have their own fleet to collect and transport household waste to their incineration plants.



*Yukio Shouji*

In total, Tokyo has 5,000 to 6,000 garbage trucks.

Yukio said 100 million tonnes of waste had been put into landfills since 1927.

He said currently, the final disposal of 90 per cent of municipal waste incineration residue was done on the sea surface.

Sea surface landfill technology was developed after inland landfill areas became scarce.



*A waste truck arriving at the Ota Incineration Plant. All 23 cities in the greater Tokyo area have their own fleet of trucks.*



*Former SWCorp chief executive officer Datuk Ab Rahim Md Noor says Malaysians are producing far more waste than expected*