FACTSHEET ON FOOD WASTE MANAGEMENT

Announcements

- NEA and AVA will develop guidelines for the proper handling and re-distribution of unsold and excess food.
- NEA will implement food waste treatment pilots at hawker centres where food waste will be separately collected for on-site treatment.
- NEA will conduct a district-level pilot in Clementi, where food waste collected from various premises in the area will be sent to an off-site facility for co-digestion with used water sludge.

Introduction

1 Food waste accounts for about 10 per cent of total waste generated, but less than 15 per cent of it is recycled. In 2014, 788,600 tonnes of food waste was generated\(^1\), of which 101,400 tonnes (13 per cent) was recycled. The rest of the food waste was disposed of at the incineration plants and then landfill.

2 The amount of food waste generated in Singapore has increased by about 48 per cent over the past 10 years\(^2\) and is expected to rise further in tandem with a larger population and greater affluence. Besides the effort and energy needed to collect and dispose of it, food waste also contaminates recyclables and compromises recycling efforts, and causes odour and pest issues if not managed properly. There is a need to tackle food waste in a holistic way in terms of minimisation, redistribution and recycling.

3 Reducing and recycling of food waste is part of the plans under the Sustainable Singapore Blueprint’s goal to work towards becoming a Zero Waste Nation. Under the Sustainable Singapore Blueprint, we aim to reach an overall recycling rate of 70% by 2030.

Promoting food waste minimisation

4 The preferred way to manage food waste is to reduce it as much as possible. In September 2014, the National Environment Agency (NEA) and Agri-Food & Veterinary Authority of Singapore (AVA) commissioned a survey to find out the consumer perceptions, behaviour and attitudes towards food wastage. NEA and AVA will use the results from the survey to refine their engagement strategies on promoting food waste minimisation.

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\(^1\) 788,600 tonnes of food waste is equivalent to about 2 bowls of rice per person per day.

\(^2\) The amount of food waste generated in 2005 was 531,500 tonnes.
To minimise food waste across the food supply chain, NEA and AVA will work with the industry to develop good practice guides for food manufacturing and food and beverage (F&B) retail establishments.

**Redistribution of unsold and excess food**

As part of NEA’s ongoing 3R (Reduce, Reuse, Recycle) outreach effort, NEA will continue to encourage food manufacturers and F&B establishments to donate their unsold and excess food to food distribution organisations such as Food Bank Singapore and Food from the Heart. To address food safety concerns, NEA and AVA will also develop guidelines for the proper handling and re-distribution of unsold and excess food.

**Recycling food waste**

Currently, food waste that is recycled is mainly homogenous food waste from food manufacturers such as spent yeast/grains from beer brewing, soya bean and bread waste. These food wastes are segregated at source and sold to recyclers for conversion into animal feed. In addition, over 20 premises, including hotels and schools, currently segregate their food waste and use on-site food waste treatment machines to convert the food waste into compost for landscaping purposes or water for non-potable use.

**Food waste recycling pilots**

The Ministry of the Environment and Water Resources and NEA will be conducting two types of pilots in 2015 to evaluate cost-effective methods for collecting and processing food waste, through (i) on-site food waste segregation and treatment at hawker centres and (ii) district-level collection of food waste for co-digestion with used water sludge at an off-site treatment facility.

The two-year on-site food waste pilot at the hawker centres aims to test the economic viability and operational feasibility of food waste segregation and recycling in hawker centres. The hawker centres will each have an on-site food waste recycling machine which will convert segregated food waste and leftover food from the hawker stalls to either water or compost (examples of food waste recycling machines are shown in the Annex). As part of the process, NEA will engage the hawker stallholders and table-cleaners and educate them on the proper methods for food waste segregation.

The district-level food waste pilot aims to examine the economic viability of district-level food waste collection and off-site treatment at a centralised recycling facility. Source-segregated food waste from the Clementi district – such as from shopping malls, schools, hospitals and office buildings – will be transported to an off-site test facility located at the Ulu Pandan Water Reclamation Plant. The pilot will also assess the feasibility of recovering energy from food waste and used water sludge via anaerobic co-digestion.

**Building up local capability to recycle food waste**
To further promote source segregation and food waste recycling, NEA will support recycling trials such as on-site food waste treatment systems under NEA’s 3R Fund. NEA will look into research & development (R&D) and test-bed innovative ways to recycle food waste. For example, NEA is working with AVA to encourage food manufacturers to carry out R&D and test-bed innovative food applications such as converting soya bean waste into okara floss suitable for human consumption.

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Annex

Examples of Food Waste Recycling Machines

On-site food waste treatment machine at Crowne Plaza Changi Airport Hotel

On-site food waste treatment machine at Fairmont Singapore and Swissotel The Stamford