



Recycling in Hong Kong - The Good, the Bad and the Ugly

Nigel Mattravers

NOVEMBER 2020

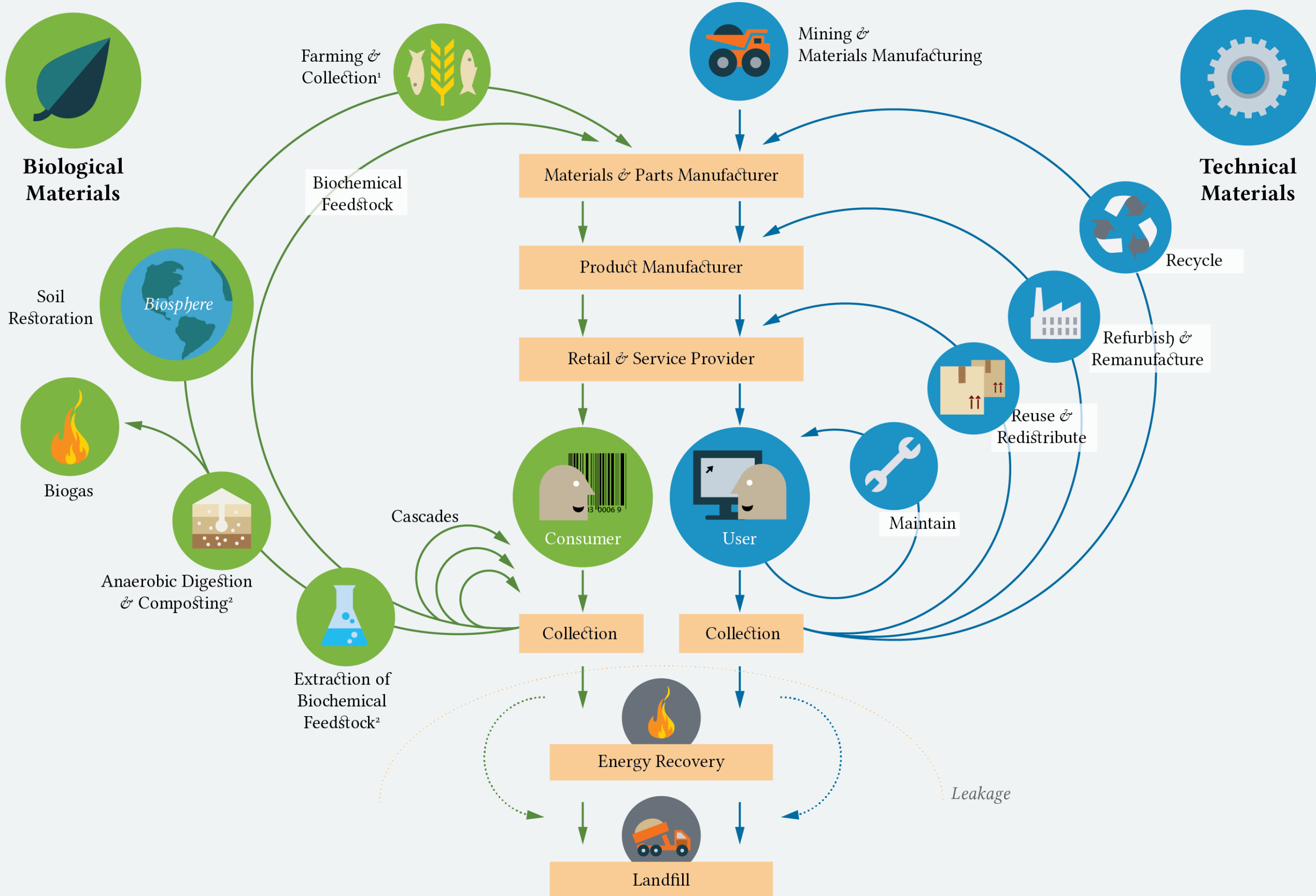




Why Recycle

We want to move towards the Circular Economy and reduce the demand on the earth's resources.

What do we mean by the Circular Economy?





Why we don't

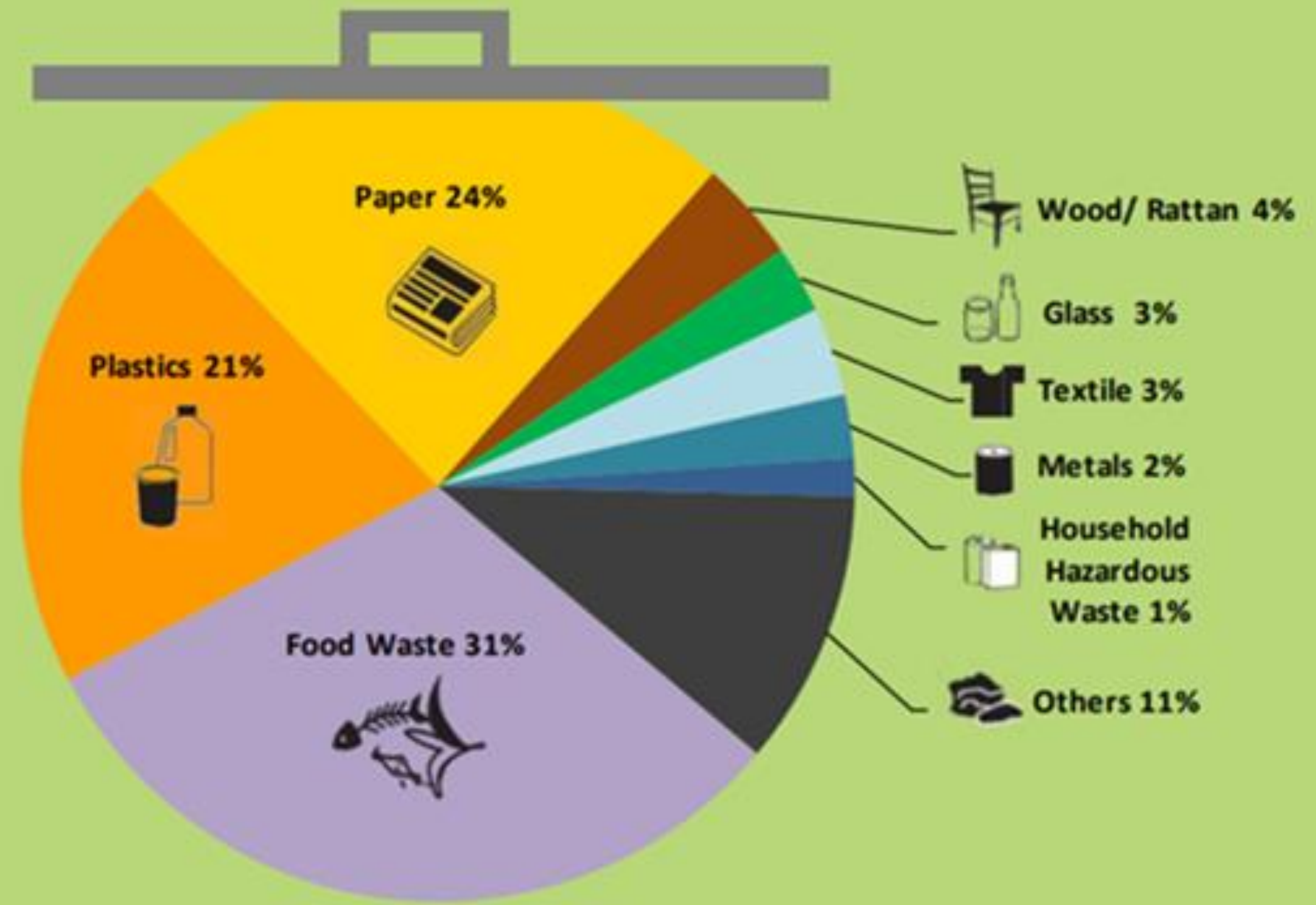
- **It's free to dump it in the landfill in Hong Kong – so why spend the extra money!**
- **There are no restrictions on what we can dump.**
- **Its seen as difficult and time consuming to recycle.**
- **There is no legal imperative.**



WHERE DOES HK WASTE GO?



Composition of MSW Disposed of at Landfills in 2018



Total disposed quantity: 4.17 million tonnes

Note: Others include bulky items and other putrescible/miscellaneous materials.



WEEE

In this case the HK Government have established an all encompassing piece of legislation





One Stop WEEE Recycling Procedure

轉廢為材流程圖 Turning Waste into Resources



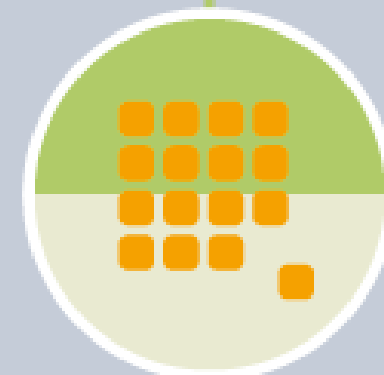
導賞團
Guided Tour



維修可修復電器
Refurbishment



轉贈有需要人士
Donation



以先進技術處理
Advanced Treatment
Technology



產出優質二次物料
Secondary Raw Materials

循環再造率逾80%
Exceptional Recycling Rates
of Over 80%



Donation

Functional electrical items will be picked out and refurbished for donation.

People all across Hong Kong can benefit from our donation service.

2,180 items have been donated.

Better than

WEEE Recycling Rate

88% achieved



More than
18,000 tonnes
of Iron



More than
8,000 tonnes
of Copper



More than
2,000 tonnes
of Aluminium



More than
8,000 tonnes
of Plastics

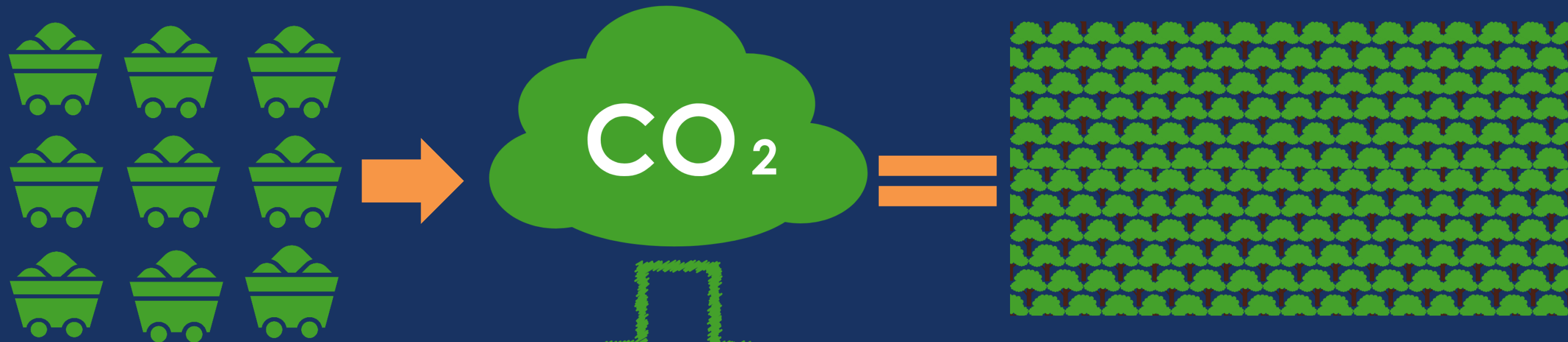
Recovered Secondary raw material

Carbon Saving

Recovered more than **21,000 tonnes** recyclable components



Processed over **1,000,000** WEEE



Saved more than **51,000 tonnes** of Carbon Emission

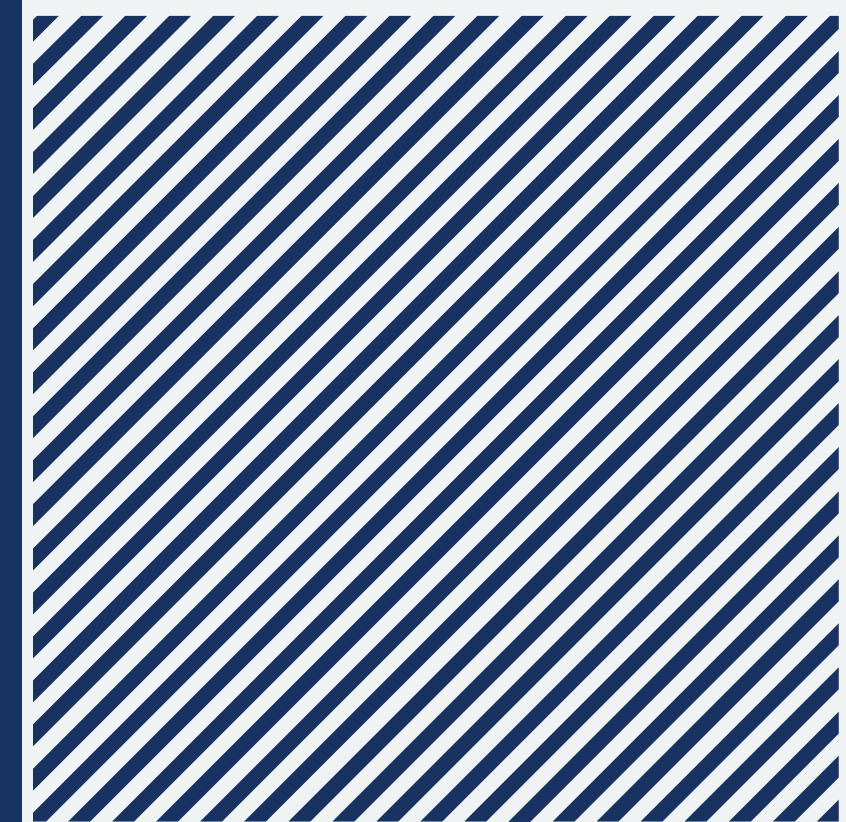
CO₂ absorbed by # over **2.1 million** trees

**Based on estimation done by ALBA IWS in Oct 2019 without confirmation by a third party.

CO₂ removed by trees in one year = net number of additional trees planted since the concerned building is constructed x Removal Factor (estimated at 23kg / tree)

E-Waste & The Circular Economy





Plastic Bottles



Hong Kong Today (2019)

HK today has no policy around source separation of household and or office waste, therefore most ends up in landfill. HK is however working towards a Municipal Solid Waste (MSW) charging scheme, which if passed, could be the initial steps

in implementing policy around better management of (and reduction of) MSW in HK.

So today, any so called recyclable material is largely reliant on its intrinsic value to pull it from the waste stream. This intrinsic value via largely informal Collection systems, leads to these recyclables being baled and exported for recycling.

Drinks consumed in PET bottles:

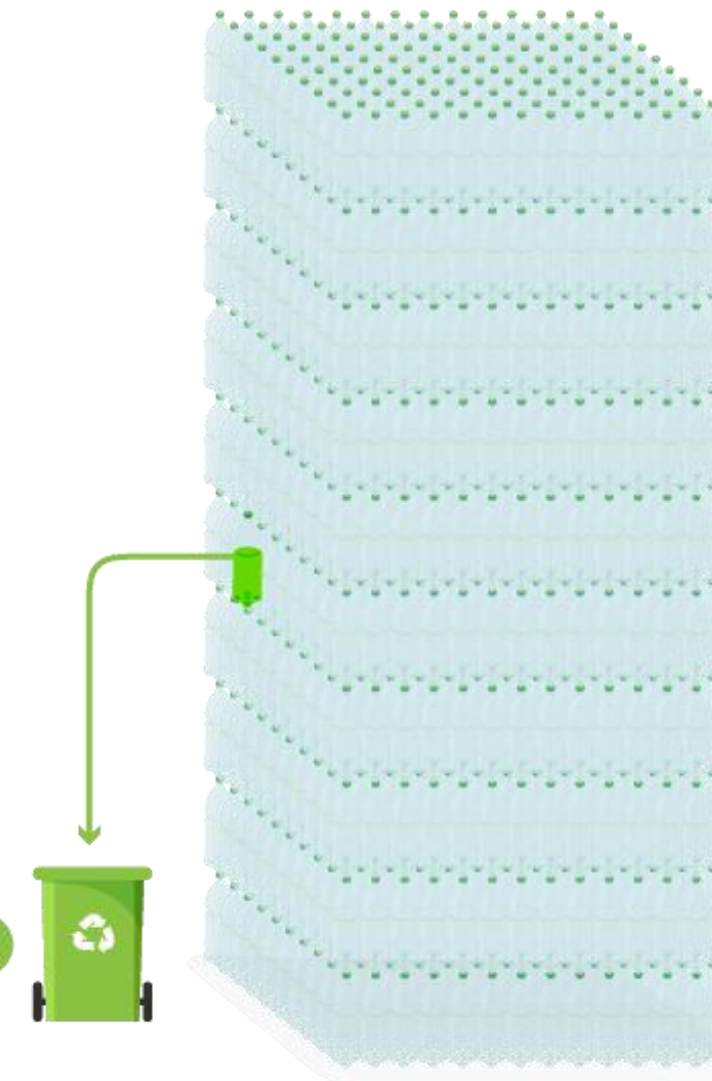
5.2m
per day

Less than

0.2%

How many are
recycled?

were collected in 2018*



Changing Attitudes to Plastics Waste in Hong Kong



Increasing international concern over plastic waste, particularly marine pollution – including here in Hong Kong



Unacceptable that most plastic waste in Hong Kong today goes to landfill



People don't believe that all the materials collected are recycled. Do they just head to landfill?



We all need to demonstrate transparency in closed-loop collection, recycling and end-product re-manufacturing





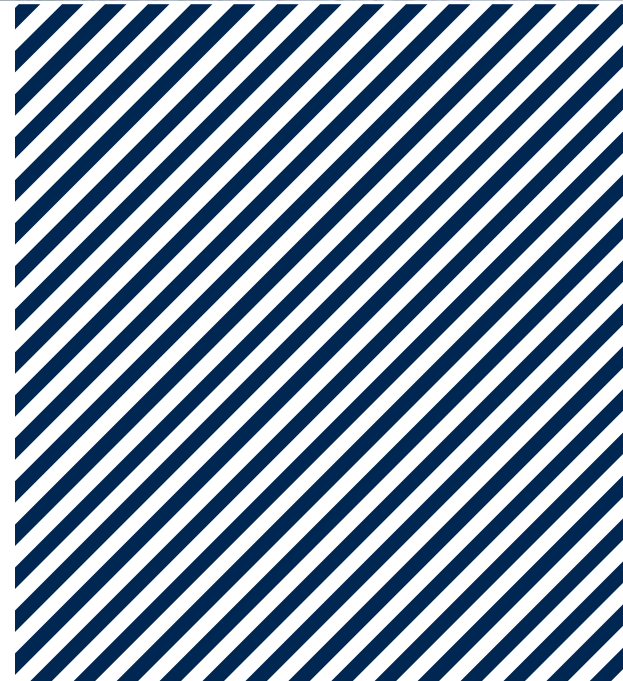
New Life Plastics Plant

- Hong Kong's first food grade ready PET recycling plant, with an additional HDPE line
- Commences operations beginning of 2021
- Annual throughput of ~35,000 tons

Typical
PET bottles



Typical
HDPE bottles



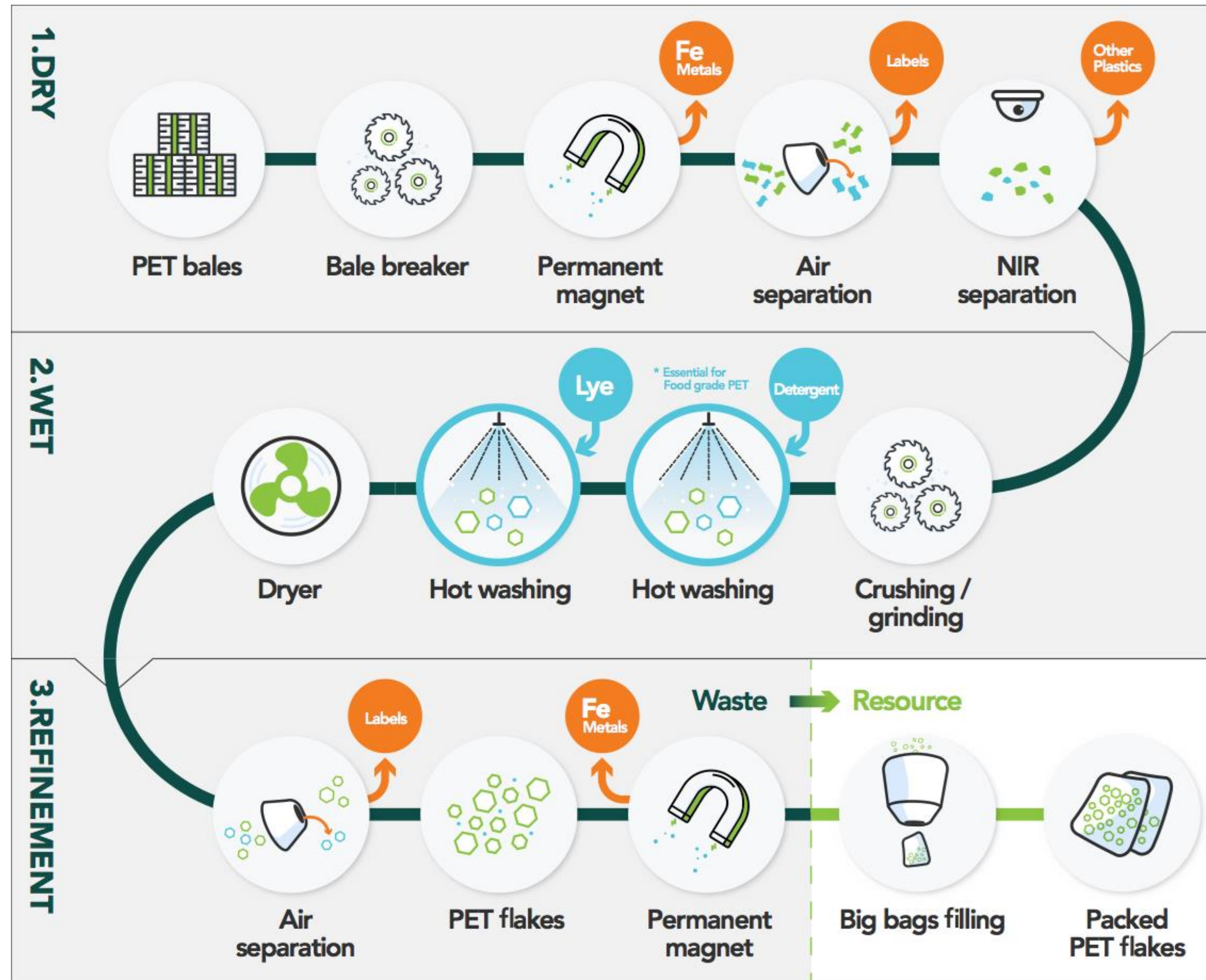
Our Process

PET Recycling

The PET comes to NLP in bales, which are broken up and fed through the various dry and wet processes to your right.

The critical pathways are the hot washing and Near Infra-Red (NIR) detectors. These drive quality of the rPET flake, and importantly allows NLP to make food grade quality rPET.

The hot washing process is a key for waste plastics to become a resource (under the Basel Convention).



Cans

There is value in cans but we still are only recovering some 17% according to some studies.



Food Waste

HK Government says we are throwing out 3,500 tonnes of food waste every day





O · PARK

- O · PARK is the first organic resources recovery centre, to convert food waste into biogas for electricity generation.
- Capacity 200t/d
- Second facility under construction

Cardboard and Paper

There is government support for this sector and export to China is permitted





Mil Mill

- Capacity is 10 tonnes a day
- Only facility that can deal with cartons



Glass Bottle

There are two government collection contracts.

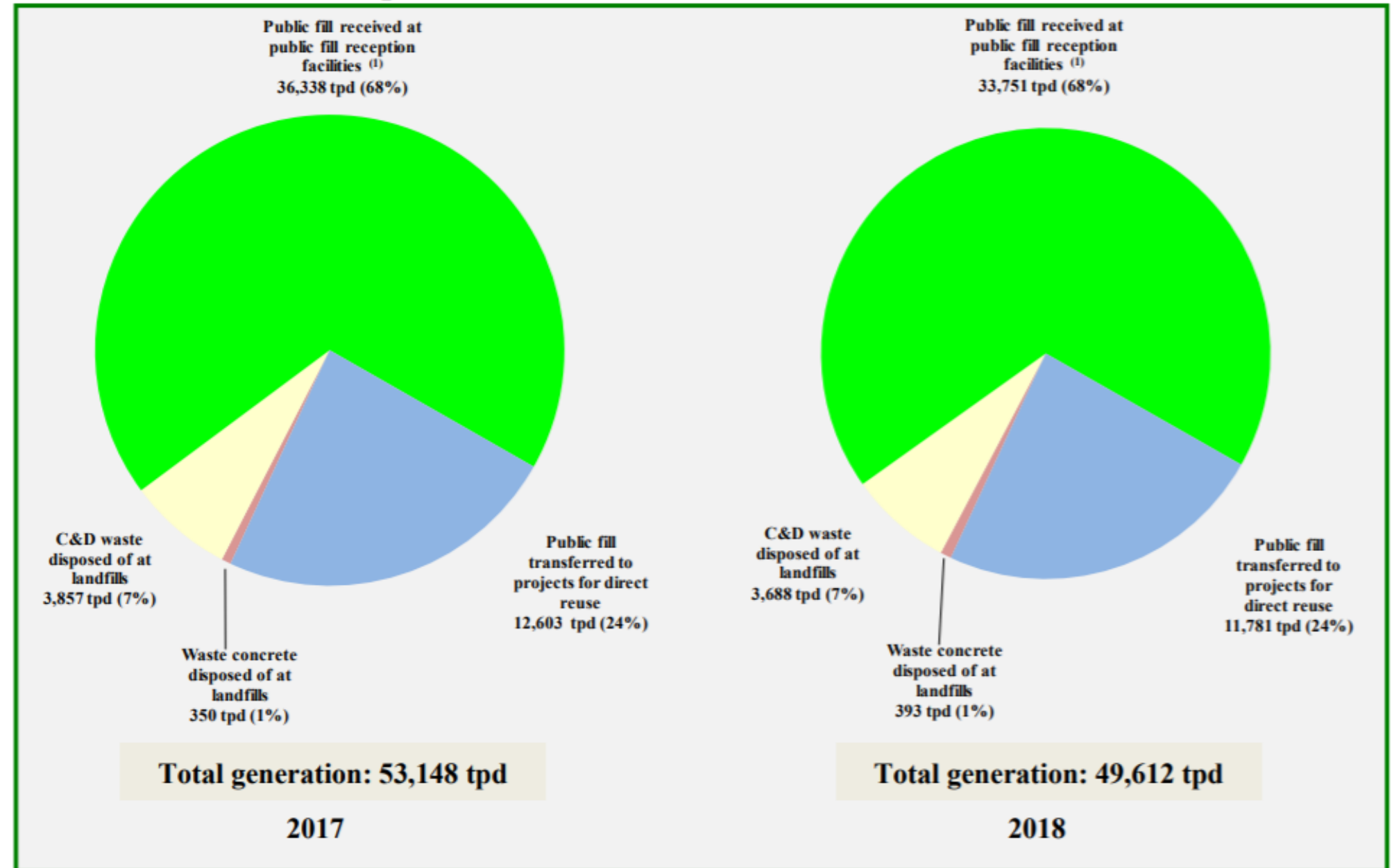
The glass is mainly crushed for sand but some is sent for remelting which is a much better environmental solution.



CONSTRUCTION



Plate 2.12 Disposal and reuse of overall construction waste in 2017 and 2018



Note:

(1) Public fill reception facilities (PFRFs) are managed by CEDD for receiving inert construction waste (also known as public fill) appropriate for reuse. At present, four PFRFs are in operation, namely Tseung Kwan O Area 137 Fill Bank, Tuen Mun Area 38 Fill Bank, Chai Wan Public Fill Barging Point and Mui Wo Temporary Public Fill Reception Facility.

There is no significant recycling effort in Hong Kong, where as 50% recycling rate is the norm in Europe.



How can we improve recycling in HK

- Introduce landfill charging and producer responsibility schemes
- Limit certain materials from being dumped, particularly where there are recycling options
- Incentivise recycling – specify the use of recycled materials in products
- Develop material separation facilities (MRFs) to enable better recovery of materials
- Government policy to say that recycling is the imperative

