

Waste Value Chain Extension & Plastics

SPE Conference - Plastics and the Circular Economy

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## **Snapshot of Cleanaway**

Australia's leading total waste management, industrial, environmental and health services company.

Vertically integrated from collection, to resource and energy recovery, to waste treatment and landfill.

ASX100 listed with a \$4.7 billion market capitalisation.





6,000+ Employees



5,300+ Vehicles



250+
Sites Australia wide



125+
Prized infrastructure assets



134mkWh
Renewable energy
generated



ASX100 Listed company



100+
Municipal Councils



140,000+
Commercial & Industrial customers



~10,000
Medical waste customers

## We continue to invest in infrastructure across the value chain









### **Collections**

### **Resource recovery**

### **Energy from Waste**

### **Treatment and Disposal**

- - ✓ 2 x WA transfer stations

✓ Perth MRF\*

- ✓ SE Melbourne transfer station
- ✓ QLD Transfer station
- ✓ VIC organics resource recovery
- ✓ QLD Paper recycling facility
- ✓ NSW CDS sorting line
- ✓ Western Sydney transfer station and resource recovery
- ✓ ResourceCo PEF facility

✓ Doubled electricity generation at Melbourne facility

Western Sydney Energy from Waste facility

Potential Brisbane and Melbourne Energy from Waste facilities

- ✓ Planning permit for Melbourne Regional Landfill until 2046
- ✓ Height rise extension approval for Adelaide landfill
- ✓ VIC organic waste treatment facility

Height extension in QLD & New Landfill

#### **Statewide Collections**



- √ 1 x Transfer station
- ✓ Regional Victoria Collections

### Plastic pelletising



Victoria Glass beneficiation

√ ToxFree (May 2018) - Significant acquisition of prized assets across the value chain



### **SKM (Nov 2019)**



- √ 3 x Material recycling facilities
- √ 2 x Transfer stations
- ✓ ASP Plastics Personal Sharp containers and insourcing manufacturing of Sharp Smart containers from China to Sydney



Greenfield delivered



Greenfield WIP

Acc

Acquisition and Integration delivered



Acquisition and Greenfield to align with strategy

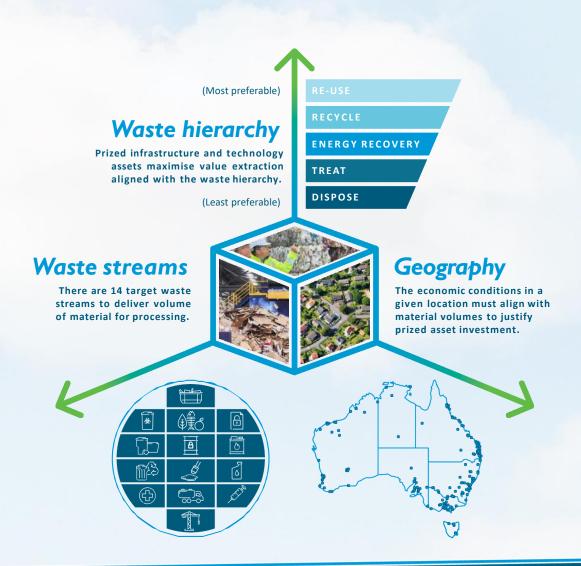


## Our Footprint 2025 strategy considers multiple, dynamic dimensions

The waste sector plays a **pivotal** role in enabling a circular economy ensuring waste is minimised and resources are reused and recycled in the best possible way.

This requires significant investments in new infrastructure and a change in the way we think about and deal with our waste.

Our **Footprint 2025 strategy** considers which assets are required considering three dimensions.



### We are extending our value chain to enable a circular economy









Collections

Resource recovery

**Energy from Waste** 

Treatment and Disposal



# Plastic Pelletising



Cardboard Pulping



✓ Supports a sustainable, circular economy

Our customers, regulators and society at large are looking for better, more sustainable solutions.

**✓** Ensure there is demand for recyclables

Export markets are closing ...we need new options to avoid the risk of customers stockpiling or having to send recyclables to landfill.

**✓** Domestic value creation from recyclables

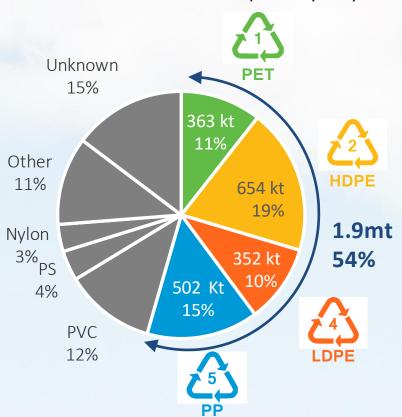
Extract maximum value by further processing of the commodities we collect and sort.



## Our focus in plastics – integrated value chain for four key polymers

Priority to collect, sort and re-process four key polymers, mostly from packaging, sourced through our leading customer base and national collection network

Australian Plastics Consumption by Polymer





100+ Councils & 140k Commercial customers





Container Deposit Schemes in NSW, QLD and WA



~400 vehicles dedicated to recycling



## What is needed to enable a circular economy for plastics



- Packaging design to increase material efficiency & recyclability
- Improve source separation and quality of recyclables
- Container deposit schemes
- Improvements in Material Recovery Facilities
- Plastic Recovery Facilities to sort into polymers
- New value-added flaking & pelletising facilities
- Solutions for multiple polymers PET, HDPE, PP, LDPE
- Increase recycled content in packaging

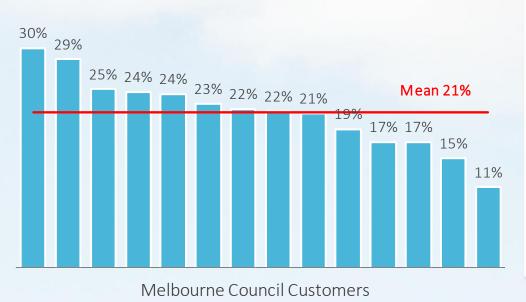
## Contamination is a major challenge



Contamination in the recycling bin leads to...

- Higher cost for our customers and ultimately ratepayers
- Equipment blockages and risks of fires (e.g. from batteries)
- Lower quality commodities

### Waste as a % of recycling volumes received







## Improving quality of recyclables at the source



### Standardised, multi-bin collection systems

- Reduce cross-contamination of recyclables (e.g. glass-paper)
- Standardisation of rules and lid colours to help education across jurisdictions
- Monitoring of compliance levels and passing on the cost of excess contamination









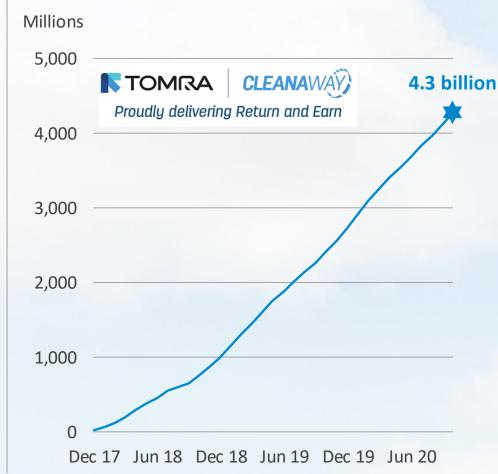
# Container Deposit Schemes (CDS) Increased recovery – reduced litter – food grade PET



- Tomra-Cleanaway is the network operator in the highly successful NSW CDS
  - 4.3bn containers returned since start
  - \$430m refunded to customers & charities
- VIC and TAS schemes to follow



### **Containers returned in NSW CDS**





## Upgrades in Material Recovery Facilities (MRFs) required



Last year the Victorian recycling market was in turmoil as SKM went into liquidation

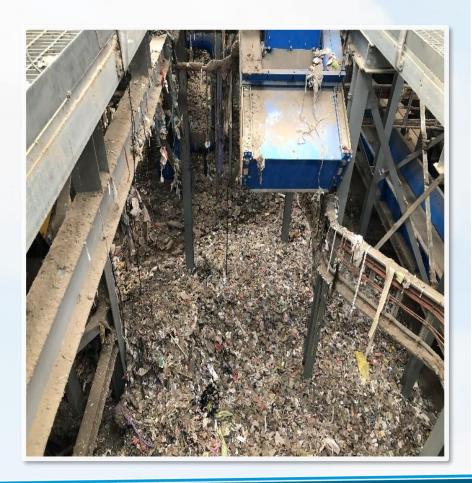
### THE AGE

National Victoria Recycling crisis

This was published 1 year ago

Recycling firm SKM Industries goes into liquidation, sale expected







## Upgrades in Material Recovery Facilities (MRFs) required

Cleanaway acquired SKM from the administrators and restructured the business with the MRFs cleaned up and upgraded and new contracts signed with councils

### THE AGE

Politics Victoria Recycling crisis

This was published 1 year ago

Cleanaway buys failed recycler SKM for \$66 million

- Cleared stockpiles
- Implementation of R&M regime
- Relocate management within plant
- Installation of glass quality improvement equipment
- Overhaul metals extraction and baling
- Upgrade fire and safety systems





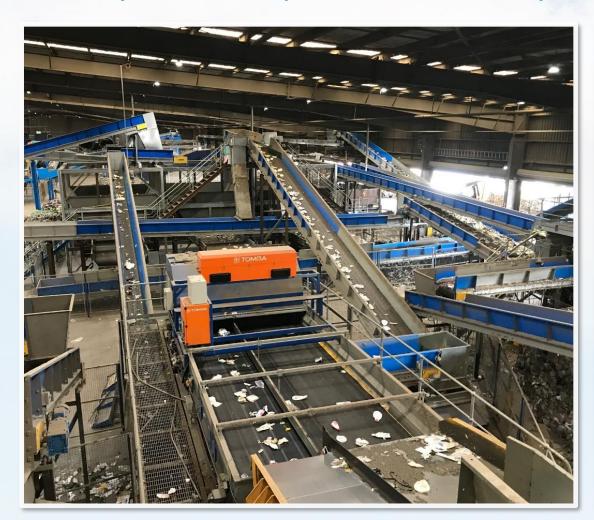


**Improve Sorting** 

## Plastic Sorting Facilities (PRFs) a key part of the value chain

Cleanaway's Laverton PRF processes ~40kt of mixed plastics into individual polymers









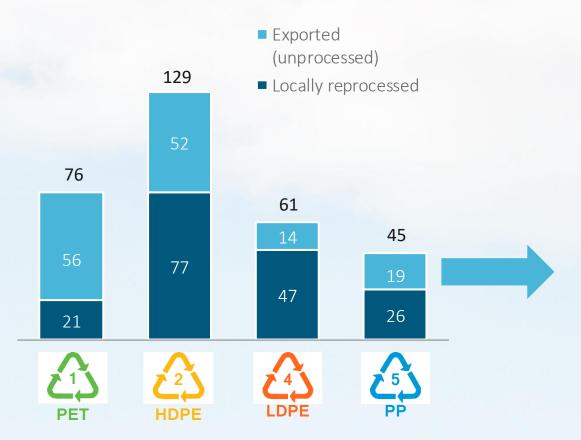


## Market for <u>recovered</u> plastics still heavily reliant on export



# **Exports account for the majority of recovered plastics destination**

Recovered plastics by destination and polymer (kt)



# Export ban for unprocessed single resin plastics from July'22

Domestic reprocessing capacity needed for >140kt of these plastics alone.

Almost double of what is currently processed locally.

Significantly more if recovery rates increase.



## Cleanaway's cross-value chain PET re-processing solution











We have formed a 3-way joint venture bringing together feedstock supply, manufacturing expertise and offtake.



The \$45 million facility can process 30kt per annum of PET, providing a bottle-to-bottle recycling solution for the equivalent of almost 1 billion bottles each year



## Facility location and supporting feedstock infrastructure





### **Eastern Creek Container Deposit Scheme Facility**



Victoria and WA MRF and PRF Infrastructure





## Further re-processing developments for other polymers





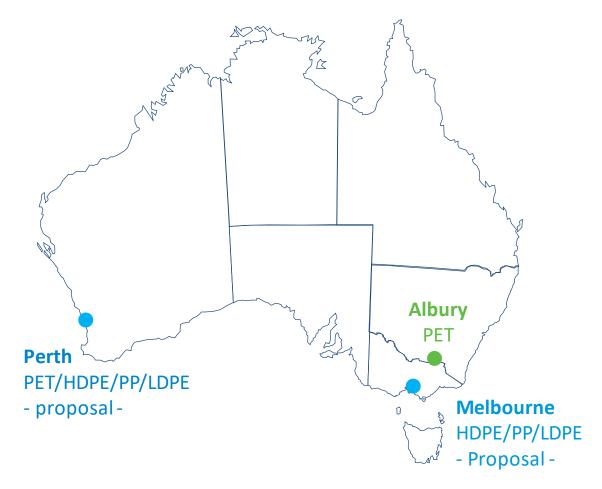












## Additional local demand required for a true circular economy



- Cleanaway will continue to invest to increase recovery rates and improve the quality of materials.
- Circular Plastics Australia partnership with Pact and Asahi 'closes the loop' on PET.
- Broader FMCG and packaging sector need to be ambitious in increasing recycled content.
- Increases have to align with time of export bans in July 2022.
- Recycled content should be sourced from Australian flake and pellets where available.







