

PUSHING FOR A WASTE  
FREE AUSTRALIA



# Roadmap to best practice resource recovery

Ben Morgan, General Manager - VIC







# Agenda

1

Overview & Vision

2

Bingo's Achievements

3

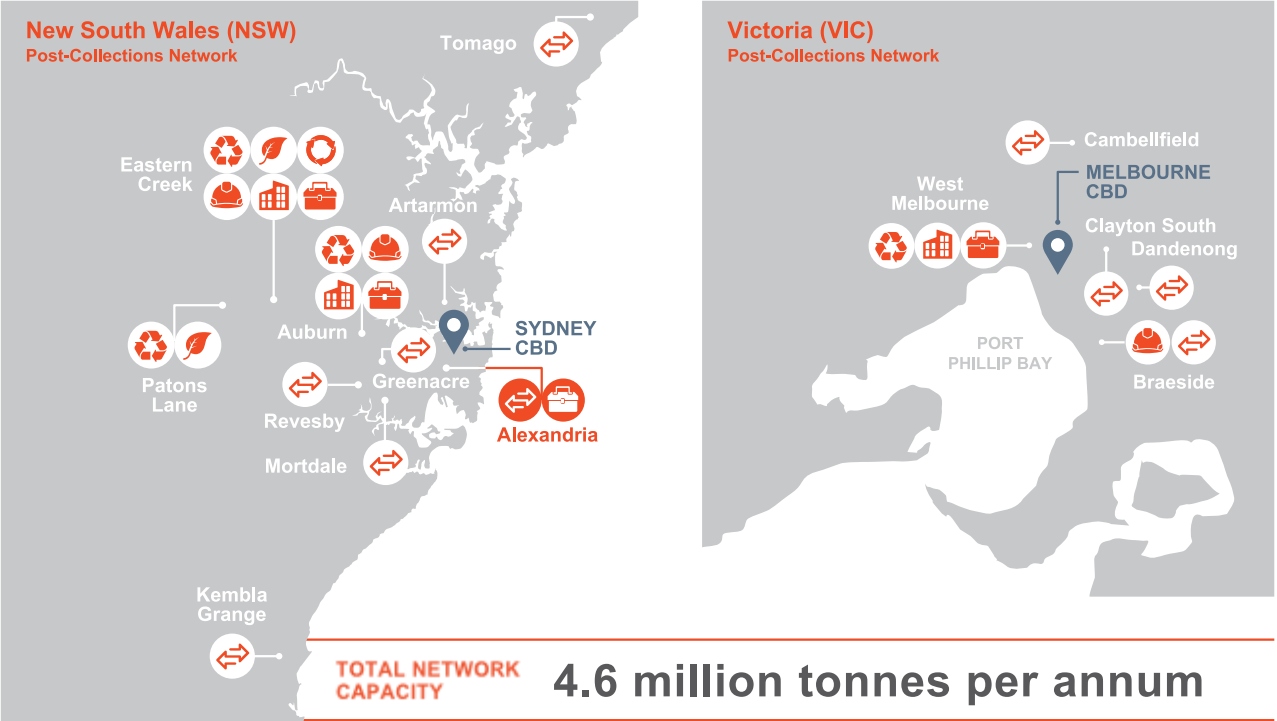
Advanced Recycling Plants

4

Where to from here?

# Overview of BINGO

Extensive network of resource recovery facilities across NSW and VIC (and now Qland)



**~1,200**  
Employees

**20**  
Resource Recovery  
Facilities

**350+**  
Trucks

**500 ktpa**  
of ECO Product sold  
annually

**+2 million tonnes**  
of recovered mixed  
waste annually

**20,000+**  
customers serviced  
annually

- Advanced Recycling
- Transfer & Recycling
- Landfill
- Material Processing
- TORO Manufacturing
- BINGO Office
- Workshop

Corporate Reel: [https://www.youtube.com/watch?v=R\\_pqclQZ3-s](https://www.youtube.com/watch?v=R_pqclQZ3-s)



# OUR VISION

Our vision is for a *Waste-free Australia*.



## Building a circular economy



100%  
powered by  
renewables



75% resource  
recovery rate



Manufacturing  
Recycled  
Product

## Accepting all waste streams



Organics and  
putrescible



Building and  
Demolition  
Waste



Commercial  
and Industrial  
Waste



Municipal  
Solid Waste

Independently  
verified



85%

Independently verified  
average recovery rate  
of 85% at the Eastern  
Creek Recycling  
Facility & 75% at West  
Melbourne

75%

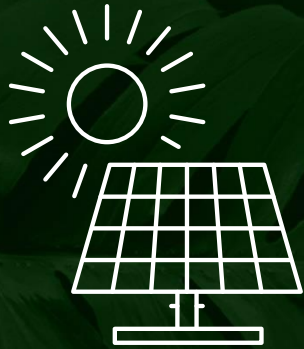
We are  
committed to  
maintaining a  
minimum  
recovery rate  
of 75%



# BINGO's Achievements over the past five years



## RENEWABLE ENERGY



## RE100

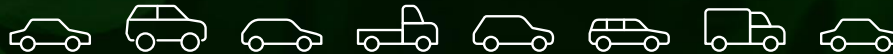
COMMITTED TO ACHIEVING  
**100% RENEWABLE ELECTRICITY**  
ACROSS ALL BINGO FACILITIES  
-----> BY FY25



# 1.19 MILLION

-----> TONNES  
**OF CO<sup>2</sup> EMISSIONS ABATED**

EQUIVALENT TO TAKING **232,121** PETROL CARS OFF OUR ROADS FOR ONE YEAR



## THIS HAS BEEN ACHIEVED THROUGH

- ☑ INVESTMENT IN RECYCLING INFRASTRUCTURE LIKE MPC 2
- ☑ INVESTMENTS IN RENEWABLE ENERGY INCLUDING SOLAR AND LANDFILL GAS DESTRUCTION
- ☑ INNOVATION IN OFFTAKES THAT ENHANCE DIVERSION OF WASTE FROM LANDFILL

## DECARBONISATION

# 50%

**REDUCTION BY 2030  
NET ZERO AT 2040**



# \$1 BILLION

BINGO'S INVESTMENT TO DATE  
IN NSW SINCE 2017

## OPENED AUSTRALIA'S LARGEST & MOST SOPHISTICATED RECYCLING CENTRE



MPC 2 AT EASTERN CREEK, SYDNEY

# 2.7 MILLION TONNES



OF RECYCLED PRODUCT PRODUCED

## BINGO EAST COAST NETWORK CAPACITY

# 5 MILLION TONNES

OF WASTE PER ANNUM







**STATE OF THE ART RECYCLING PLANTS**

**BINGO**  
INDUSTRIES



# Our advanced Recycling Facility at Eastern Creek (MPC2) now fully operational

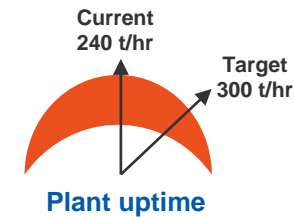
## Commissioning Update

- Solid progress was made throughout FY22 on the commissioning of the advanced facility and operational readiness despite COVID delays and associated impact.
- Once fully ramped up, the plant is expected to improve the Group's recycling rate with the plant capable of recovering up to >85% and of processing up to 300T per hour
- Significant improvement in offtake and product quality specification of material to help achieve our vision for a 'Waste free Australia'.

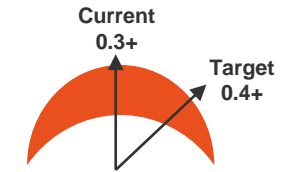
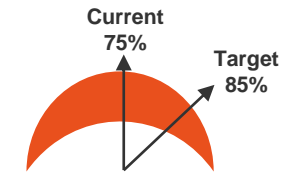
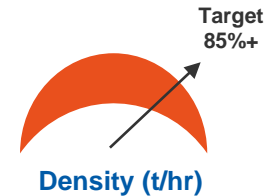


## Target Metrics

### Tonnes per hour (t/hr)



### Recovery Rate (%)



**INVESTMENT OF**  
**\$140 million**  
Vs prior investment in recycling facilities in the order of \$20-30m

**RECOVERY RATES**  
**>85%**  
Vs prior recovery rate of 80%

**MOST ADVANCED RECYCLING TECHNOLOGY IN AUSTRALIA**

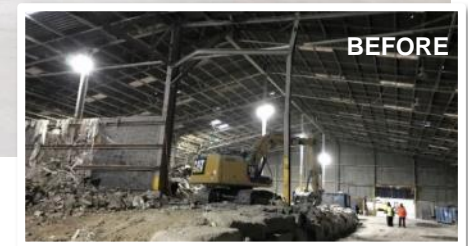
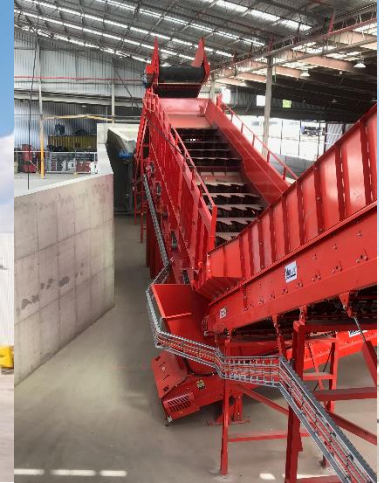
- 12 Optical Sorters
- 13 magnets
- 7 density separators
- Robotic welders

**CAPACITY OF UP TO**  
**1.8 mtpa**  
2.0x the capacity of MPC1

# West Melbourne

West Melbourne is BINGO's first recycling centre with advanced recycling equipment in VIC

- West Melbourne is located **6km's from Melbourne's CBD**
- Operational capacity of **350,000 tonnes** per annum
- Formally reopened to the public on **29 April 2019**
- Now producing 8 products and looking to develop 2 more, with a **75% recycling rate**
- Facility upgrades included:
  - Extensive building upgrade
  - New state of the art plant
  - Fully upgraded fire system





# ZeroHarm- Safety Innovations in action

## AI Spotter

- In FY22 Bingo started its investment into Artificial Intelligent inspection technology
- These units can identify hazardous material in the C&D waste streams



## AI Pedestrian Safety Zone

- Safety Zone is an AI Model integrated into our CCTV network that can detect any exclusion zone breaches on the tip floor.
- This innovation has been a great success and is being rolled out to multiple facilities to ensure we keep our people and customers safe.



**So, where to from here?**

**BINGO**  
INDUSTRIES



# Innovation and Investment to solve for BINGO's "last mile"



The last mile is solving for the final 10-15% of waste from recycling. We are looking at innovative circular solutions and energy extraction opportunities to solve for our last mile



*The "last mile" opportunity a key plank of the strategy*



# Recycling Ecology Park Master Plan



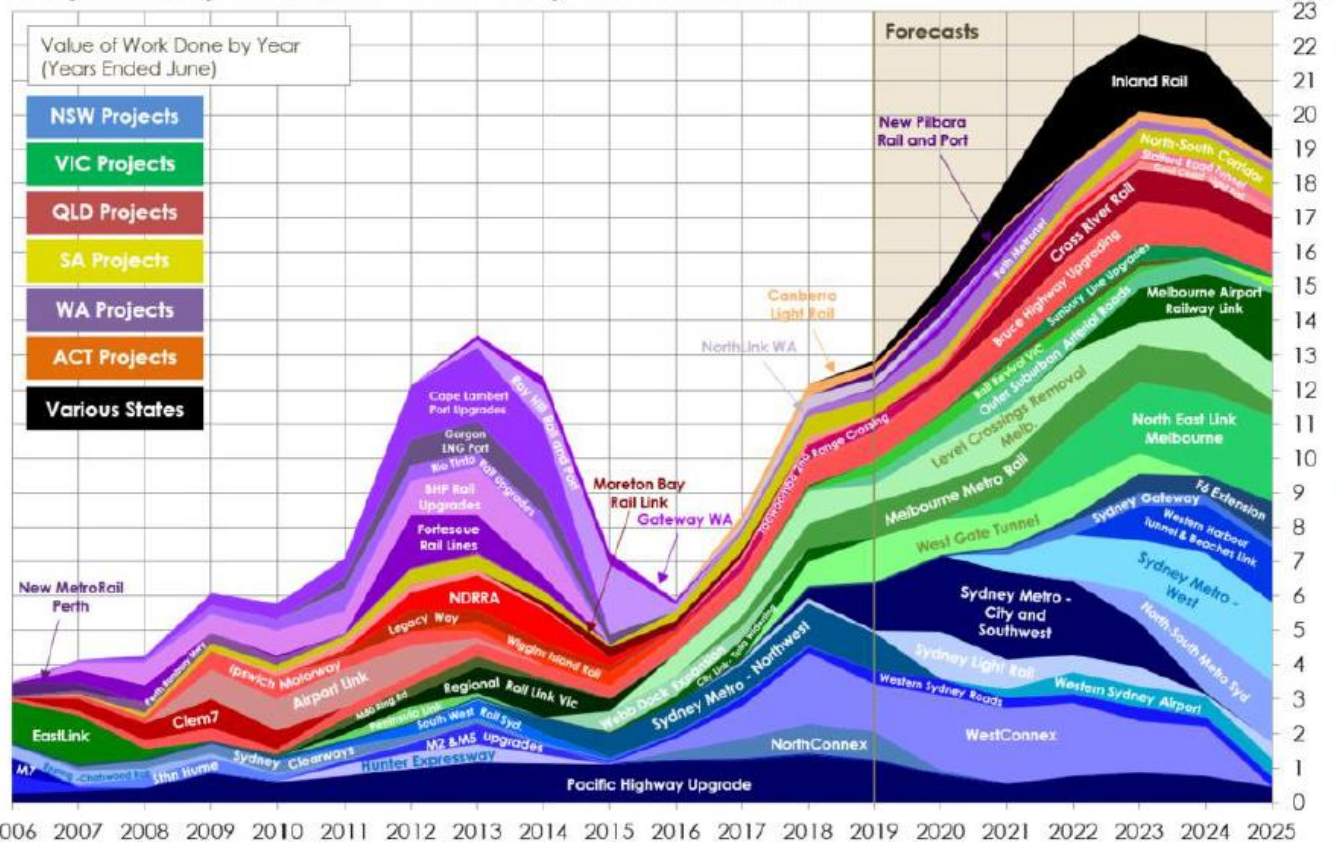


# 1. Create Demand for Recovered Materials

This is critical to establishing a sustainable recycling industry. The Government is able to play a leading role in this area. There are plenty of projects to choose from:

Products such as **clean concrete, brick and concrete aggregate, timber & mulch** are **low hanging fruit** and can quickly be scaled up to help close the loop and improve overall recovery rates in Victoria.

**Major Transport Infrastructure Projects - Australia**



## 2. Improve Reporting Integrity

- Green Star is a voluntary sustainability rating system for buildings in Australia and since 2003 has done great things in promoting sustainability of projects.
- However, we believe this can be further enhanced by mandating third party auditing of recovery rates to improve confidence and integrity of the reporting system.

- ✓ Recovery rates **independently verified** by a third party
- ✓ Enhance **transparency within the industry**
- ✓ Lift the **standards of waste reporting.**



Source: GBCA

	Points available	Points achieved	Category score	Weighting	Weighted score
Management	12	12	100%	10%	10.0
Indoor environment quality	27	14	51.9%	20%	10.4
Energy	24	17	70.8%	25%	17.8
Transport	11	6	54.5%	10%	5.45
Water	13	10	76.9%	12%	9.2
Materials	20	8	40.0%	10%	4.0
Land use & ecology	8	3	37.5%	8%	3.0
Emissions	14	5	35.7%	5%	1.78
Category total	129	75			61.63
Innovation credits					1
<b>TOTAL SCORE</b>					<b>63.0</b>

The score of 63 points equates to a '5 star' Green Star office design rating. A score of:

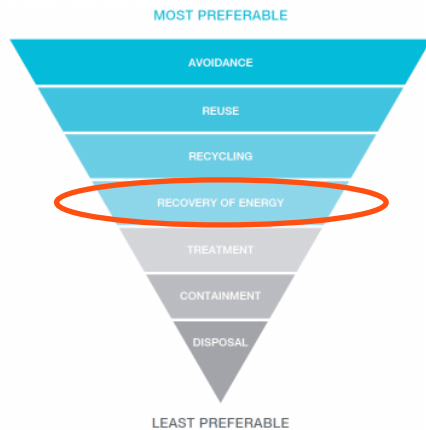
- 45 to 59 equates to a 4 Star rating, or best practice;
- 60 to 74 equates to a 5 Star rating, or Australian excellence; and
- 75 or above equates to a 6 Star rating, or world leadership.



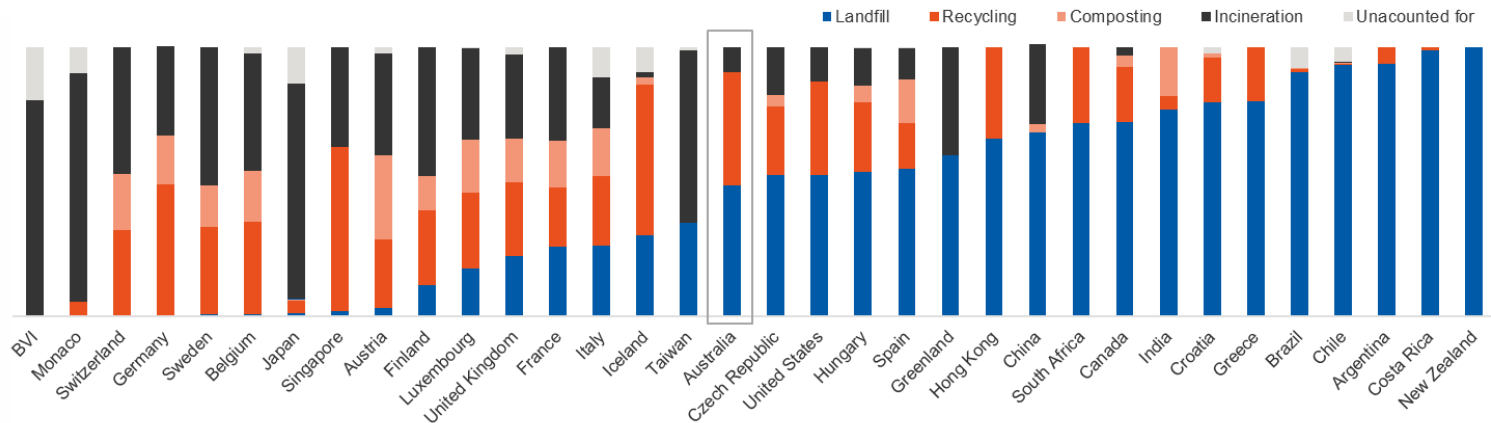
### 3. Promote Energy from Waste

- There will always be residual waste material that cannot be recycled economically, but this contains energy that can be captured and used productively.
- The benefits of waste-to-energy include; a net **reduction in greenhouse gases**, increased **resource savings**, improved **diversion from landfill** and **power generation** to support intermittent renewable energy sources.
- Australia is already behind other leading countries in terms of EfW processing.

Figure 1: Waste hierarchy



Global waste treatment and disposal by country (% of total waste generation)



Source: Infrastructure Victoria, October 2019.

Source: WorldBank September 2018, What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050. Landfill includes open dumping, unspecified landfill and controlled landfill.

Providing emissions standards, environmental and safety requirements are achieved, best available technology is used, and the process does not cannibalise recycling activities, the Government should remain technology-agnostic.

# **BINGO**

## **INDUSTRIES**

### **OUR STRATEGIC INTENT:**

**Diversion of waste from landfill, through a recycling-led solution, investment in technology and continuous innovation to enhance sustainability outcomes and maximise returns**