

Managing Packaging Waste

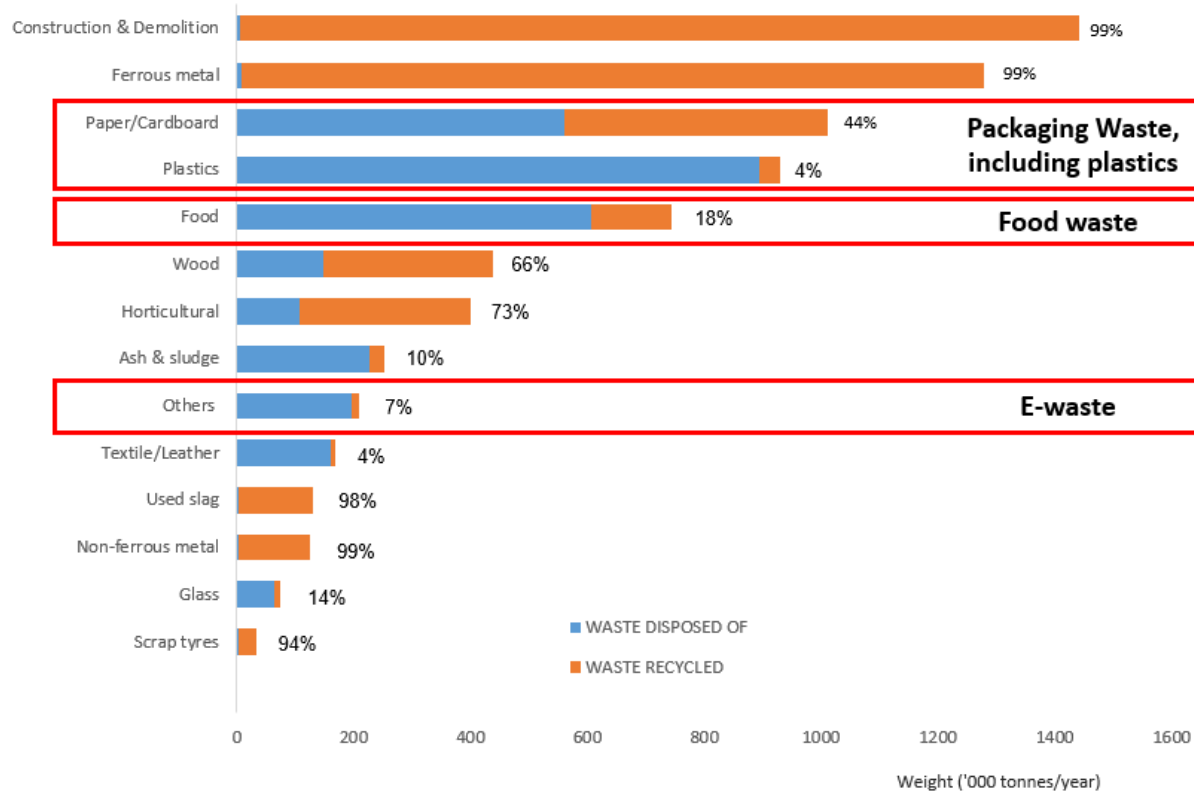
8 April 2021

SCIC Sustainability Conference

Presented by: Audrey Chua, Principal Engineer (Producer Responsibility)



Resource Sustainability Act to Close Three Resource Loops

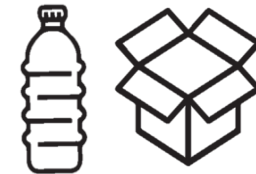


Priority Waste Streams

Food Waste



Packaging Waste, Including Plastics



E-waste



Closing the Packaging Loop

From 2021:

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

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

Next 2 – 3 years:

Deposit Refund Scheme (DRS) for beverage containers

No later than 2025:

Extended Producer Responsibility (EPR) for packaging waste management



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Implementation of Mandatory Packaging Reporting (MPR) Requirements

Mandatory Packaging Reporting

What are the objectives?

- To bring greater awareness to companies on the potential benefits of packaging waste reduction within their business operations
- To spur companies to take action to reduce the amount of packaging used and packaging waste disposed of, and offer flexibility for companies to implement measures
- To prepare companies for a more regulated approach under the Extended Producer Responsibility framework
- Packaging data collected could aid in future review and development of policies and programmes on packaging waste management

Mandatory Packaging Reporting

What is Mandatory Packaging Reporting?

A reporting regime where companies are required to submit **annually**:

1. Reports on specified packaging imported/used
 2. Methodology document detailing how these specified packaging imported/used were tabulated
 3. Develop 3R plans for packaging in Singapore that will be completed within 3 years:
 - Packaging Reduction
 - Packaging Collection for Reuse
 - Packaging Collection for Recycling
 - Consumer Outreach related to Packaging 3Rs
 - Industry Outreach related to Packaging 3Rs
 - Use of Recycled Content in Packaging Material
 - Improving Recyclability of Packaging
- Companies make their first submission in **Q1 2022** (for CY21 packaging data)
 - Required to keep records related to above reports and plans based on prescribed requirements for a period of 5 years

Mandatory Packaging Reporting – Coverage of Goods

19. (1) “**regulated goods**” means any goods other than goods prescribed as excluded from this definition;

Goods to be excluded

Arms and Explosives

Any machine, equipment, appliance or other device that is designed **solely** for industrial or manufacturing usage or application (including commercial food processing or production) and any spare part, accessory or peripheral item designed for use with or in the equipment, appliance or device.

Following specified goods:

- (a) a lift or an escalator;
- (b) any sports or recreation equipment;
- (c) an aircraft;
- (d) a spacecraft;
- (e) a vessel; or
- (f) a motor vehicle that is neither a personal mobility device, power-assisted bicycle, motorised wheelchair nor mobility scooter within the meaning given by section 2(1) of the Active Mobility Act 2017 (Act 3 of 2017);

And any specified goods and any spare part, accessory or peripheral item designed for use with or in the goods listed here.

Mandatory Packaging Reporting – Coverage of Packaging

19. (1) “**specified packaging**” means any packaging other than any type of packaging prescribed as excluded from this definition

Packaging to be excluded

Packaging designed to be re-used by an end-user for the containment of any regulated goods, **other than:**

a) Packaging for:

- Any food and beverage products
- Any vitamin and health supplements
- Any medicinal products
- Any cosmetic products
- Any personal care products
- Any detergents and cleaning agents

b) Packaging provided by a retailer under Section 19(2)(b)(iv) of the RSA to a consumer who purchases regulated goods from the retailer, to enable the consumer to put the regulated goods into the packaging such as reusable bags

Packaging designed to facilitate the protection or handling of the regulated goods when transported in bulk but not presented or delivered to the consumer of the regulated goods.*

**consumer, in relation to any regulated goods or regulated product, means an individual who purchases or intends to purchase the regulated goods or regulated product for household use or private consumption*

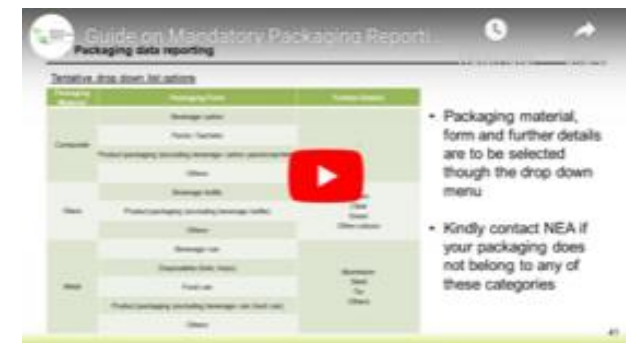
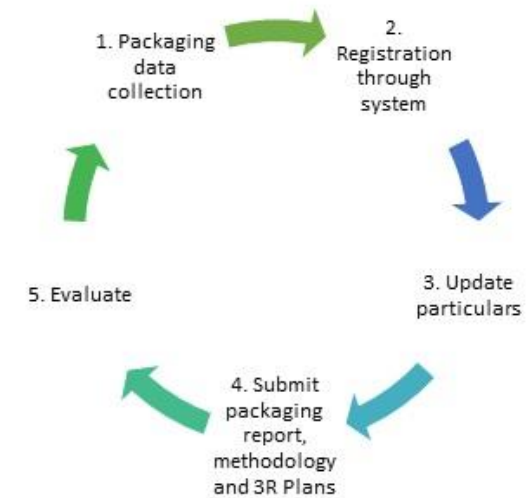
- There are plans to include such packaging under the scope of mandatory packaging reporting by 2022/2023.

Mandatory Packaging Reporting – Guidance and Reference Materials

Companies are encouraged to visit NEA's website at <https://www.nea.gov.sg/packaging> to access the following materials on the MPR:

- MPR requirements and coverage
- Pre-recorded briefing
- Legislation
- Guide on MPR
- FAQs

For further queries, please email to packaging@nea.gov.sg



Part 2: Mandatory Packaging Reporting Requirements under the Resource Sustainability Act

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Deposit Refund Scheme (DRS) and Extended Producer Responsibility (EPR)

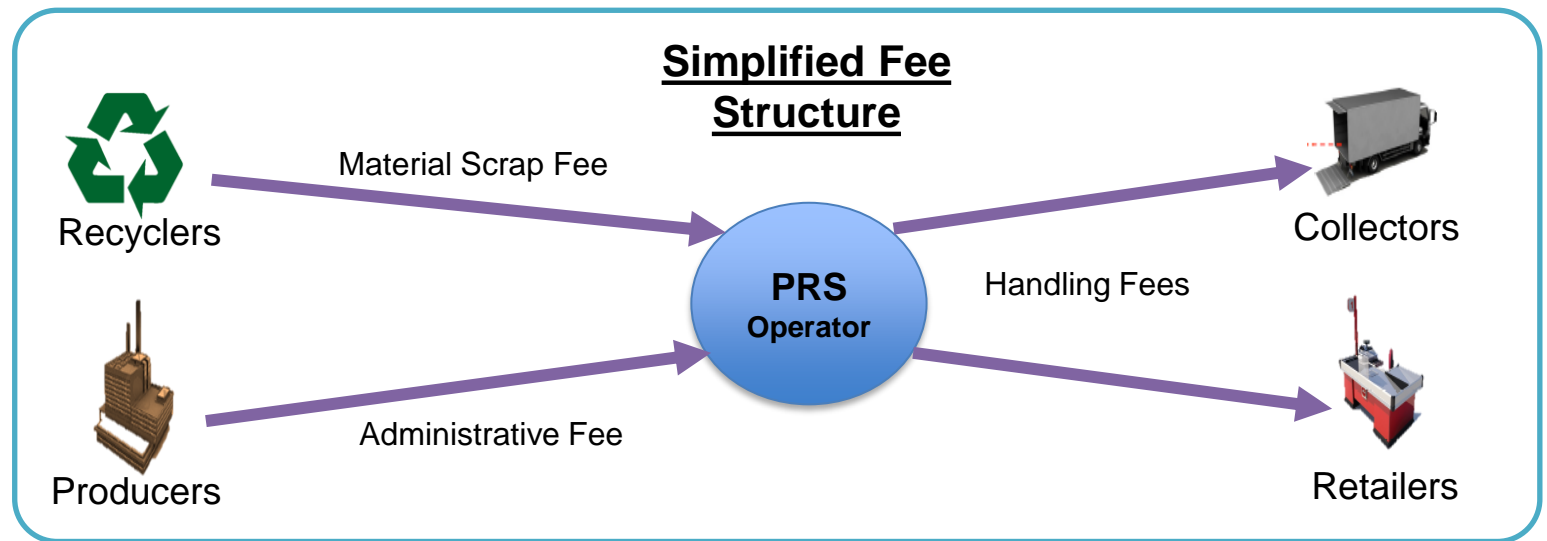
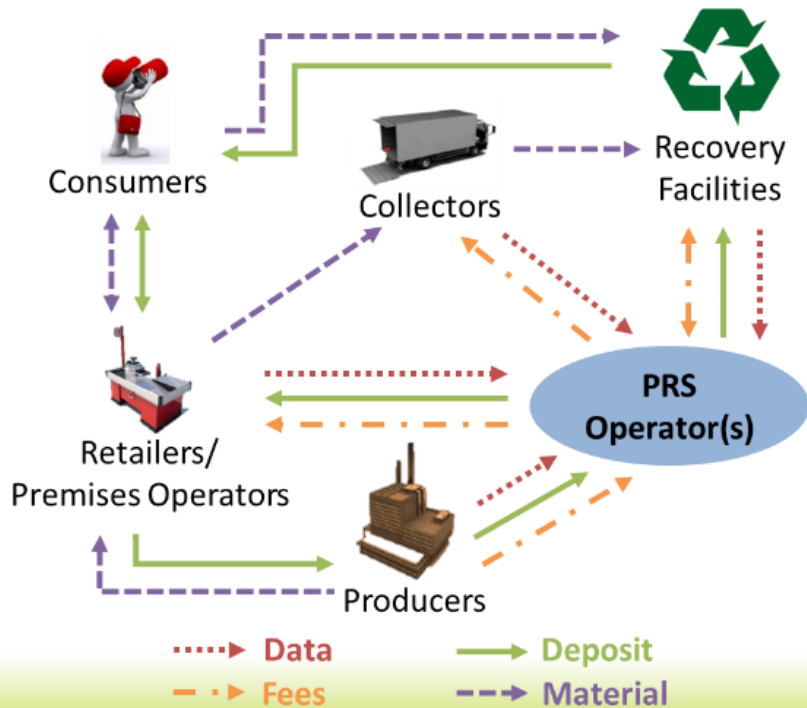
Extended Producer Responsibility

What are the objectives?

- Raise producers' responsibility for the end-of-life management of the packaging they place on the market
- Producers will be financially or physically responsible for the collection and recycling of the materials they use to package their products
- Increase recycling rates and reduce waste sent for disposal

Deposit Refund Scheme

- Deposit Refund Scheme – first phase of EPR approach for packaging waste management
- Consumers **pay a deposit added to the price** of beverages in containers upon the purchase, which would then be refunded when consumers return their empty drink containers to designated return points
- Producers (and recyclers to a lesser extent) finance the operation through fees paid to the Producer Responsibility Scheme (PRS) Operator, who in turn uses these fees to offset administrative costs and pay handling fees to collectors and retailers



Key Components of the DRS

Finances

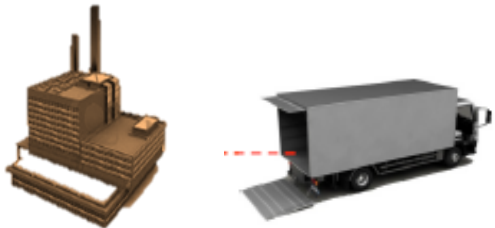
Deposit Amount

How much is paid upfront which is fully returnable



Fee Structure

How much are producers contributing to operate the scheme



Coverage

Types of containers

What material and size is covered



Types of beverages

What drinks are covered



Management

Scheme Operator

Which organisation runs the scheme



Legislation

What are they key legislation to ensure success



Collection

Collection/Return Points

Where to return bottles and cans



Recovery Capability

How are containers reused/recycled



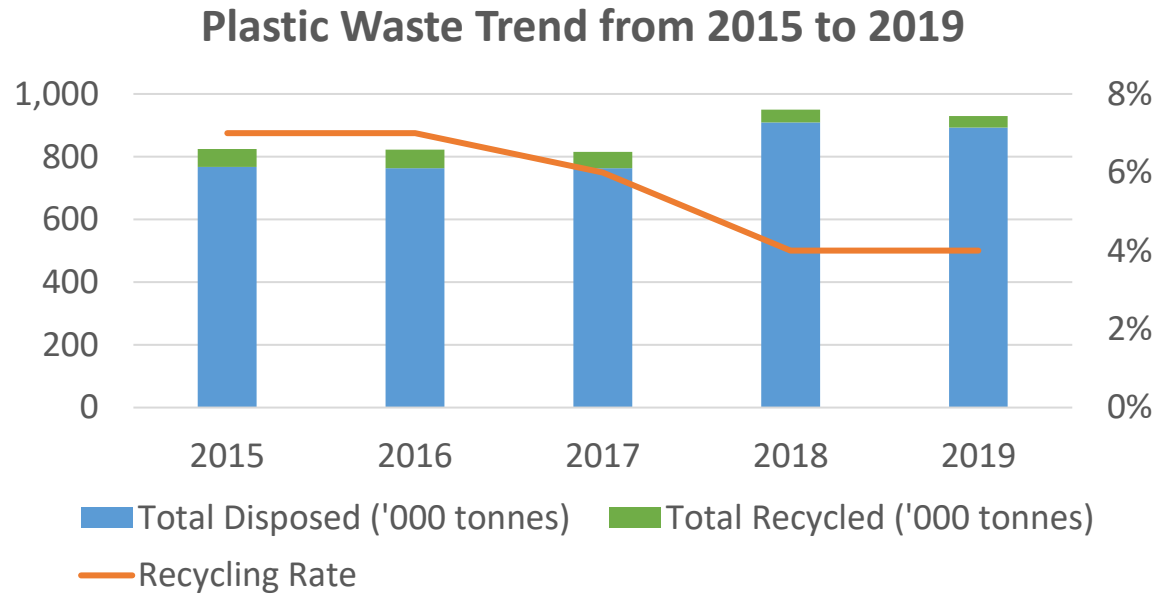
Deposit Refund Scheme

- NEA will introduce the legislative framework for DRS for beverage containers by 2022
- DRS system to be implemented in 2023 after transition period for industry
- NEA has been engaging the community and industry to develop the DRS framework
 - Surveys
 - Requests-for-Information
- NEA will continue to consult stakeholders, including the public and industry, in the coming months

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Development of a Chemical Recycling Value Chain and Collaboration with the Industry

Why are we looking at Plastic Recycling?



2019: 4% Plastic recycling rate

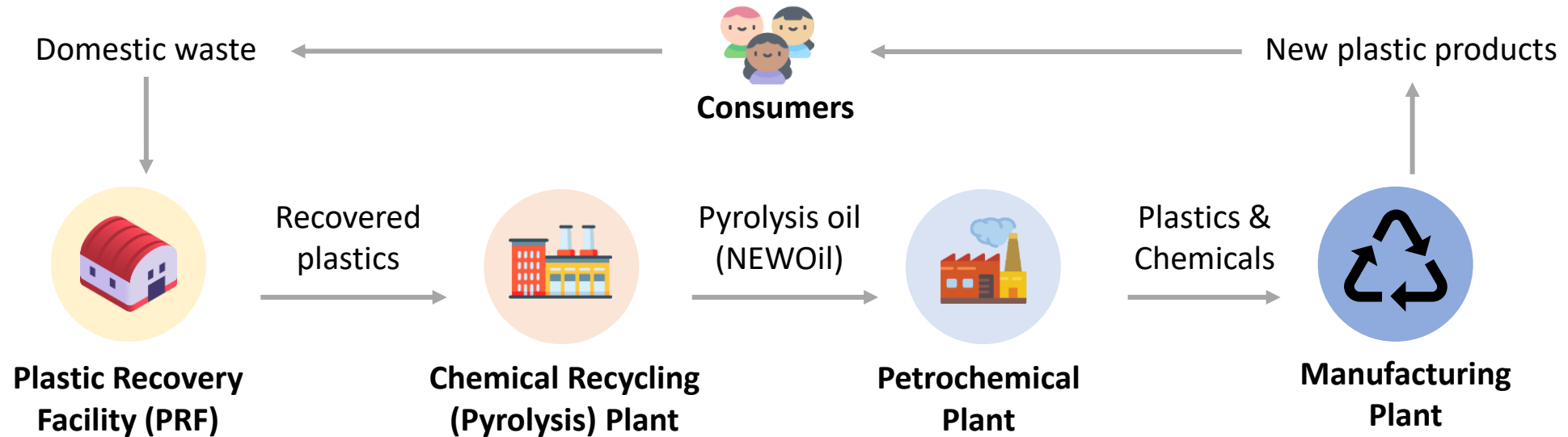
- In 2019, plastics comprised about 30% of total waste disposed of in Singapore
- Small fraction of clean and homogeneous post-industrial plastics are mechanically recycled locally
- Majority of plastics disposed of as part of general waste and incinerated

Potential for **plastics to be recovered from the general waste stream and recycled**, diverting plastic waste away from incineration to achieve **circularity of plastics**

New Growth Areas towards Resource Resilience – NEWOil

- Chemical recycling treats plastics unsuitable for mechanical recycling, such as contaminated plastic bags and other single-use plastics
- Converts plastics into higher value products/feedstock through pyrolysis process
- Diverts plastic waste from incineration plants, reduces GHG emissions and amount of ash sent to landfill

Chemical Recycling Value Chain



- Extracts plastic from domestic waste
- Provides feedstock for chemical and mechanical recycling

- Manufactures new products using recycled plastics & chemicals

New Growth Areas towards Resource Resilience – NEWOil

Feasibility study for **pilot Plastic Recovery Facility (PRF)**

- Tender for provision of consultancy services to conduct a feasibility study for a pilot PRF was awarded to HTP GmbH & Co. KG
- Duration of feasibility study: 6-7 months
- To help NEA understand the suitable technologies and equipment to be adopted for the PRF, land and site requirements, as well as potential for scalability

Collaboration with Shell to anchor **chemical recycling** value chain in Singapore

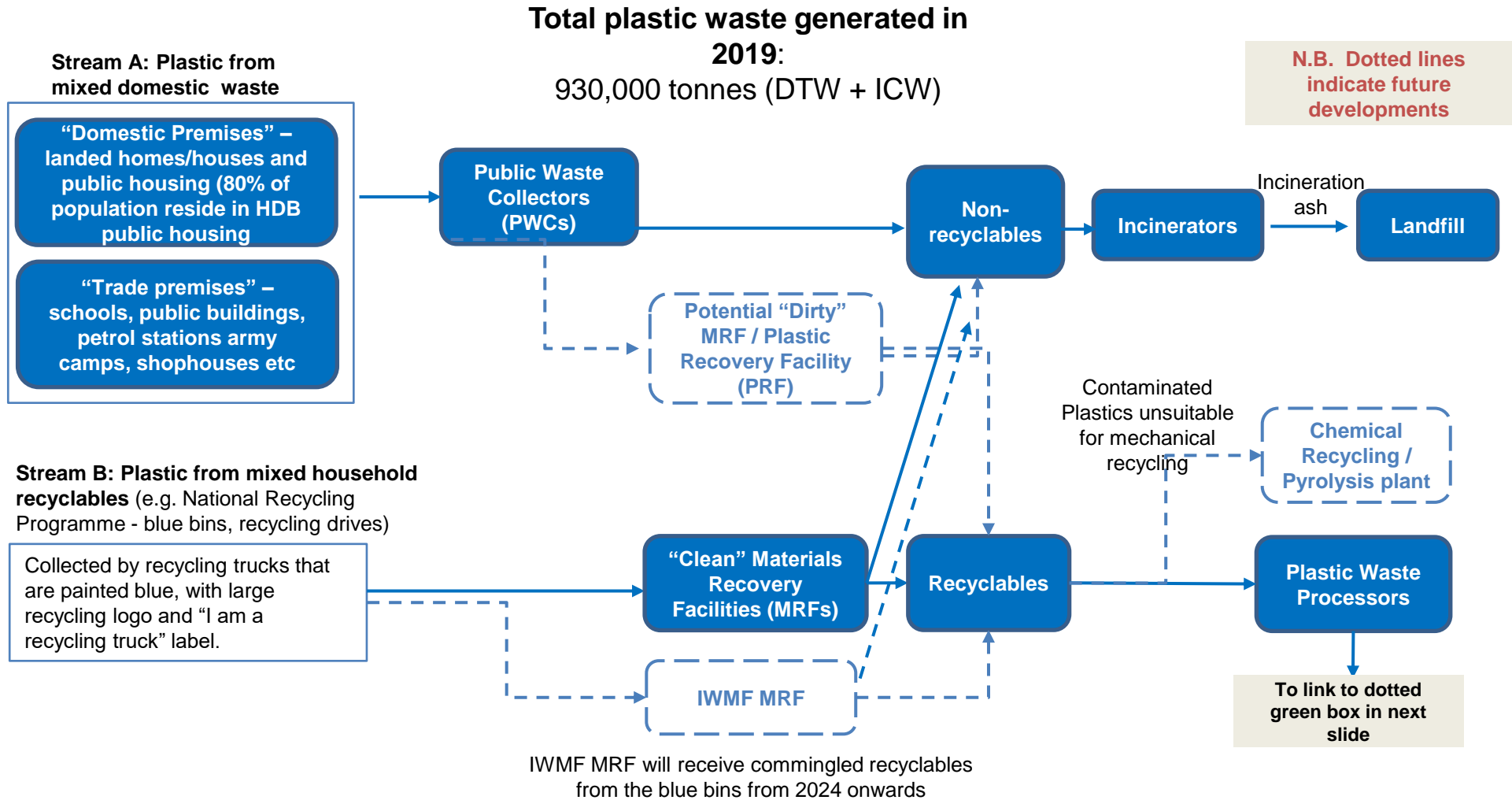
- Commenced joint feasibility study with Shell in Sep 2020 to identify the capabilities and infrastructure required for chemical recycling
- Study with Shell to complement NEA's study



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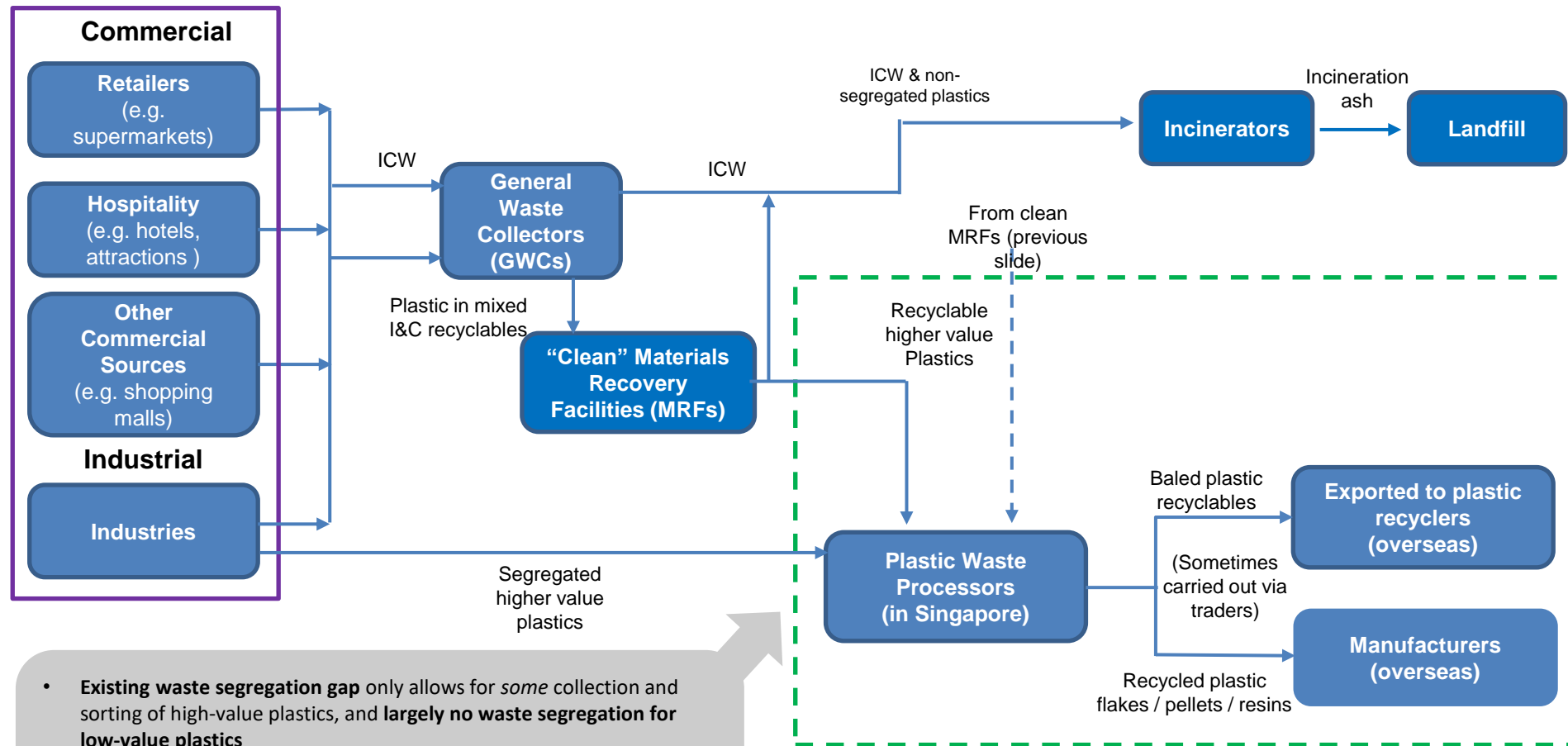
Ecosystem for Managing Packaging Waste (including plastics)

Plastics Flow in DTW (Domestic & Trade Waste) Stream



Plastics in ICW (Industrial & Commercial Waste) Stream

Total plastic waste generated in 2019:
930,000 tonnes (DTW + ICW)



- Existing waste segregation gap only allows for *some* collection and sorting of high-value plastics, and largely no waste segregation for low-value plastics
- Waste collection companies and premises do not have the incentive to bridge the waste segregation gap, until there is value to be made from low-value plastics

Our Environment

Safeguard • Nurture • Cherish