



WASTE AND RESOURCE RECOVERY –

What's needed to achieve a strong and sustainable resource recovery system in Australia

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How much waste do we generate?



2016-17 generated approx. **67 million tonnes** of waste including **17.2 Mt** of masonry materials, **12.9 Mt** of organics, **12.3 Mt** of ash, **7.7 Mt** of hazardous waste (mainly contaminated soil), **5.6 Mt** of paper and cardboard and **5.5 Mt** of metals. *This is equivalent to 2.8 tonnes (t) per capita.*

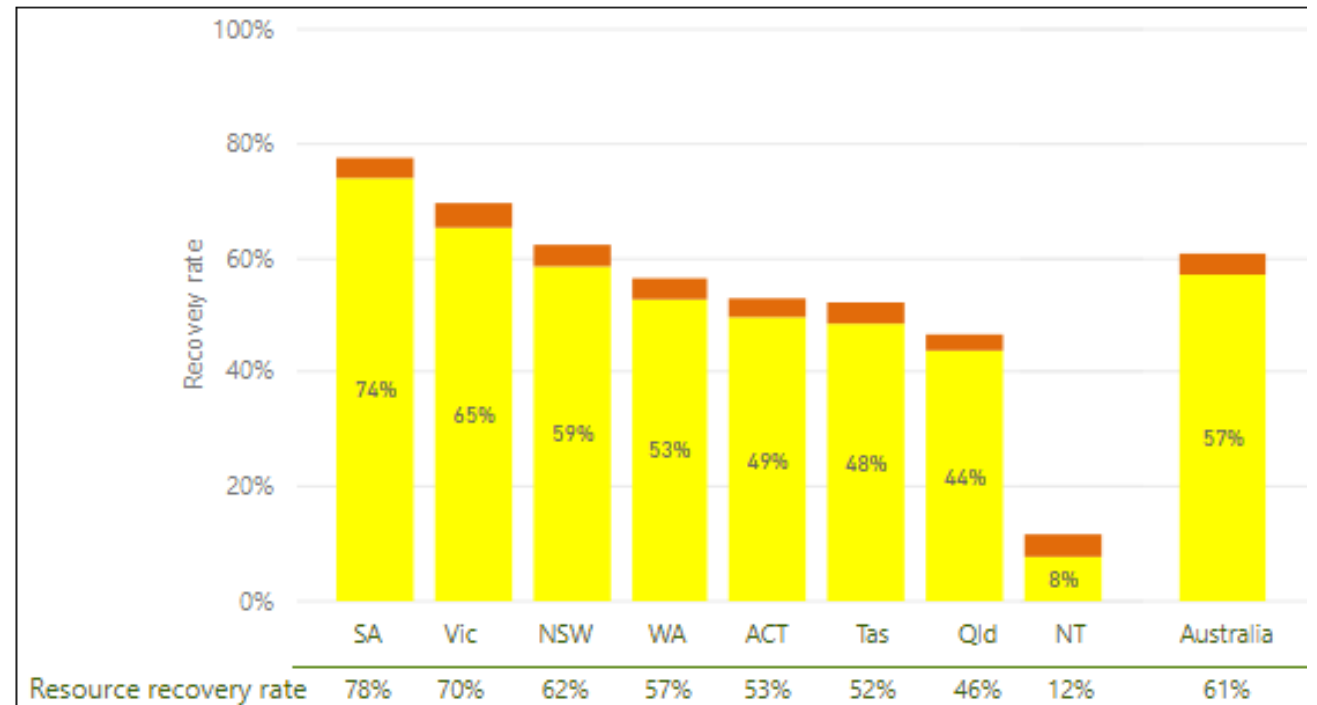
There was about **55 Mt of 'core waste'** – that managed within the waste and resource recovery sector (*2.2 t per capita*). This comprised-

- 13.7 Mt (550 kg per capita) of MSW
- 20.8 Mt from the commercial and industrial (C&I)
- 20.3 Mt from the construction and demolition (C&D)

National Waste Report 2018

Value of industry in Victoria **\$3.7billion.**

Recycling and resource recovery rates of core waste by jurisdiction, 2016-17*



Resource recovery rates? Arguably only diverted from landfill...*

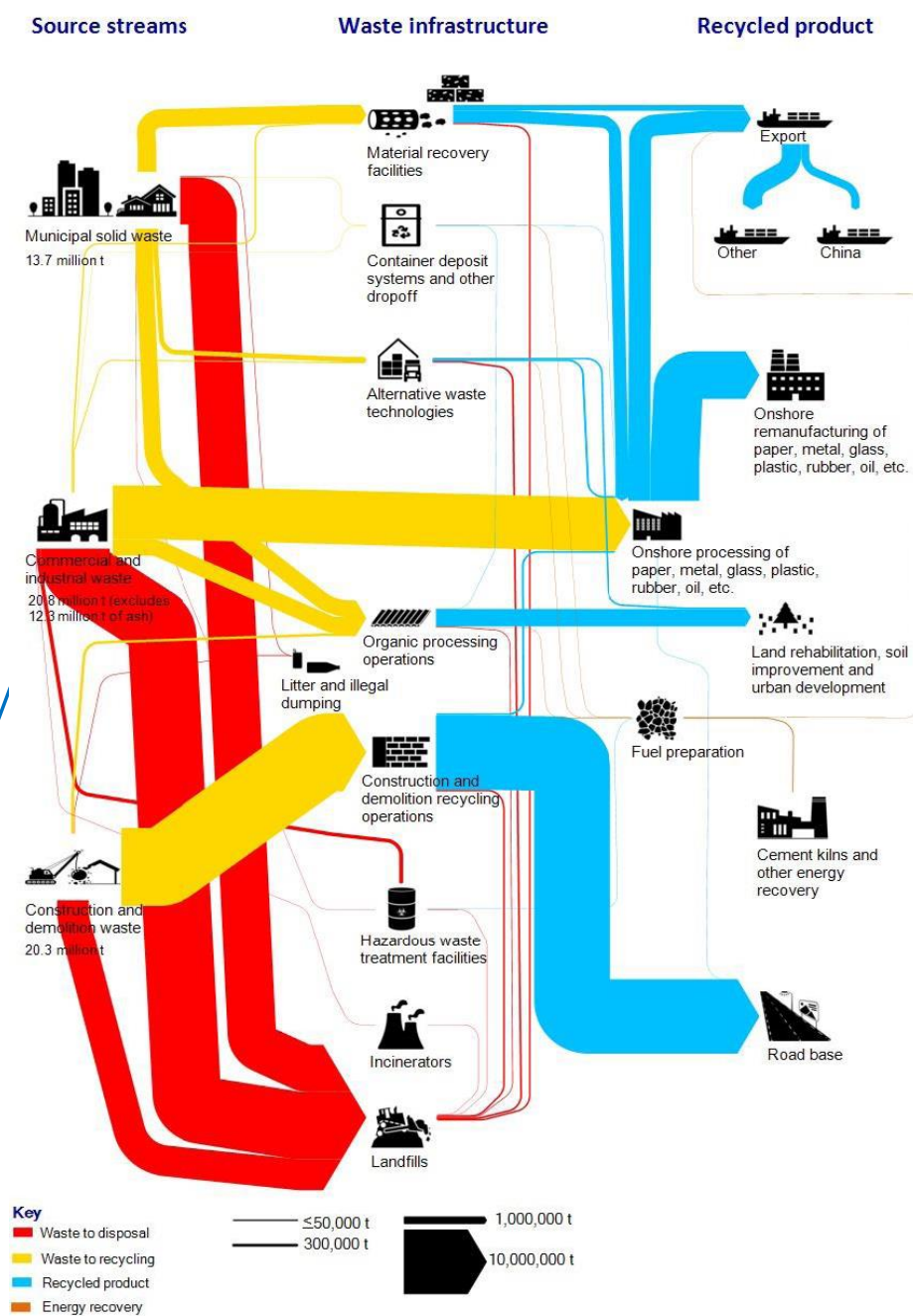
What do we do with it?

Role of Government?

Federal- international obligations/
national leadership/ procurer

State- regulator/policy
development/ market
development/ procurer

Local- regulator/policy
development/ procurer



WARR Sustainable System



Victorian Government

Action 1: Invest in recycling infrastructure

Commit greater quantities of Sustainability Fund money to bolster sorting and processing capability in Victoria. We urgently need more capacity in our materials recovery facilities across the state.

Action 2: Fund and support market development

Commit greater quantities of Sustainability Fund money to drive demand for recycled content. Support research and development to increase uptake of new uses for recycled materials. Set mandatory procurement targets for Australian recycled material by government agencies. Incentivise procurement of Australian recycled content by others. Support the MAV to develop procurement options for councils.

Action 3: Introduce a container deposit scheme

Commit to introducing container deposit legislation into parliament this year and work with the MAV and councils to ensure it achieves the best outcomes for the community. Victoria and Tasmania are the only Australian states yet to commit to a scheme.

Action 4: Bolster community education

Commit greater quantities of Sustainability Fund money to develop and deliver a consistent state-wide community education campaign focused on:

- making waste-wise decisions
- putting pressure on producers to reduce waste
- what can and can't go into recycling and the costs of getting it wrong.

The education campaign should use the channels that most effectively reach the community and apply learnings from other successful government campaigns.

Action 5: Strengthen industry oversight / regulation

Recycling is considered an essential service by most, yet the few large operators we have in Victoria operate under a veil of secrecy. The State must improve transparency and accountability within the industry. Access to robust and credible data on market conditions, and costs and revenue within the recycling sector is essential to achieve best value for the community.

Federal Government

Action 1: Mandate product stewardship

Introduce mandatory product stewardship for all products that generate waste. Put clear and binding targets within the *Product Stewardship Act* to drive action by industry. This approach would align with the polluter-pays principle, incentivising designers and producers to take responsibility for the environmental impacts of their products.

Action 2: Tackle consumer packaging

In partnership with state and territory ministers, review the *National Environment Protection (Used Packaging Materials) Measure 2011* to impose mandatory participation and binding obligations across the consumer packaging chain. As an interim measure, clarify obligations on industry so that it's easier to hold them to account.

Action 3: Strengthen the National Waste Policy

In partnership with state and territory ministers, adopt an action plan for the National Waste Policy that includes firm and ambitious targets and timelines that fast-track our transition to a circular economy.

Action 4: Regulate / ban production and importation of hard-to-recycle materials

Action 5: Standardise package labelling and certify use of recycled content

Mandate adoption of the Australasian Recycling Label for all consumer packaging sold in Australia and adopt a certification system for recycled content in line with the US or European models.

Plus, mandated recycled content procurement targets



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Local Government

Action 1: Collaborate for market expansion

Working with the Victorian government, investigate and support options to collaboratively procure kerbside recycling services with the aim of enhancing competition and attracting new investment in recycling in Victoria.

Action 2: Educate the community

Continue to develop and support delivery of community education that focuses on reducing waste and minimising contamination in recycling bins. Undertake regular bin audits to reduce contamination in kerbside recycling.

Action 3: Buy recycled

Wherever feasible, support market development via procurement of recycled content, both for corporate operations, services and infrastructure programs.

Action 4: Explore stream separation

Working with industry, pilot collection services that separates glass from the rest of kerbside recycling to reduce contamination of material.

Action 5: Advocate to and work with the federal and state governments to achieve the reforms outlined in the sections above. It is these tiers of government that have the powers to create a responsible and sustainable recycling system.

It takes 3 things-

- Markets
- Certainty
- Shared responsibility

All integrated- no part or player can solve alone (and we have to stop pretending we can!)



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Circular Economy in Australia

OUTLINE OF A CIRCULAR ECONOMY

PRINCIPLE

1

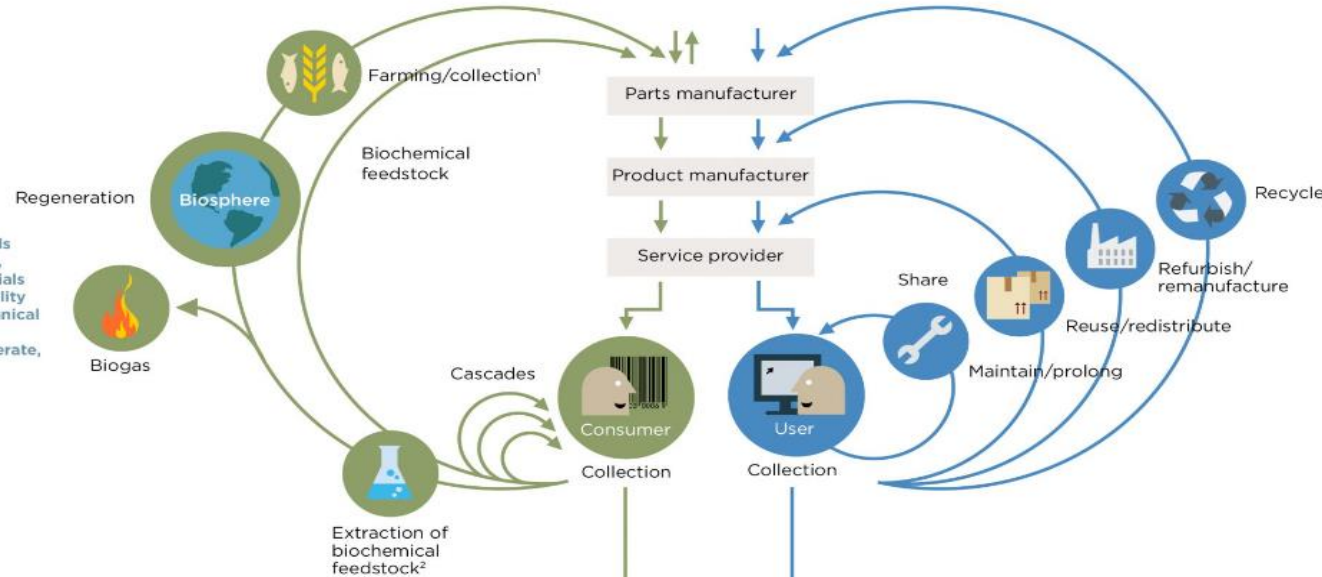
Preserve and enhance natural capital by controlling finite stocks and balancing renewable resource flows
 ReSOLVE levers: regenerate, virtualise, exchange



PRINCIPLE

2

Optimise resource yields by circulating products, components and materials in use at the highest utility at all times in both technical and biological cycles
 ReSOLVE levers: regenerate, share, optimise, loop



PRINCIPLE

3

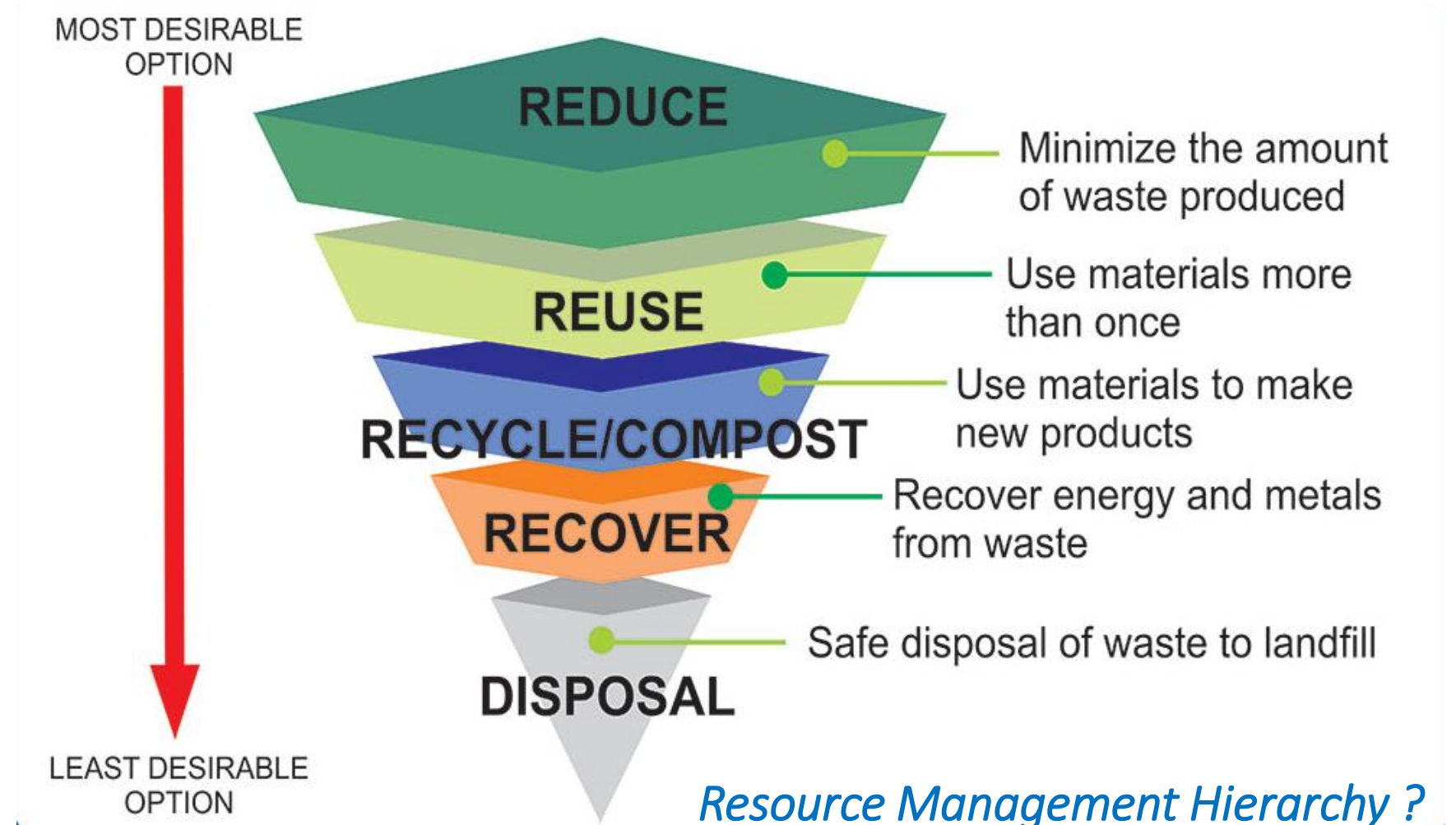
Foster system effectiveness by revealing and designing out negative externalities
 All ReSOLVE levers

Minimise systematic leakage and negative externalities

1. Hunting and fishing
 2. Can take both post-harvest and post-consumer waste as an input
 Source: Ellen MacArthur Foundation, SUN, and McKinsey Center for Business and Environment; Drawing from Braungart & McDonough, Cradle to Cradle (C2C).

Waste Management Hierarchy

Time for a
new
name
perhaps?



4th bin verse CDS



PAPER (50%)

GLASS (30%)

WASTE (10%)

ALUMINIUM
AND STEEL (4%)

MIXED PLASTICS (3%)

HDPE & PET (3%)

Table 1 – Market snapshot¶

MRF outputs ^{¶¶}	Sorted quantity (t) [¶]	Proportion [¶]	Destination(s) [¶]	Approx. \$-per-tonne¶ (end-September-2019) ^{¶¶}
Paper & paperboard [¶]	320,000 [¶]	54% [¶]	135,000-tonnes-export (38% drop on 2016–17) ^{¶¶} 185,000 t to local processing or storage [¶]	~\$0 for mixed paper & paperboard¶ \$100 newsprint & magazine¶ \$170 old corrugated paperboard¶ \$75 for boxboard [¶]
Glass packaging [¶]	100,000 [¶]	17% [¶]	~2,000-tonnes-export (100% increase on 2016–17) ^{¶¶} 98,000 t to local processing or storage [¶]	~\$30 /tonne for mixed glass to beneficiation¶ Approx. \$75 /tonne for source-separated glass [¶]
Plastic packaging [¶]	42,000 [¶]	7% [¶]	27,000-tonnes-export [¶] (27% drop on 2016–17) ^{¶¶} 15,000 t to local processing or storage [¶]	\$380 for PET (1) ^{¶¶} \$550 for HDPE (2) ^{¶¶} \$65 for mixed (1–7) ^{¶¶} -\$20 for mixed (3–7) [¶]
Metal packaging [¶]	10,000 [¶]	2% [¶]	~100% to exports [¶]	\$128 for steel cans¶ \$1100 for aluminium [¶]
Contamination and sorting losses [¶]	120,000 ^{b¶}	20% [¶]	All to landfill [¶]	-\$130 for landfill [¶]
Total[¶]	~590,000[¶]	[¶]	[¶]	[¶]

Value= -\$40