



Food: Too good to waste

Environmental Practitioners' Workshop

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Who Encycle are

Waste, recycling and resource efficiency professionals

Vision:

‘Encycle proactively contributes to a society where waste is viewed as a resource through the provision of trusted and respected consultancy services, demonstrating leadership, sharing knowledge and influencing cultural and policy changes’

Presentation overview

- Food waste in Australia
- Food waste from the food and accommodation sector
- Food waste – environmental impacts
- Food waste hierarchy

Food – how much do we waste?

- Food waste in Australia is about 7.5 million tonnes per year (MSW and C&I)
- About 40 % of food purchased by restaurants is wasted

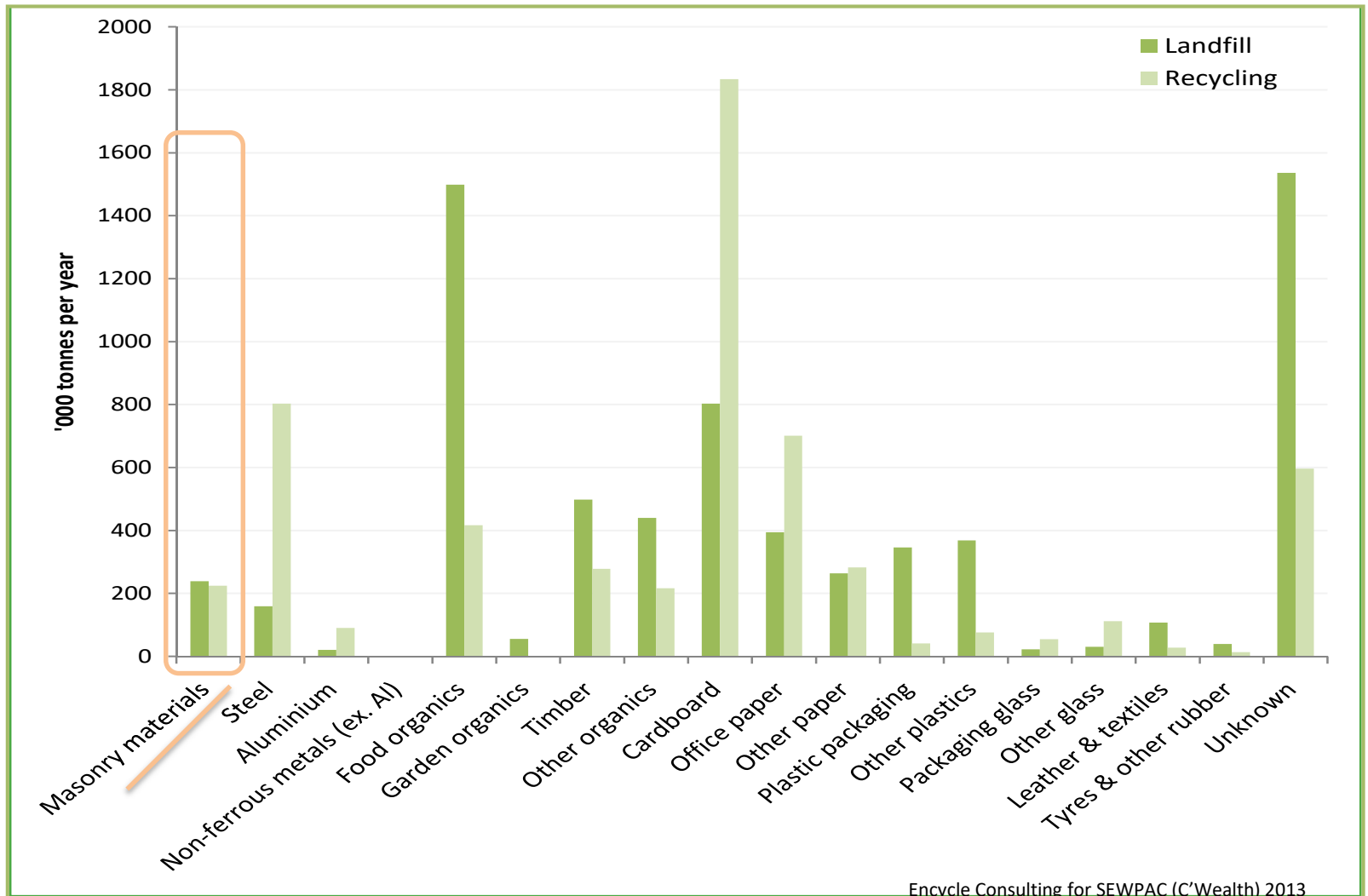


Refs:

DSEWPAC, 2011 (2008-09 data)

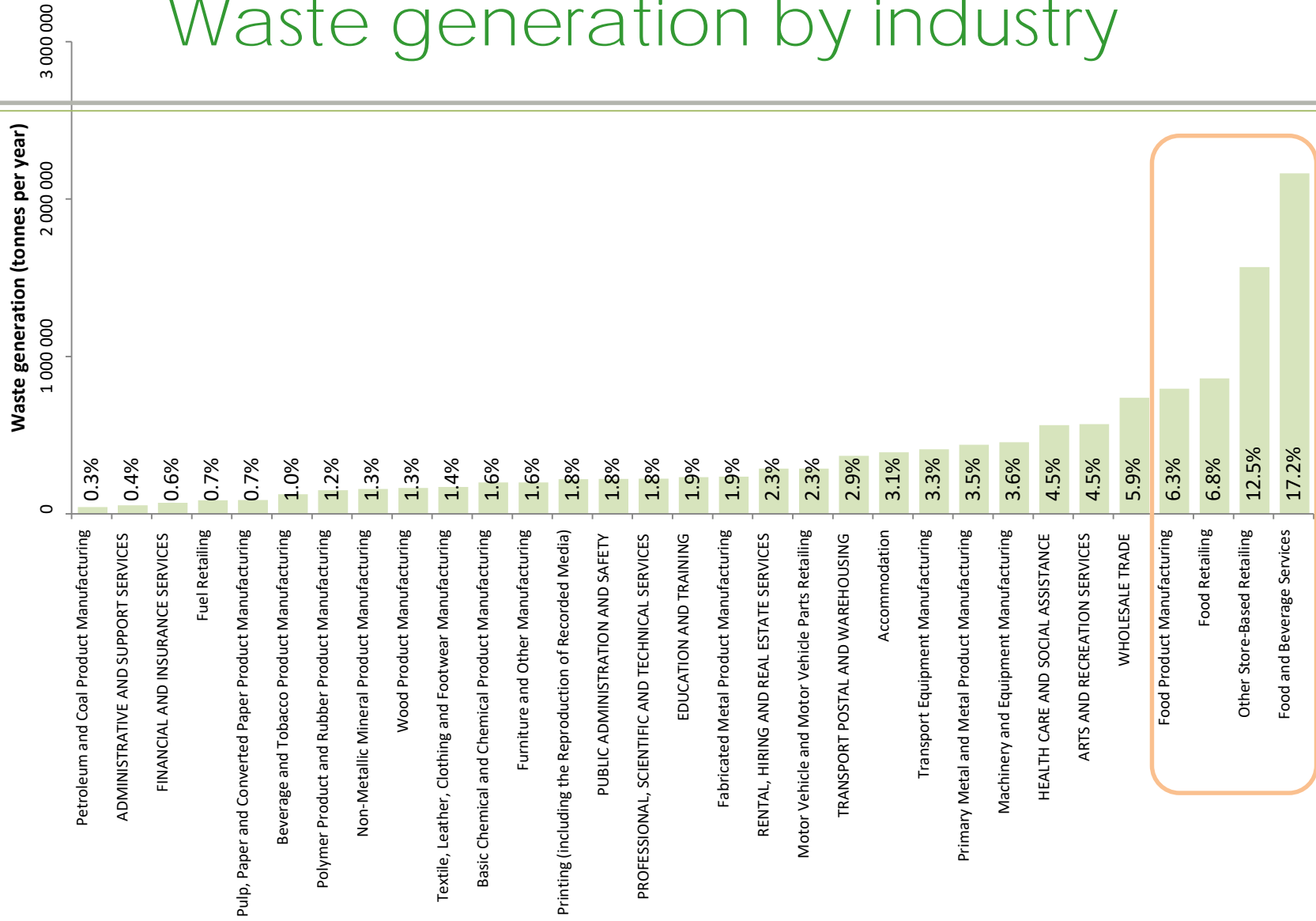
Hospitality Magazine: 5 Jan 2016 (RMIT research)

Commercial waste by material



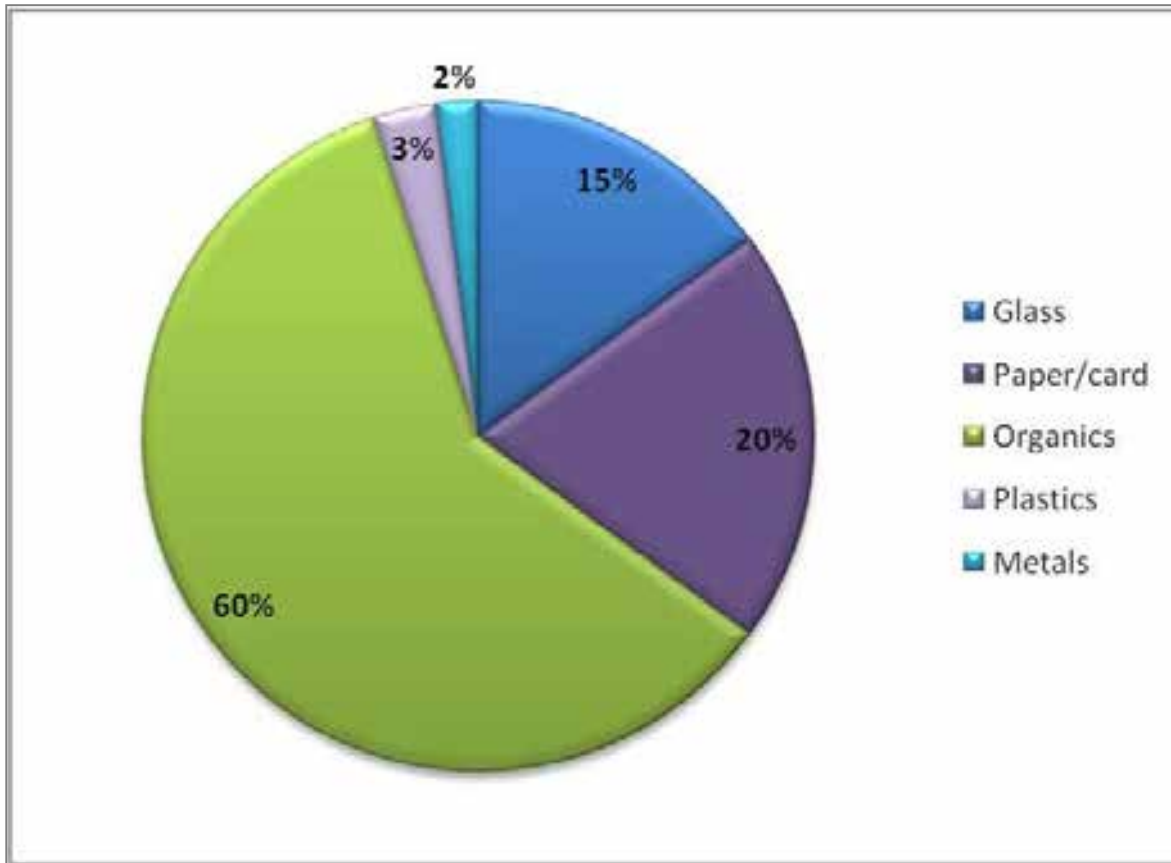
Encycle Consulting for SEWPAC (C'wealth) 2013

Waste generation by industry



Food in the commercial waste stream

Food sales industries (retail and hospitality)



Encycle Consulting for SEWPAC (C'Vealth) 2013

Environmental impacts

When food is wasted, we also waste:

- Water
- Land/soil and precious nutrients
- Fertiliser
- Energy
- Transport
- Waste management

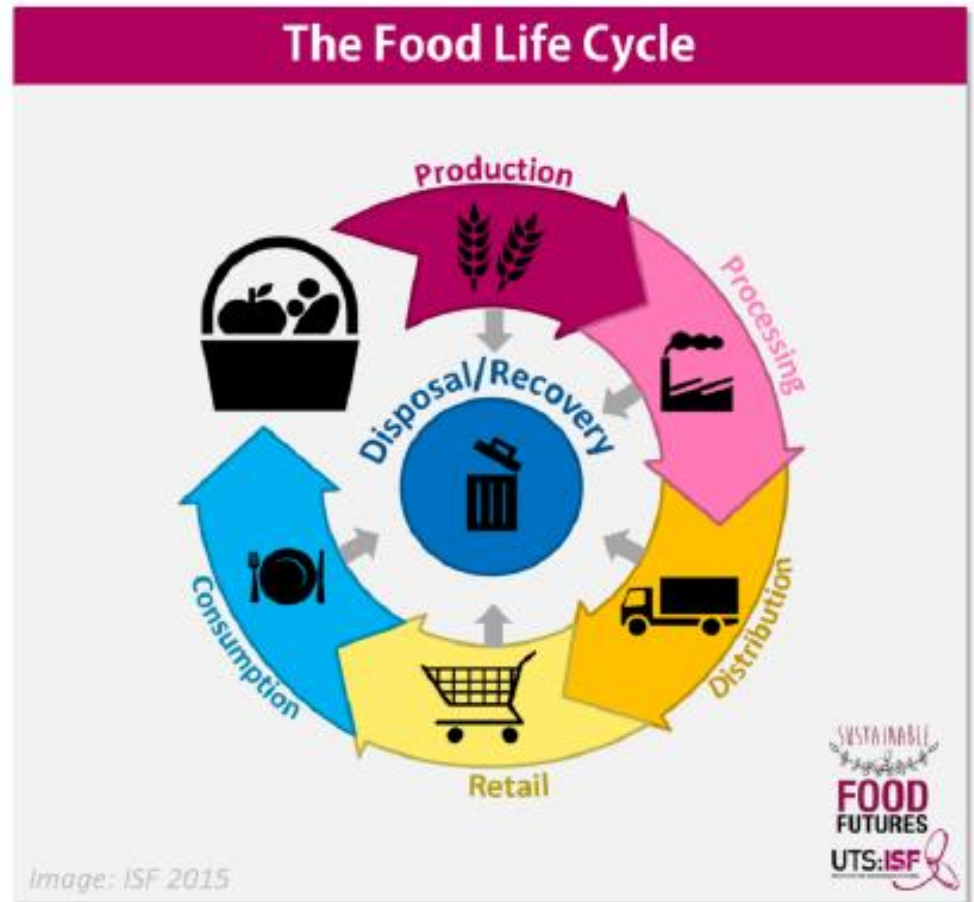


Image: The Conversation, April 13, 2015

Food waste hierarchy



www.mrw.co.uk

Disposal to landfill

Food in landfill

- Produces greenhouse gas: methane
- Produces 'leachate' (organic acids)
- (good at leaching other toxins from fill)

Food breaking down in presence of air:

- 'recent' CO₂ – part of the natural Carbon cycle



Image: Ashfield Council, NSW

Food waste hierarchy



www.mrw.co.uk

Food to compost

Quality compost provides nutrition and structure for healthy soils



Where can food waste go?

- Southern Metropolitan Regional Council – low value compost



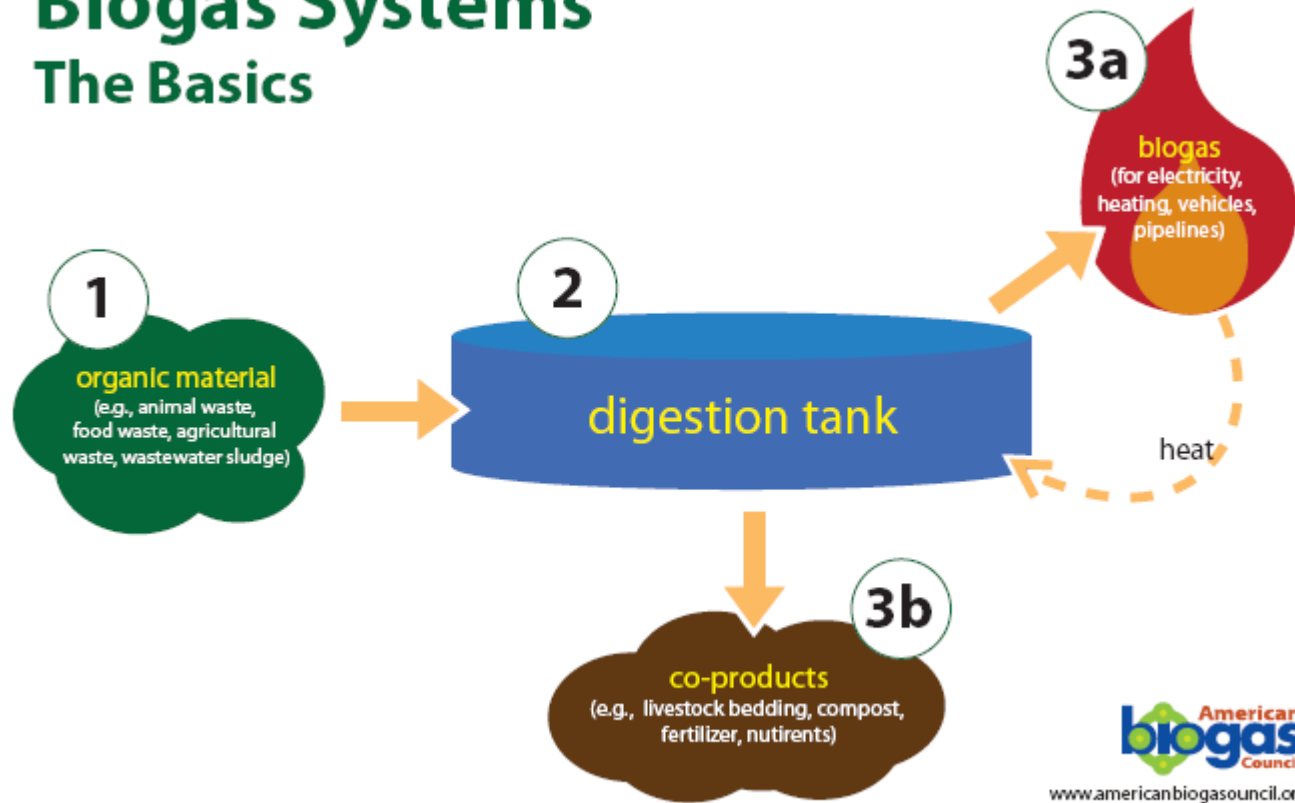
Long-term solutions

- C-Wise, Neerabup
- High value compost



Food to anaerobic digestion

Biogas Systems The Basics



Long-term solutions

- Richgro
- High value compost and electricity

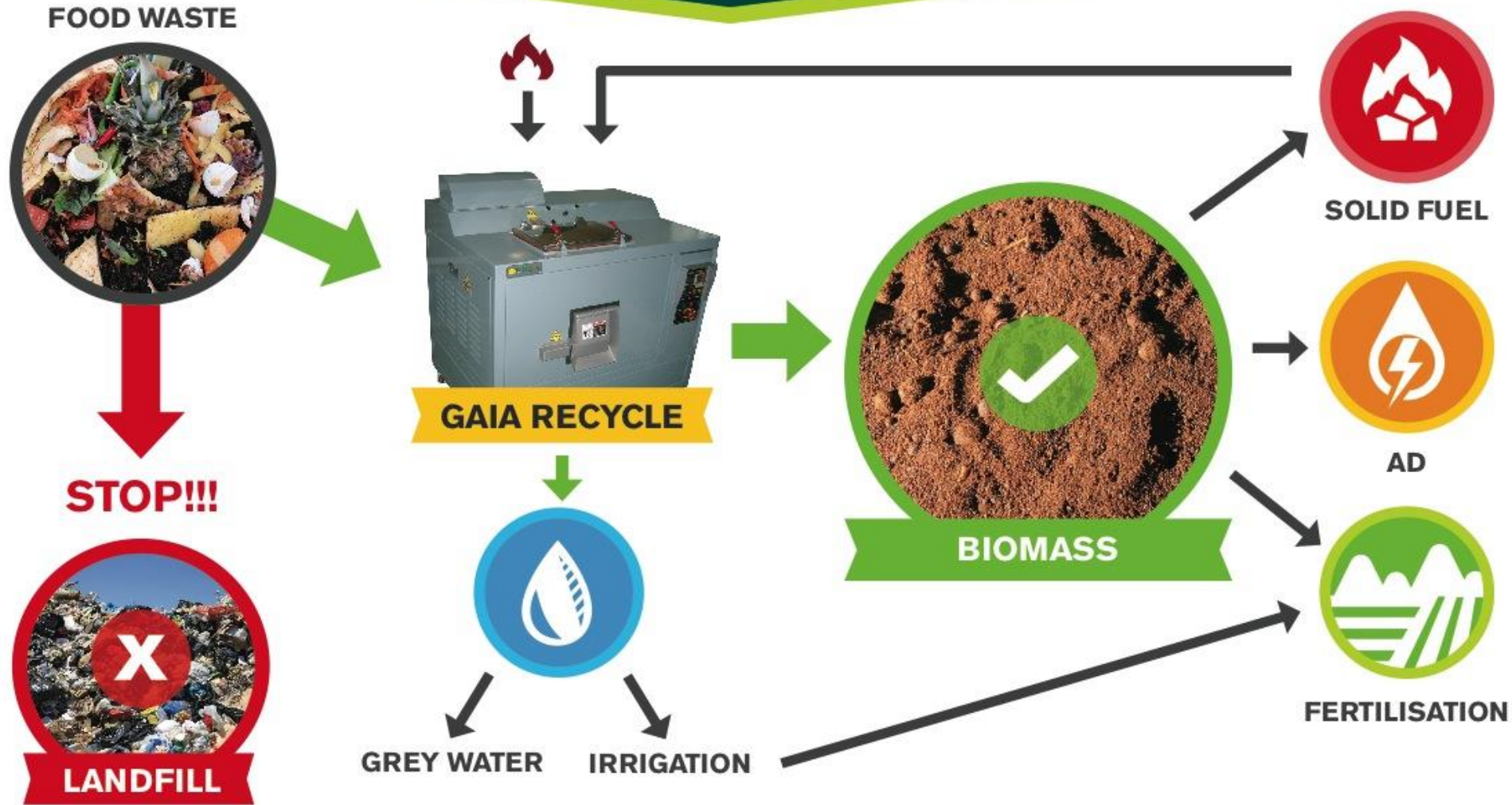


On-site treatment options

- Dehydration machines: Gaia, Closed Loop, etc.
- Macerators: Pulpmaster, Meiko
- Factors to consider:
 - Quantity of food waste
 - Cost-benefit
 - Space
 - Services: power, gas, water, sewer
 - Solution for the end product

ECO GUARDIANS & GAIA RECYCLE

Diverting food waste from landfill



Food waste hierarchy

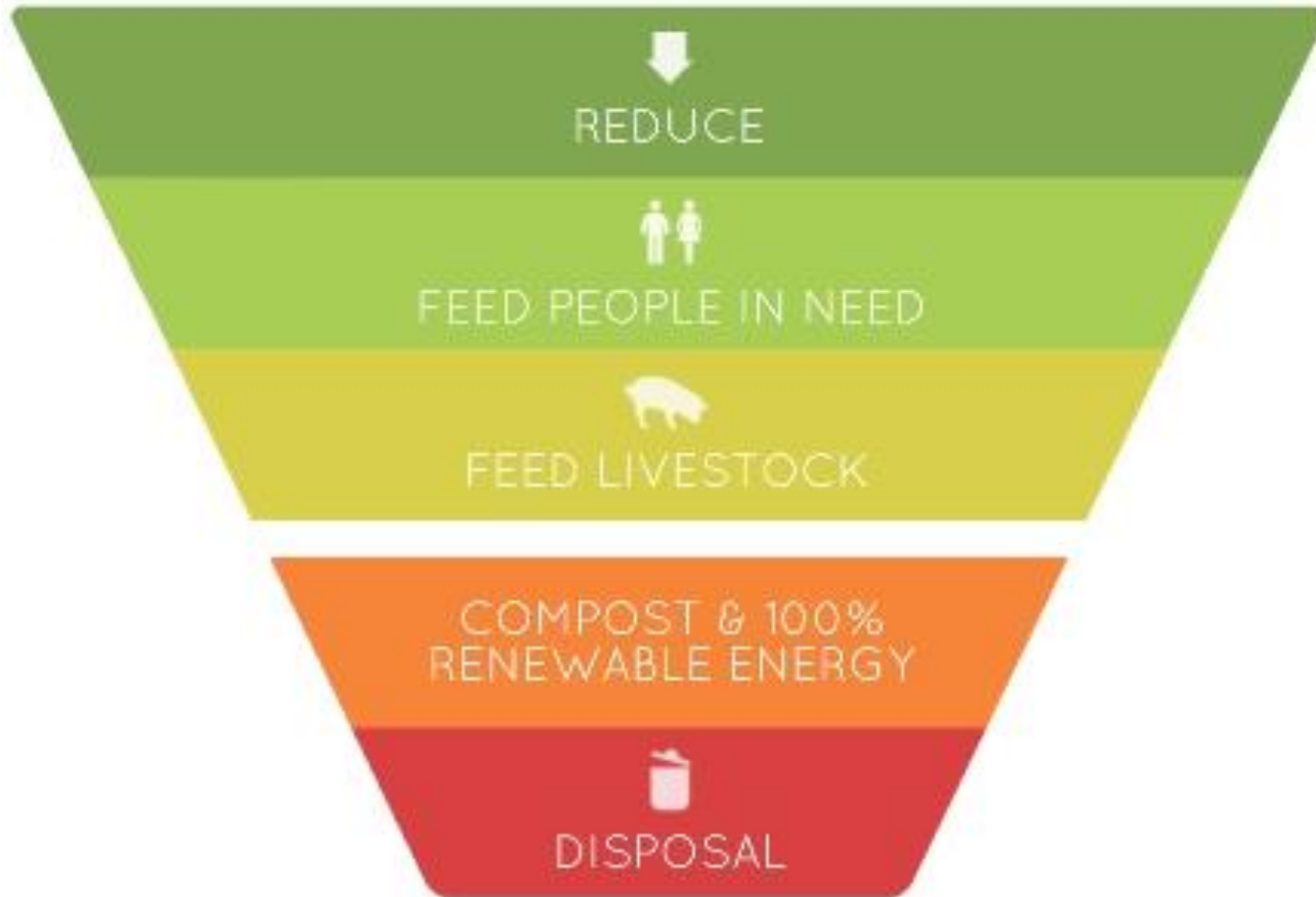


www.mrw.co.uk

Feed people in need



Food waste hierarchy



www.mrw.co.uk

Reduce

UK WRAP Case Study: Crieff Hydro, Scotland

- 4 star luxury spa hotel: 213 rooms; 5 restaurants, cafes/bars; 500 staff
- Food waste monitoring trial
- Identified breakfast & lunch buffet was that required focus:
 - Reduce buffet container sizes
 - Smart production planning
 - Greater staff engagement
 - Setting weekly food waste reduction targets



Reduce

- The results for 1 restaurant over 8 weeks:
 - Reduced food waste costs by 43%
 - Annual savings of approximately:
 - 11.5 tonnes of food
 - £51,750

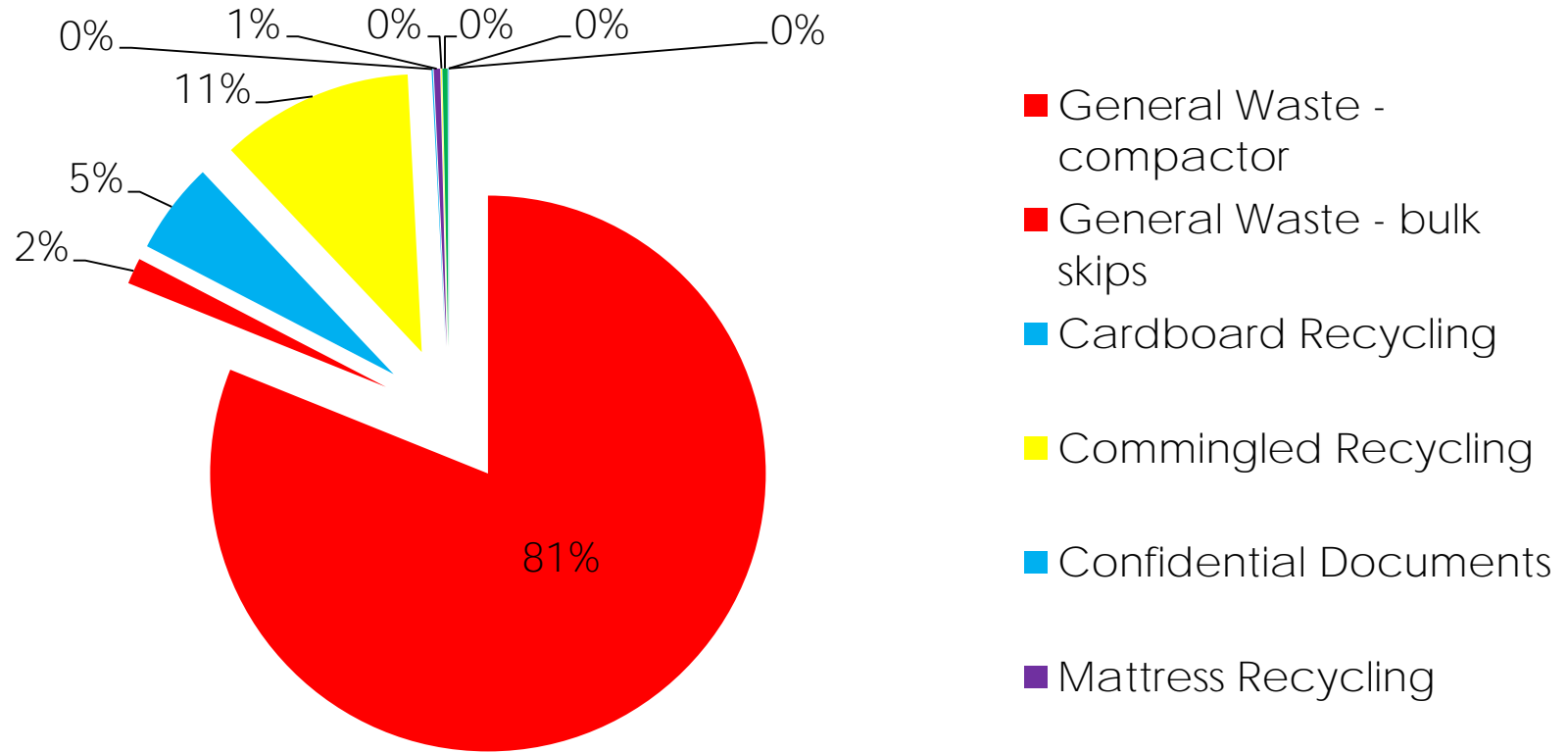
Actual cost of the food that is wasted can be around 10 times the disposal cost of the food

Case study: Hyatt Regency Perth

- 2012: Encycle conducted waste review
 - Total tonnes = 570 p.a.
 - Estimated recovery rate = 17%
- 2013: Established environment committee
- 2014: Food waste program – City of Perth grant
- 2014: Successful implementation of food waste segregation
 - Key challenge: viable collection service
- 2015: Removed waste compactor
- 2016: Service provider engaged to provide total waste service, include food



Hyatt and Fortescue Centre Total waste and recycling 2012 (tonnes)



Food waste recovery

- ✓ Vegetable peelings
- ✓ Leftovers (bain maries/conference buffets)
- ✓ Back of house preparation scraps
- ✓ Out of date food (unpackaged)
- ✓ Oyster shells and bones
- ✓ Coffee grinds
- x No tea bags
- x No plastic bags
- x No non-organic items



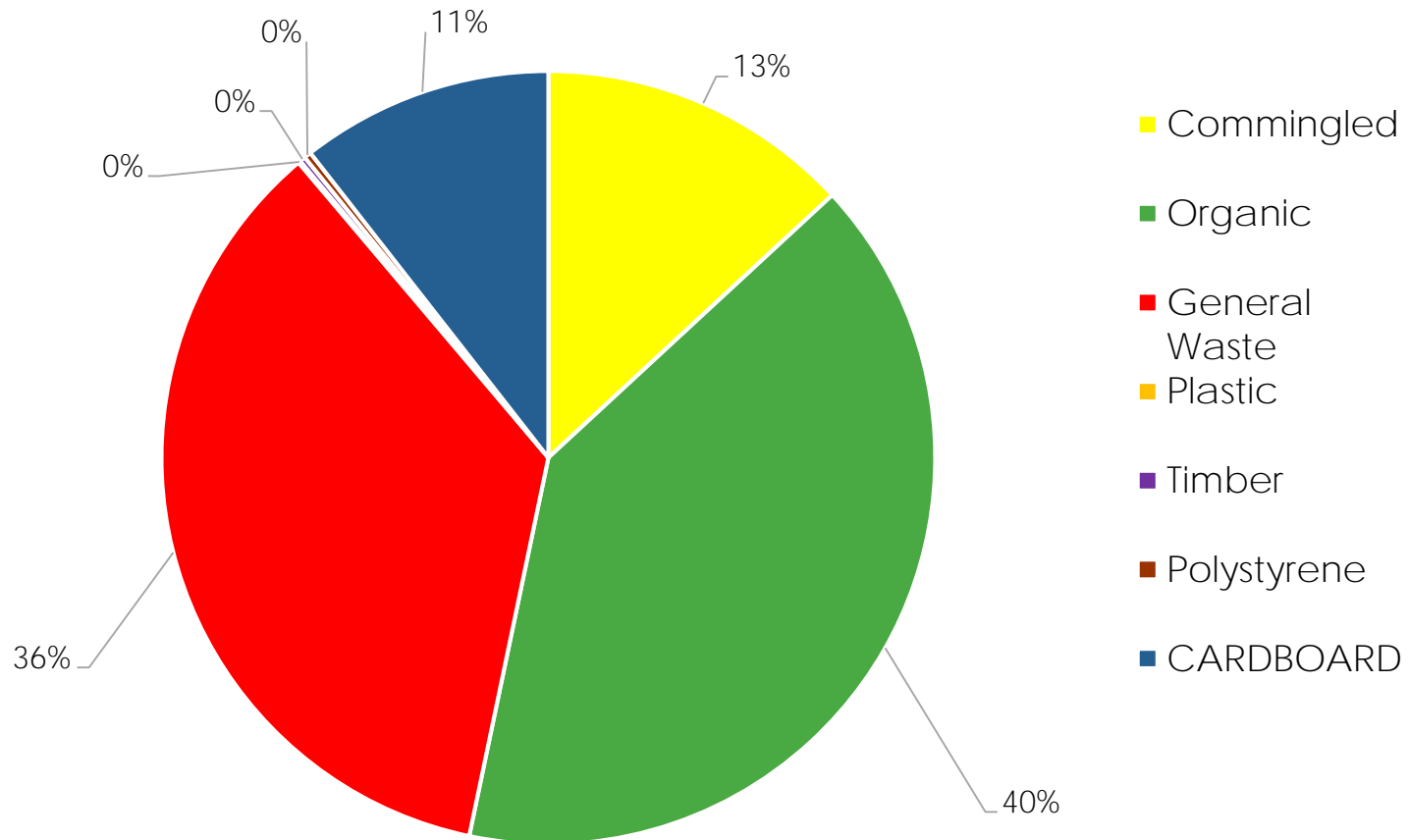
HYATT
ORGANIC RECYCLING - FOOD FOR COMPOSTING

Recycle Right – Only Use Green Compostable Bin Liners



YES	NO
<input checked="" type="checkbox"/> Bread/Pasta/Rice	<input checked="" type="checkbox"/> No Black/White Bin Liner Bags
<input checked="" type="checkbox"/> Coffee Granules	<input checked="" type="checkbox"/> Plastic Packaging
<input checked="" type="checkbox"/> Meat Cooked/Processed	<input checked="" type="checkbox"/> Plastic Bags
<input checked="" type="checkbox"/> Fruit/Vegetables	<input checked="" type="checkbox"/> General Waste
<input checked="" type="checkbox"/> Food Scraps/Plate Scrapings	
<input checked="" type="checkbox"/> Stocks & Bones	
<input checked="" type="checkbox"/> Fish, Seafood	
<input checked="" type="checkbox"/> Egg Shells	
<input checked="" type="checkbox"/> Paper Serviettes	
<input checked="" type="checkbox"/> Oyster Shells	

Total waste and recycling May & June 2016 (tonnes)



Contamination



Staff engagement



In summary...

- Food is significant component of a hotel's waste stream
- Reducing food waste makes economic and environmental sense
- Staff engagement is a critical ingredient for success