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WASTE AND SUSTAINABILITY IN AUSTRALIA

PROF DAMIEN GIURCO

**CLAIR Forum
24 February 2016**

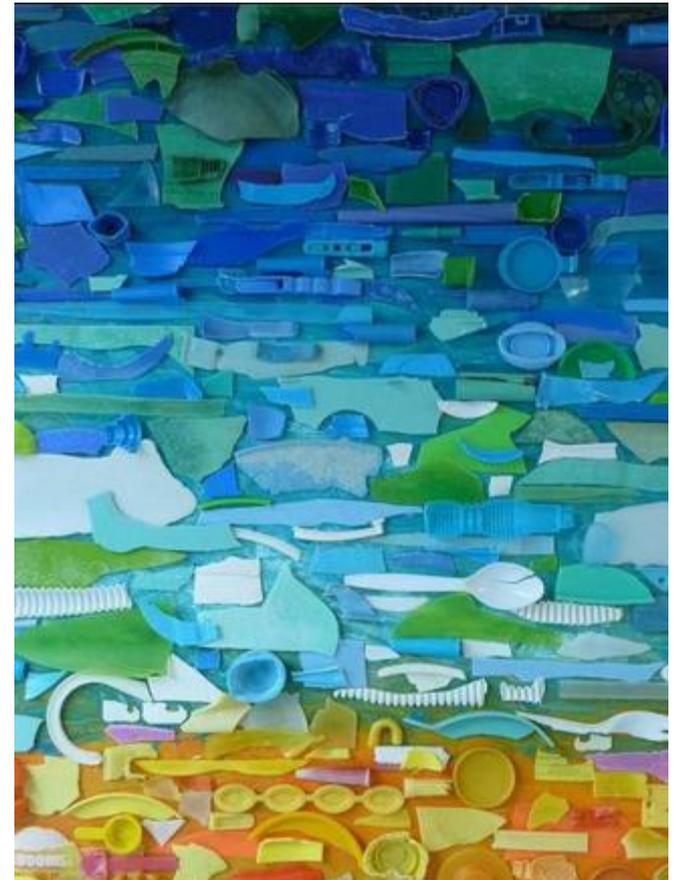
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OUTLINE

- > Overview of waste generation, recycling in Australia
- > Revitalising sustainability
- > Case studies and initiatives
- > Looking to the future

Beach Scene – little pieces of good
Judith Price

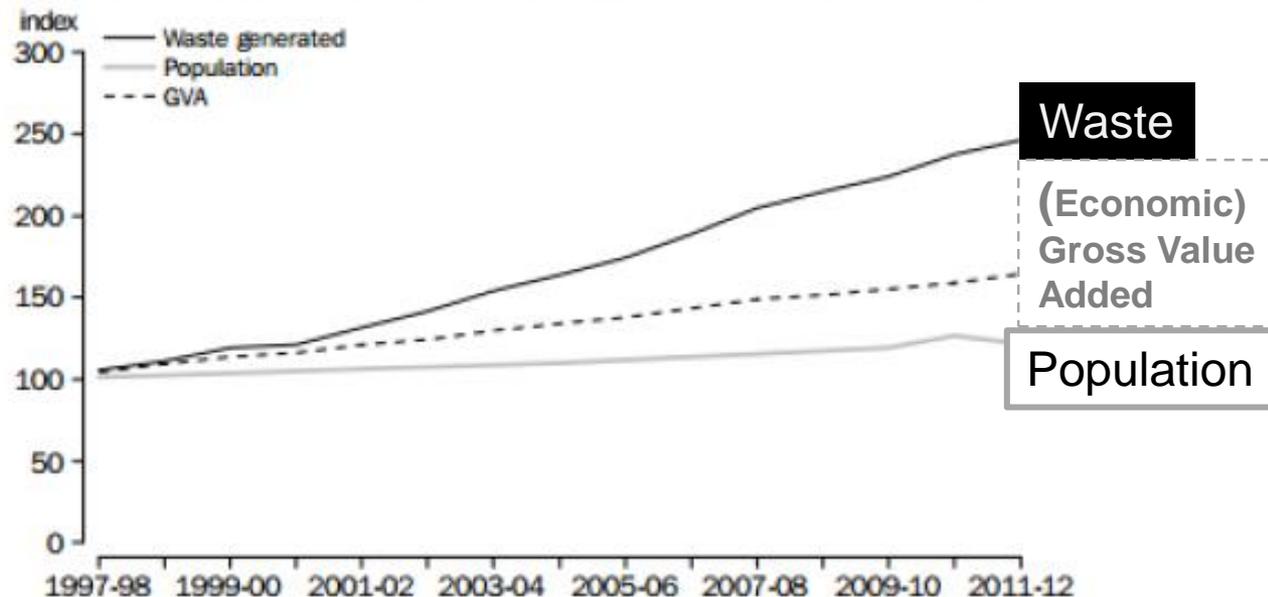
Exhibited at World Resources Forum Asia Pacific, UTS 2015



WASTE GENERATION IN AUSTRALIA STILL RISING

More than
2 tonnes
per person
per year

FIGURE 1, Waste generation, Population and GVA, 1997–2012



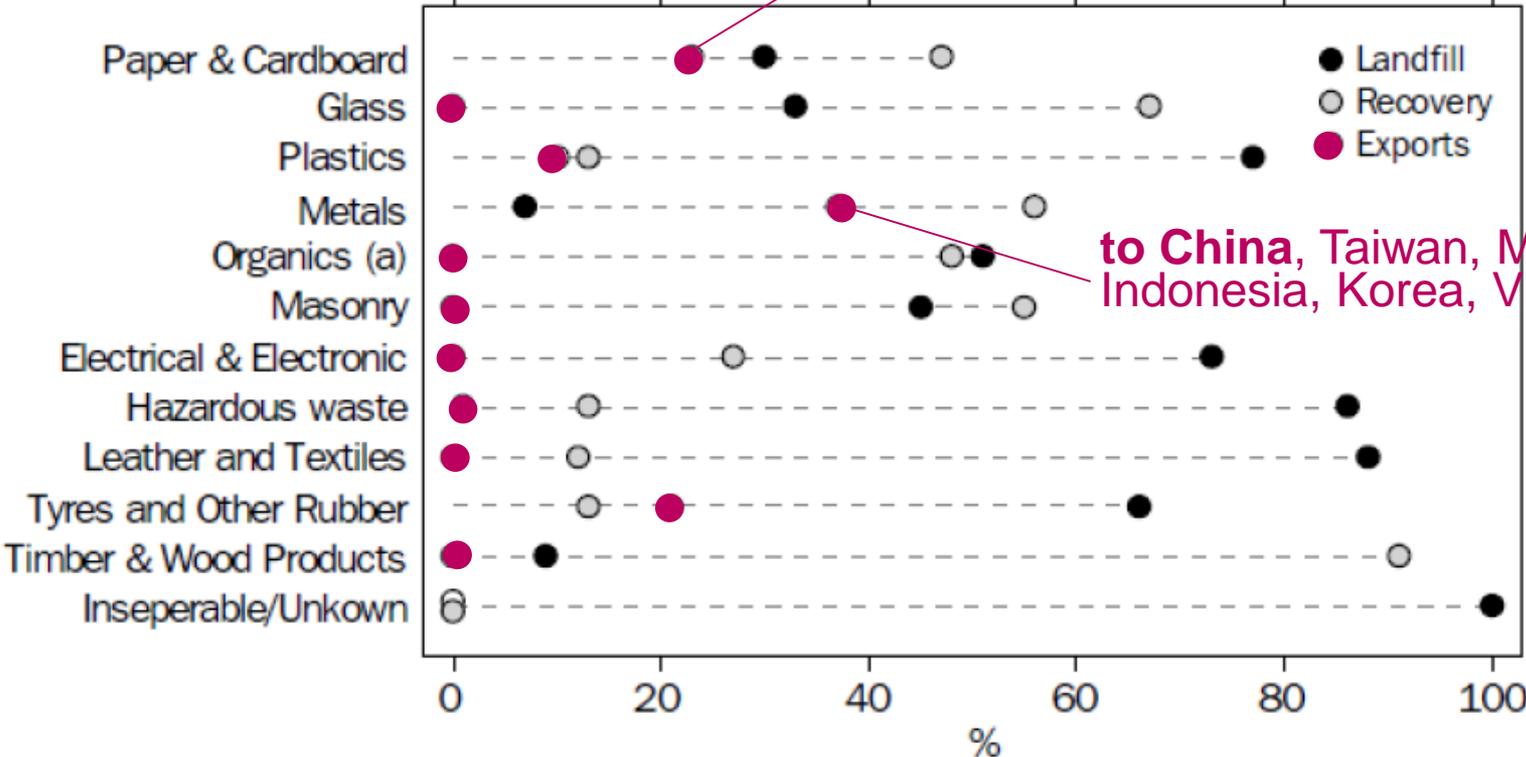
*Waste Generation by
Industry and Households*

- During 2009–10, 53.7 million tonnes of waste was generated within the Australian economy, including imports.

Source: 2013 ABS Waste Account 4602.0.55.005

RECOVERY BY MATERIAL

WASTE MANAGEMENT BY MATERIAL (% OF MATERIAL TOTAL GENERATION) 2009-10



to China, Indonesia, Hong Kong

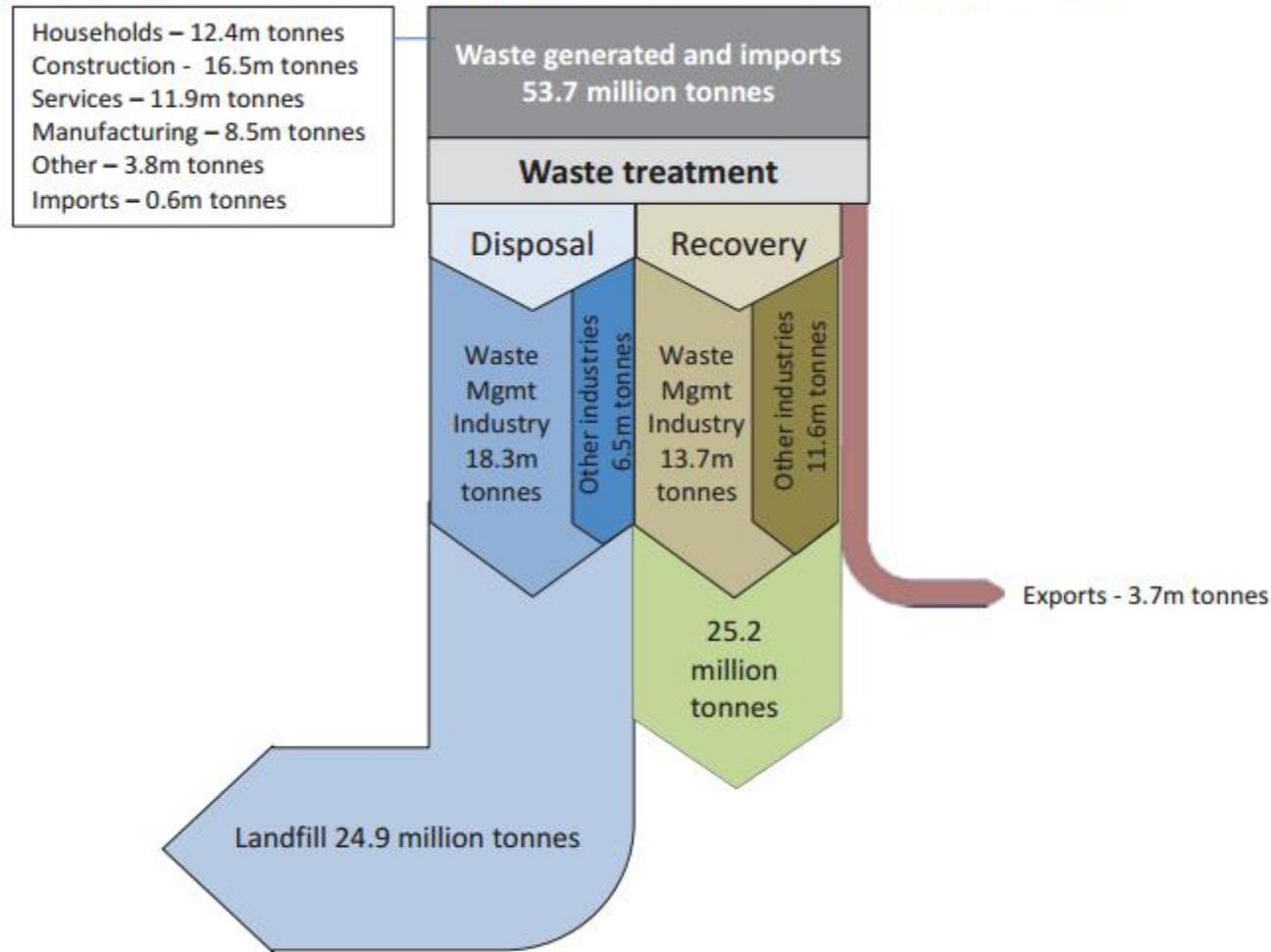
to China, Taiwan, Malaysia, Indonesia, Korea, Vietnam

(a) Doesn't include timber

Source: 2013 ABS Waste Account 4602.0.55.005

WHERE DOES THE WASTE GO?

FIGURE 2 SUMMARY OF WASTE GENERATED AND WASTE SERVICES PROVIDED, 2009-10



Waste Generation by
 Industry and Households

Note:
 Disposal

Source: 2013 ABS Waste Account 4602.0.55.005

ECOLOGICALLY SUSTAINABLE DEVELOPMENT

→ ↻ | www.environment.gov.au/about-us/esd/publications/national-esd-strategy

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About us ▾
ESD

National Strategy for Ecologically Sustainable Development

1992

Prepared by the Ecologically Sustainable Development Steering Committee

Endorsed by the Council of Australian Governments

December, 1992

ISBN 0 644 27253 8

MARRICKVILLE COUNCIL STRATEGY

Marrickville Council

RETHINK WASTE STRATEGIC PLAN 2014-2023

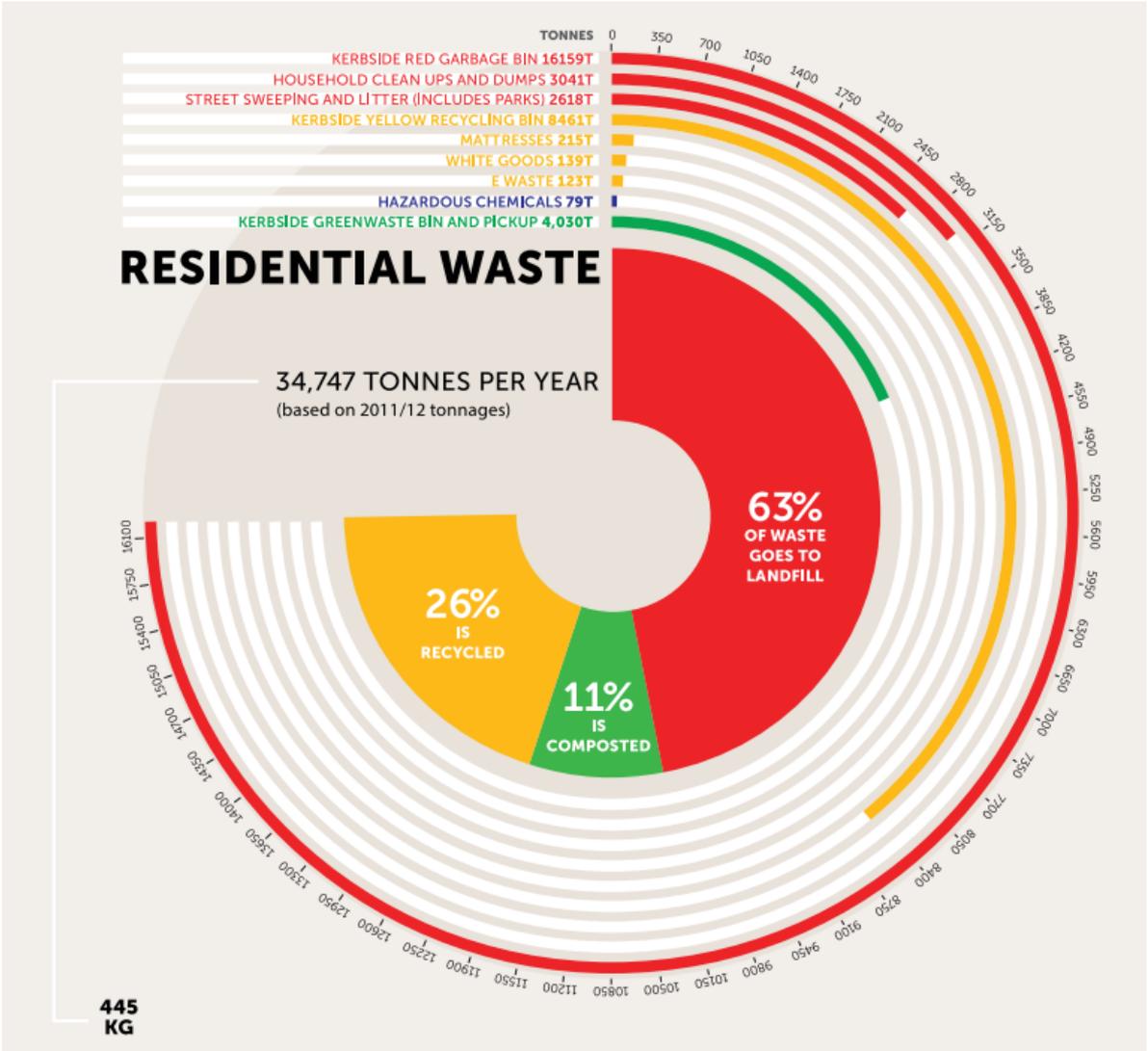
Key Area 1 – Empower the community to embrace avoidance, reuse and recycling

Key Area 2 – Eliminate the concept of organic waste

Key Area 3 – Establish a mainstream reuse culture

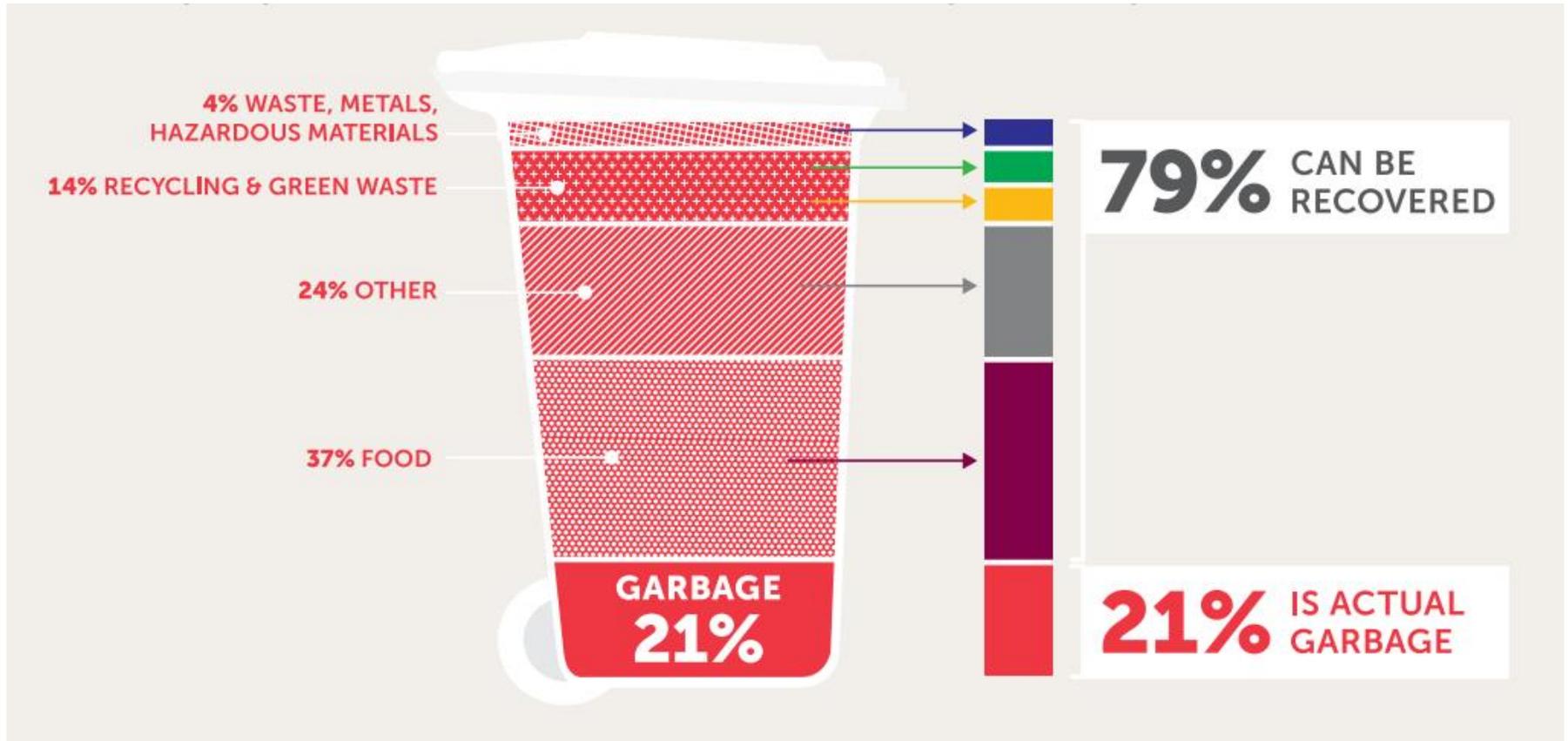
Key Area 4 – Embed responsiveness into Council policy and services

LOCAL GOVERNMENT PERSPECTIVE



Example of Marrickville Council, Sydney <http://www.marrickville.nsw.gov.au/en/environment/recycling-and-waste/>

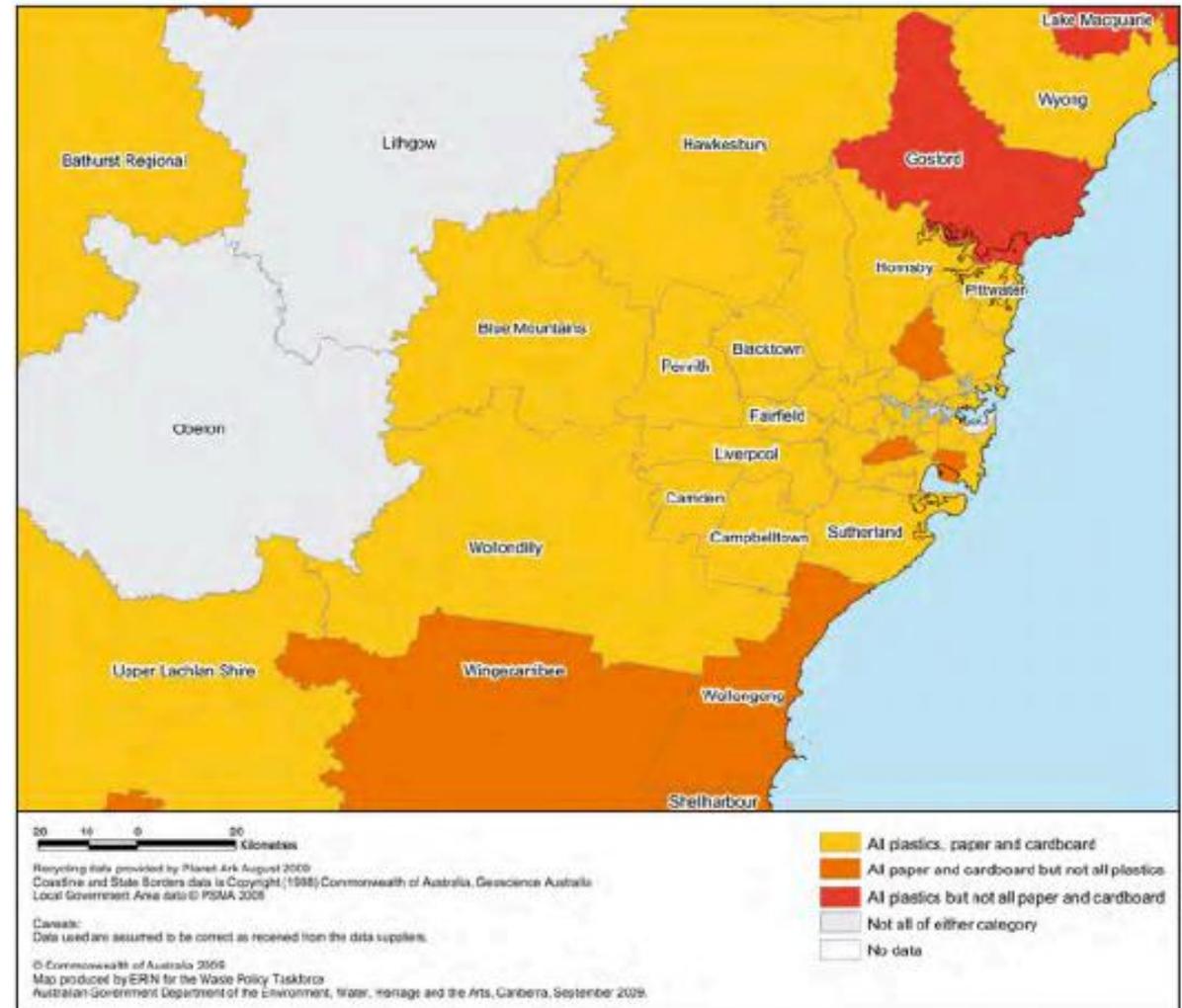
HOUSEHOLD RECYCLING



Example of Marrickville Council, Sydney

VARIATION IN HOUSEHOLD RECYCLING COLLECTION

Figure 2.23: Greater Sydney—municipal recycling of plastics, paper and cardboard, by LGA



National Waste Report, 2010

ADDITIONAL RECYCLING EXAMPLE



Example of Waverley Council, Sydney

http://www.waverley.nsw.gov.au/residents/waste_and_recycling/collection_days_and_bins

FOOD RECYCLING



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LEICHHARDT COMMUNITY ENGAGEMENT AND PARTICIPATION PLAN

FOOD RECYCLING IN MULTI-UNIT DWELLINGS



Place scraps into your kitchen bench top bin.



Tie a knot in the cornstarch bag.



Place bag into the food wheelie bin in your bin bay area or room.

IMPORTANCE OF DATA COLLECTION

Table 4-5 Summary of selected waste and recycling data collected and made available to the public

		NSW	VIC	QLD	SA	WA	TAS	NT
Collection services offered	Data collected	✓	✓	✓	✓	✓	✗	✗
	Data available	✓	✓	⊕	✗	✗	✗	✗
Collection frequencies	Data collected	✓	✓	✓	✓	✓	✗	✗
	Data available	✓	✓	⊕	✗	✗	✗	✗
Bin sizes/ types	Data collected	✓	✓	✓	⊕	✓	✗	✗
	Data available	✓	✓	⊕	✗	✗	✗	✗
Waste generation (tonnes)	Data collected	✓	✓	✓	✓	✓	✗	✗
	Data available	✓	✓	⊕	✗	✗	✗	✗
Recycling (tonnes)	Data collected	✓	✓	✓	✓	✓	✗	✗
	Data available	✓	✓	✗	✗	✗	✗	✗
Organics (tonnes)	Data collected	✓	✓	✓	✓	✓	✗	✗
	Data available	✓	✗	✗	✗	✗	✗	✗
Waste to landfill (tonnes)	Data collected	✓	✓	✓	✓	✓	✗	✗
	Data available	✓	✓	✗	⊕	✗	✗	✗

2011



LANDFILL LEVIES

- Discourage landfill disposal
- Make recycling and recovery options more viable
- Increase recovery investment

Period	SMA
2009-2010	\$58.80
2010-2011	\$70.30
2011-2012	\$82.20
2012-2013	\$95.20
2013-2014	\$107.80
2014-2015	\$120.90

Waste levy rates 2015–16

The 2015–16 levy rates apply from 1 July 2015. Waste Regulation as follows:

- Metropolitan Levy Area: \$133.10 per tonne
- Regional Levy Area: \$76.70 per tonne

Historical rates in Sydney Metropolitan Area (SMA)

WASTE LESS, RECYCLE MORE



Waste Less, Recycle More

\$465.7 million over five years funded from the waste levy

UP TO
JUNE
2015

\$210.3 MILLION
AWARDED TO:

447
PROJECTS



COUNCILS \$83.5 MILLION

INFRASTRUCTURE \$66.9 MILLION

PROBLEM WASTE \$21.8 MILLION

ORGANICS \$12.9 MILLION

BUSINESS \$12.5 MILLION

ILLEGAL DUMPING \$6.9 MILLION

LITTER \$5.7 MILLION

Aiming to process

1,638,138

TONNES MORE WASTE



609 JOBS
CREATED



FUTURE INITIATIVES

- > reverse vending machines and container deposit systems
- > role in integrated resources planning for waste
- > how can we harness the digital age to improve waste and sustainability in cities?

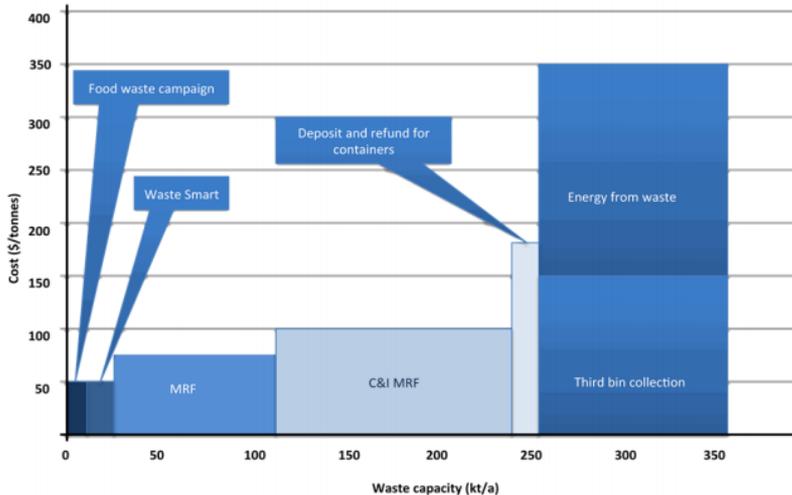


Figure 5. Illustrative supply curve for waste management options in kt/a in 2030.

Article

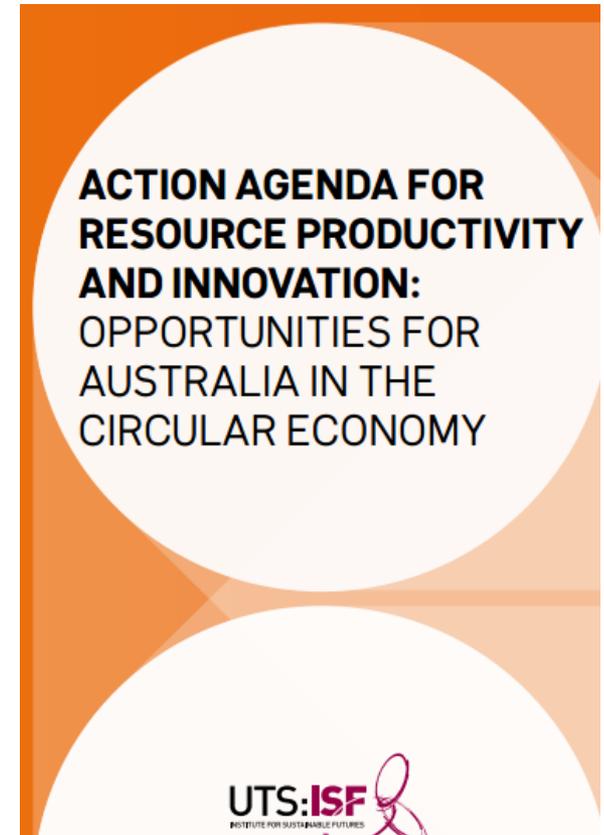
Integrated Resource Planning for Urban Waste Management

Damien Giurco ^{1,*} ✉, Jade Herriman ¹ ✉, Andrea Turner ¹ ✉, Leah Mason ¹ ✉, Stuart White ¹ ✉, Dustin Moore ¹ ✉ and Frank Klostermann ² ✉

THANK YOU – ARIGATOU GOZAIMASU

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