**Facts about waste management**

**1. Most of Singapore’s trash is incinerated**

Singapore disposes of much of its waste through waste-to-energy initiatives—of the whopping [7.23 million tonnes of solid waste generated in 2019](https://www.nea.gov.sg/our-services/waste-management/waste-statistics-and-overall-recycling), more than 40 per cent was incinerated.

According to the National Environment Agency (NEA), incineration reduces waste by up to 90 per cent, saving landfill space, and the heat recovered produces steam used to generate electricity.

In the [words](https://www.businesstimes.com.sg/government-economy/singapore-not-in-a-hurry-to-ban-plastic-bags-minister-says) of the recently appointed Minister for Sustainability and the Environment, Grace Fu, Singapore is not “in a hurry” to ban plastic bags because it burns waste to produce energy.

Waste-to-energy initiatives are, however, not sustainable in the long run:

* People are not compelled to conserve energy when they are misled to believe that their electricity comes from ‘green sources’. In addition, waste-to-energy only accounts for 3 per cent of Singapore’s electricity needs.
* They provide no incentives to reduce waste volumes or encourage responsible recycling. Singapore has extremely low recycling rates, and creates massive waste volumes for such a small city-state.
* Resources are lost and wasted, creating unnecessary demand for virgin materials.
* They could stifle innovation in waste management, including upcycling waste into other, higher-value products besides electricity, or hinder the transition to more renewable energy sources.
* Incineration typically leads to increased carbon emissions and air pollution, and could potentially pose a health hazard, although experts from the NEA [claims](https://www.eco-business.com/news/how-will-singapore-defuse-a-16-year-waste-timebomb/) that Singapore’s waste-to-energy technology is environmentally and health-friendly.

Since most trash is incinerated, plastic alternatives often touted as biodegradable may not be more environmentally-friendly in Singapore’s context as they would either require a special industry facility to be processed, or would need to be left in the landfill to degrade.

**2. Recycling rates are extremely low, and much of it is exported**

Despite awareness-raising campaigns to encourage a 3R (reduce, reuse and recycle) mindset, and designating 2019 as a ‘Year towards zero waste’, Singapore’s [domestic recycling rate dropped from 22 per cent in 2018 to 17 per cent in 2019](https://www.nea.gov.sg/our-services/waste-management/waste-statistics-and-overall-recycling) – only 4 per cent of plastic and 18 per cent of food is recycled in the city-state.

Most of Singapore’s recycling is exported abroad for processing, including Australia, China, India, Indonesia, Malaysia, South Korea or Thailand. However, recent [government decisions](https://www.scmp.com/week-asia/health-environment/article/3113665/southeast-asia-prepares-get-dumped-china-enacts-waste) by countries like China or Indonesia to cut their imported waste means that an increasing amount of Singapore’s recyclable trash ends up being incinerated.

According to many industry experts, running a domestic recycling operation in Singapore is not financially feasible, and there is little transparency on what happens with the exported recyclables.

**3. 40 per cent of trash placed into recycling bins are contaminated, and thus incinerated**

There is also limited awareness and education on the dos and don’ts of recycling, and many are not conscious that a recyclable item has to be washed or rinsed to avoid liquid or food contamination.

According to a [2018 study by the Singapore Environment Council (SEC)](https://sec.org.sg/seaa/wp-content/uploads/2018/08/DT_PlasticResourceResearch_29Aug_FinalPrint.pdf), 70 per cent of respondents did not fully know which items were considered recyclable.

Under Singapore’s National Recycling Programme, the government provides commingled recycling bins to all residential estates where glass, plastic, paper and metal are collected together, which further increases the risk of contamination if consumers do not recycle correctly.

The NEA has published a helpful [list](https://www.nea.gov.sg/docs/default-source/our-services/waste-management/list-of-items-that-are-recyclable-and-not.pdf) of what should and should not be placed in recycling bins, and in what condition – this document should be promoted as every Singaporean household’s recycling bible.

**4. Singapore’s one and only landfill is projected to reach capacity by 2035**

Incinerated ash and non-incinerable waste are deposited to Semakau Landfill—the city-state’s sole landfill—which is projected to run out of space by 2035, or even earlier given the [spike in waste generation](https://www.straitstimes.com/singapore/more-trash-in-past-month-but-fewer-waste-collectors) amid the Covid-19 pandemic.

This further increases the urgency to improve sustainable waste management and resource recovery at the regulatory and industrial, as well as the consumer and household levels.

**5. Extended Producer Responsibility (EPR) key to more responsible waste management**

As a glimmer of hope, the parliament passed the [Resource Sustainability Bill](https://www.parliament.gov.sg/docs/default-source/default-document-library/resource-sustainability-bill-20-2019.pdf) in 2019 which aims to introduce Southeast Asia’s first Extended Producer Responsibility (EPR) law, essentially holding firms accountable for the responsible disposal of post-consumer waste.

Measures include [mandatory reporting](https://www.nea.gov.sg/our-services/waste-management/mandatory-packaging-reporting) for companies that produce or use packaging, and extending EPR for e-waste by 2021, food waste by 2024, and packaging by 2025.

Continued investment in upcycling innovations will be equally crucial to tackling Singapore’s waste management problems.

Last year, the government has also opened a new waste management plant which aims to [convert waste into not just electricity, but also construction materials](https://www.straitstimes.com/singapore/new-plant-turns-waste-into-power-and-building-materials), and is slated to eventually be able to treat medical and other forms of hazardous waste.

In addition, construction has begun for the [first integrated water and solid waste treatment facility](https://www.nea.gov.sg/media/news/news/index/tuas-nexus-singapore-s-first-integrated-water-and-solid-waste-treatment-facility-begins-construction) which will enable the co-digestion of food waste and used water sludge to boost electricity generation.