



**Asia-Pacific
Economic Cooperation**

2021/CTI/SEM2/005

Session: 2

Overview of Singapore's Integrated Solid Waste Management System

Submitted by: Singapore



**Webinar on Improving Waste Management
and Recycling Policies in the APEC Region
17 June 2021**

Overview of Singapore's Integrated Solid Waste Management System

APEC Webinar –

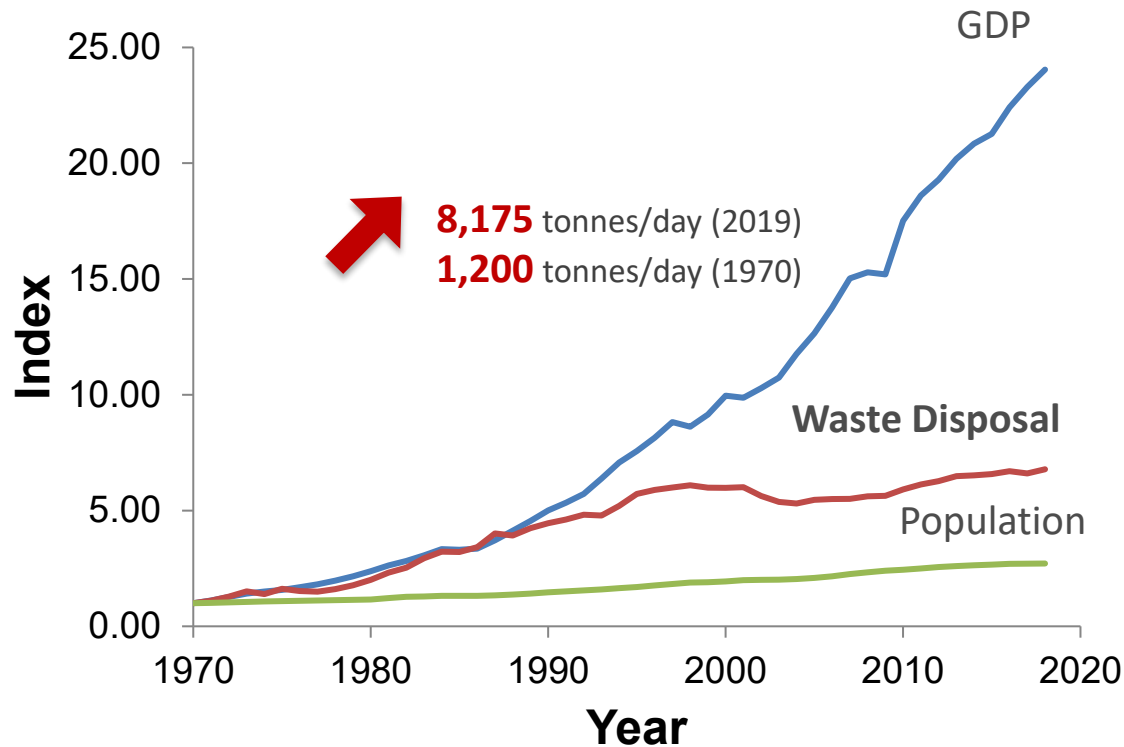
Improving Waste Management and Recycling Policies in the APEC Region

17 June 2021



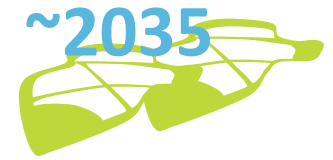
Challenges – Waste Growth and Land Scarcity

Singapore's tonnage of waste disposed of increased about **7-fold** over the past 40 years



At this rate..

Semakau Landfill until:



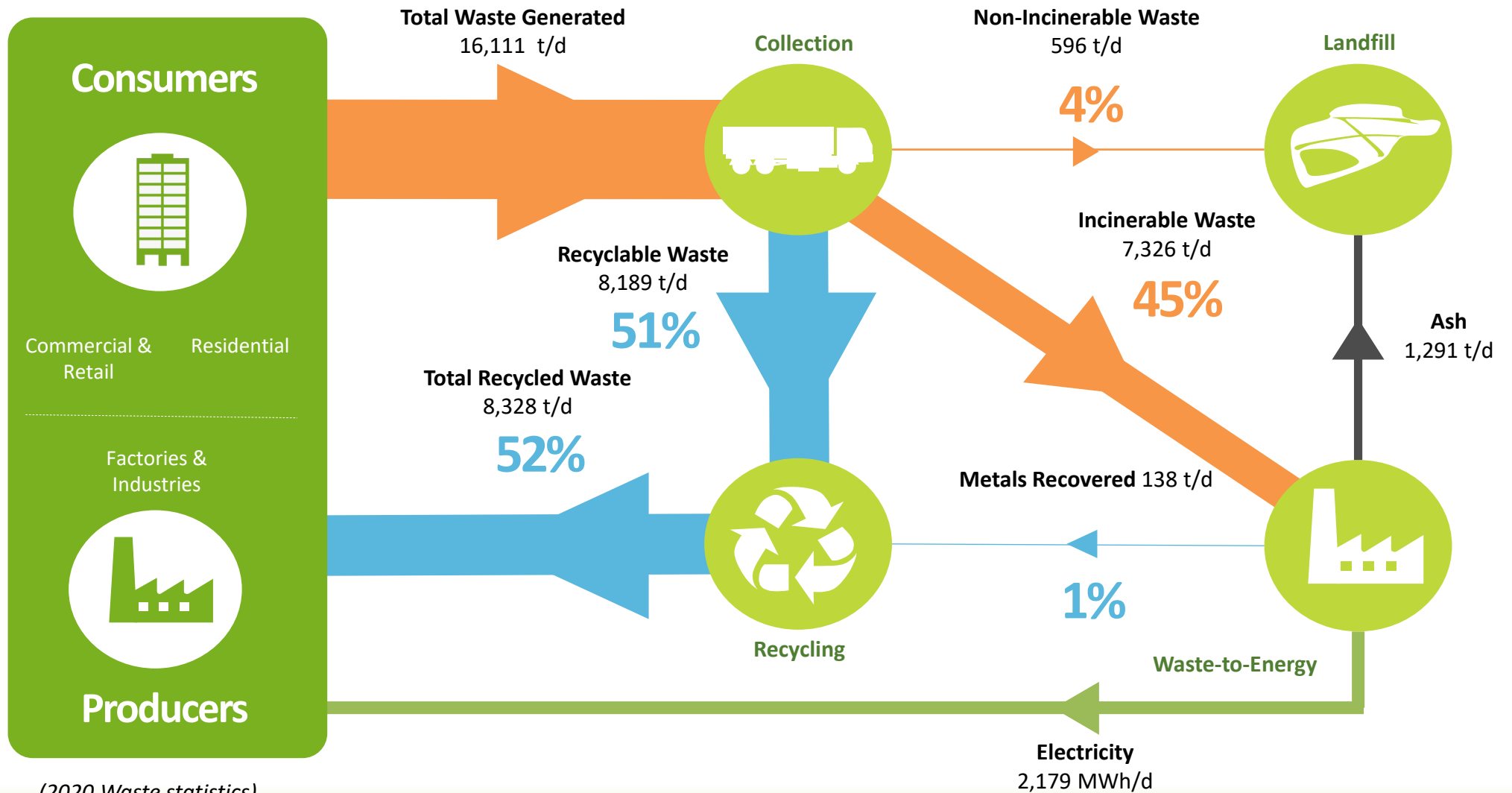
New offshore landfill every:

30-35 years

But there will be less & less land available



Singapore's Waste Management System



(2020 Waste statistics)

Solid Waste Management Strategies



Towards a Zero Waste Nation

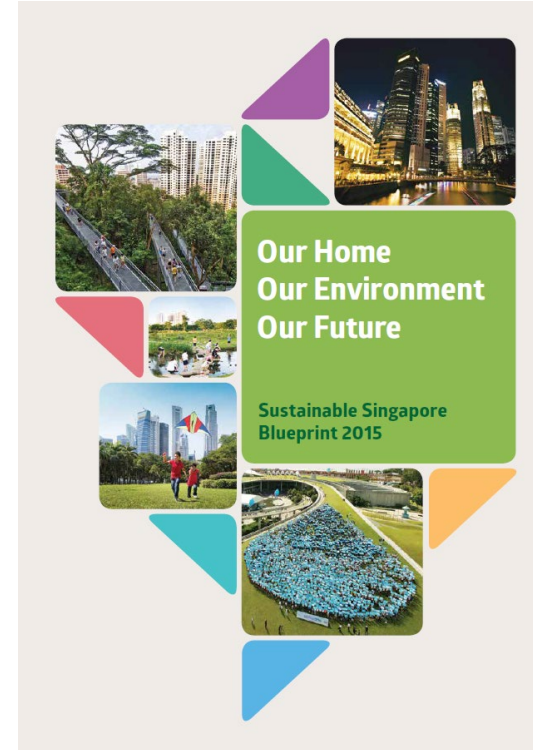
Our Targets

- 1 Extend Semakau Landfill's lifespan **beyond 2035**
- 2 Reduce amount of **waste sent to landfill per capita per day by 30%** by 2030
- 3 By 2030, achieve a **70% overall recycling rate**:
 - 81% non-domestic recycling rate
 - 30% domestic recycling rate

THIS IS A

30% REDUCTION

IN INCINERATION ASH AND
NON-INCINERABLE WASTE
BEING SENT THERE TODAY!



70%
Overall Recycling
Rate

81%
Non-Domestic
Recycling Rate

30%
Domestic
Recycling Rate



SG Green Plan 2030



A **domestic sustainability movement**, with concrete sectoral plans and targets over the next ten years that will position Singapore to **achieve net zero emissions as soon as viable**



5 Pillars of the SG Green Plan



City in Nature



Sustainable Living



Energy Reset



Green Economy



Resilient Future

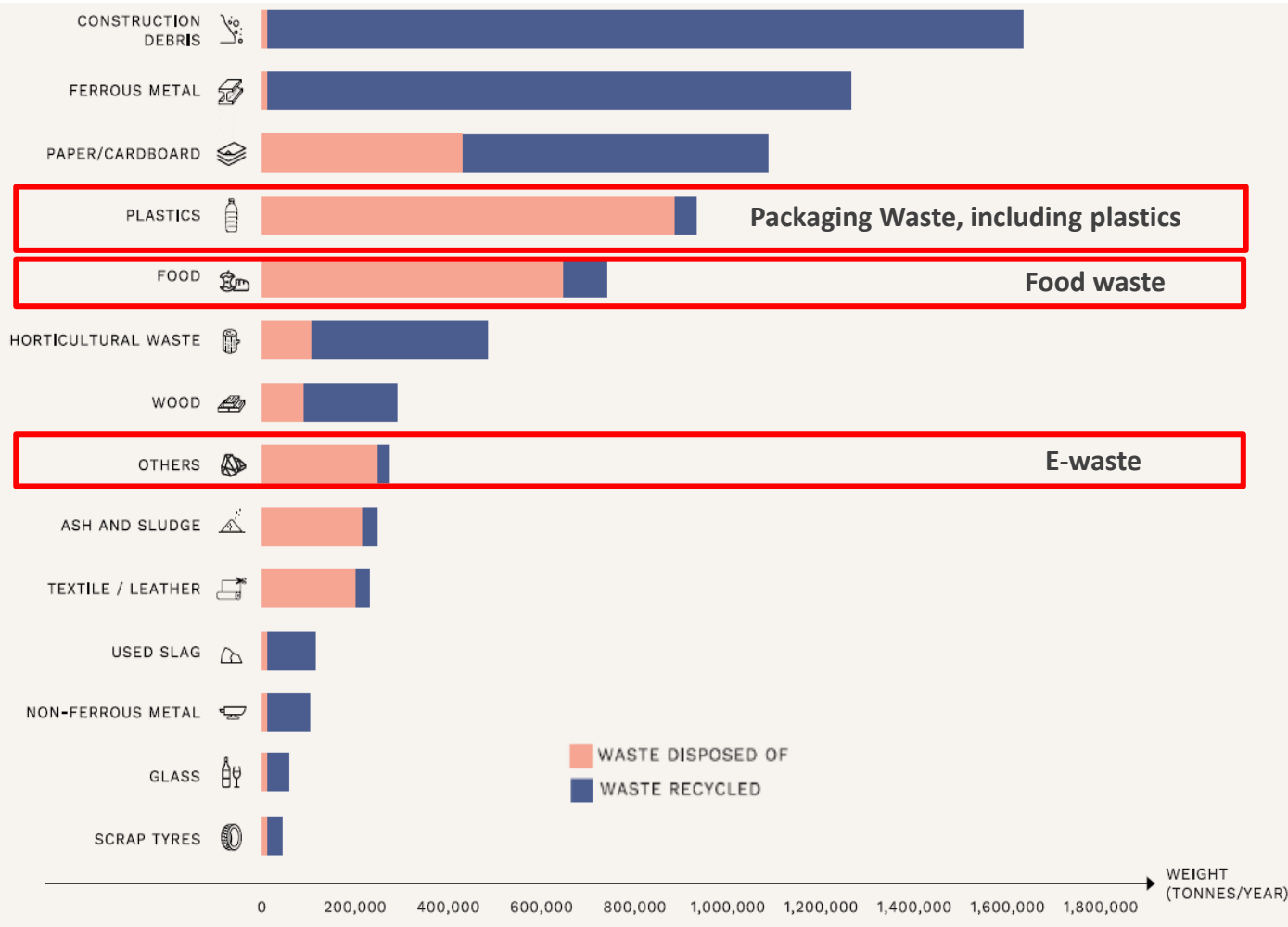


Target

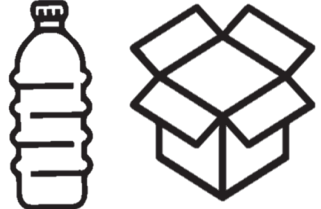
To reduce the amount of waste (per capita) sent to landfill by **20% by 2026**; and subsequently by **30% by 2030**

For more information, visit www.GreenPlan.gov.sg

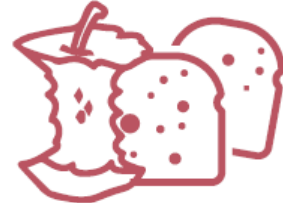
Resource Sustainability Act to Close Three Resource Loops



Packaging Waste, Including Plastics



Food Waste



E-waste



Closing the E-waste Loop

2021: Extended Producer Responsibility

covering the following products:

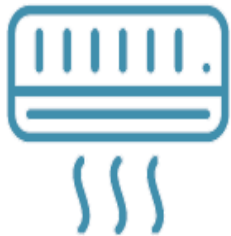


Batteries

Lamps

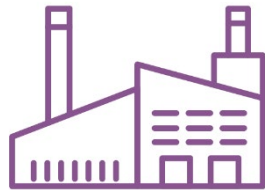


ICT Equipment



Large Appliances

Producers



- **Consumer EEE:** Required to join a PRS
- **Non-consumer EEE:** Required to provide free take-back services for all end-of-life equipment from clients upon request

Producer Responsibility Scheme (PRS)



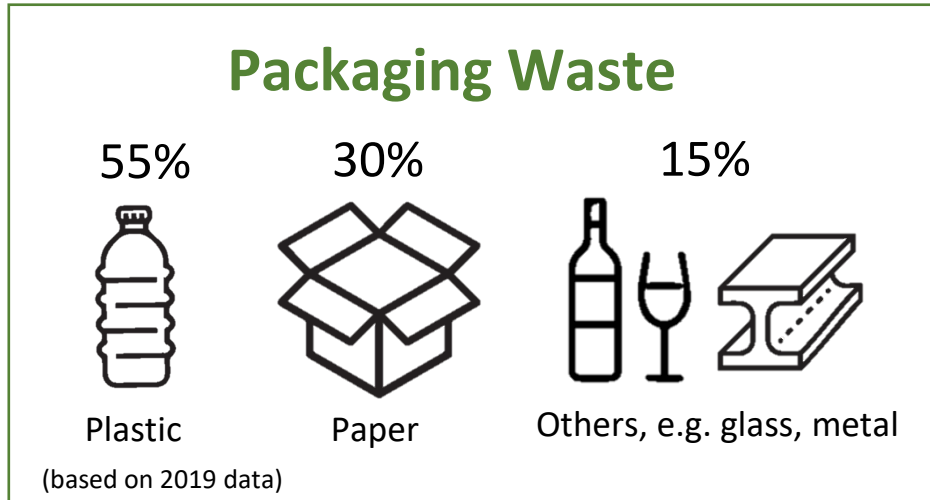
- Appointed by NEA
- **Takes on producers' responsibilities** to develop and implement **collection and recycling system** for consumer EEE

Retailers



- Required to provide **free one-for-one take-back services** upon delivery of new products
- **Large EEE retailers** (floor area above 300 m²): Provision of **in-store collection services**

Closing the Packaging Loop



Partnership between Singapore Manufacturing Federation and National Environment Agency

Packaging Partnership Programme

Industry-led programme to support companies in their journey towards sustainable packaging waste management including fulfilling their new obligations under the Mandatory Packaging Reporting

From 2021:

Mandatory reporting of packaging data and plans to reduce, reuse or recycle packaging

To start with **producers of packaged products and supermarkets** with annual turnover of **more than \$10 million**

No later than 2025:

Extended Producer Responsibility for packaging waste management

Start with **Beverage Containers Return Scheme** under Phase 1 of EPR

Closing the Food Waste Loop

Mandatory food waste segregation and treatment for large food waste generators

Potential for food waste to be converted into **useful products**



Compost /
Liquid Nutrients



Biogas

From 2021:
Developers of **new** large commercial and industrial premises to **allocate and set aside space for on-site food waste treatment systems** in their design plans

From 2024:
Mandate food waste segregation for treatment/recycling for large industrial and commercial food waste generators

Ensure that segregated food waste is treated on-site



Food retail establishments



Hotels and malls



Industrial premises

Recycling in Singapore

Domestic Waste

660L

Recycling Bins
at HDB
apartment
blocks



120L

Recycling Bins
for homes in
private estates



**National
Recycling
Programme
(NRP)**

Mandatory

Recycling receptacles
for all condominiums



100%

Schools recycling
corner programme



To achieve 70% overall recycling rate by 2030

Promoting the Zero Waste Mindset

Refreshed Label to Reduce Recycling Bins/Chutes Contamination



Standardised Appearance for Recycling Trucks



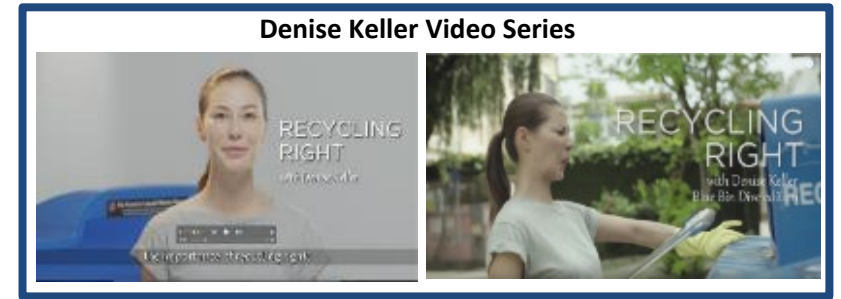
Improved Collection of Recyclables using apps



Citizen Working Group on Household Recycling



#RecycleRight Engagement Initiatives



Recycling Receptacle for New HDB BTO Homeowners



#RecycleRight Publicity Campaign with Targeted Key Messages

Developing Local Recycling Capabilities



Mechanical Recycling (MR)

Treating post-industrial plastic waste, and future post-consumer plastic waste aggregated from the DRS



Chemical Recycling (CR)

Treating plastics unsuitable for MR, such as contaminated plastic bags and other single-use plastics

Creating “NEWSand” from Incineration Bottom Ash

- NEA is developing environmental standards for the use of incineration bottom ash (IBA) as building materials in non-structural applications (NEWSand).
- Field trials have commenced in 2020 to assess environmental performance of treated IBA.
- Successful use of IBA will help maximise resource recovery and reduce waste residues sent to Semakau Landfill.



Ash pit at Tuas South Incineration Plant



Incineration Bottom Ash

Our Environment
Safeguard • Nurture • Cherish

