

New Zealand Packaging Accord Recycling in New Zealand

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18th Century Recycling

RAGS make paper,
PAPER makes money,
MONEY makes banks,
BANKS make loans,
LOANS make beggars,
BEGGARS make rags



Corporate Social Responsibility

McKinsey 2007 survey of 10,000 business CEOs shows Environment will be top business issue in next 10 years

Marks & Spencers survey on green consumers shows 80% either agnostic, believers or evangelists.

Most consumers & businesses will choose a greener product provided:

- It does not cost anymore
- Comes from a trusted source
- Requires no special effort to use
- Is at least as good as the alternative

Victorian Diversion – Exemplar

1990 25%

1995 43%

2000 46%

2005 60%

Recovered volume increasing at 5% pa

Levies introduced 2001, now about \$15/t.



NZ Diversion- Forecast

2005 33%

2010 42%

2015 54%

Levies proposed at \$20/t

Recovered volume increasing at 5% pa

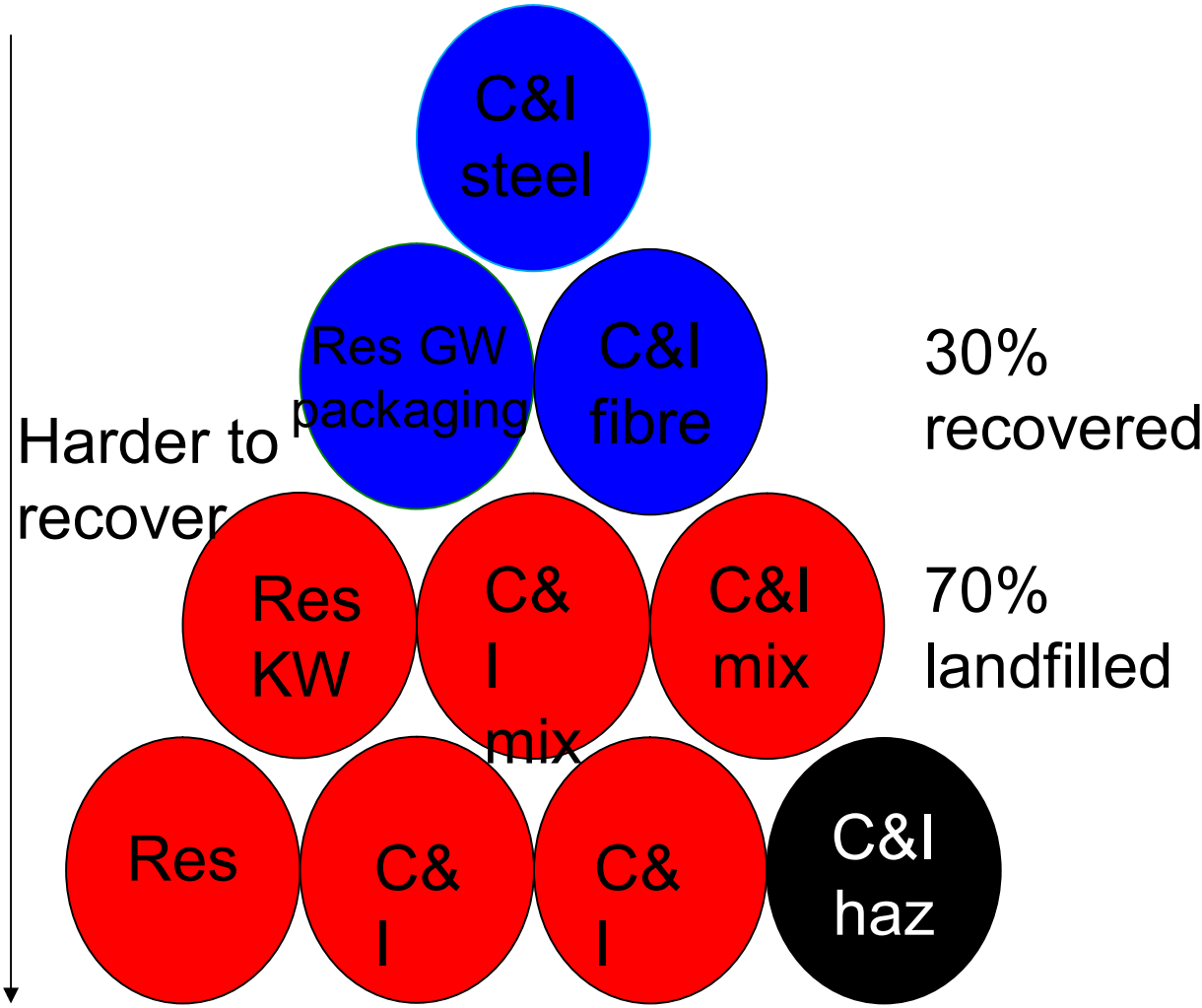
Extra 75,000t/y

Landfill Diversion 2005 – All in million tonnes

Segment	Generated	Recovered	Landfilled	Diversion
Residential	1.5	0.5	1.0	33%
C&I	3.0	1.0	2.0	33%
Total	4.5	1.5	3.0	33%

Composition 2005 – All in million tonnes

Material	Generated	Recovered	Landfilled	Divers'n %
Metals	0.70	0.50	0.20	71
Fibre	0.90	0.40	0.50	44
Plastic	0.30	0.03	0.27	10
Glass	0.15	0.10	0.05	67
Greenwaste	0.50	0.30	0.20	60
Food waste	0.50	0.00	0.50	0
Timber	0.40	0.05	0.35	13
Concrete	0.50	0.10	0.40	20
Other	0.50	0.00	0.50	0
Total	4.50	1.50	3.00	33



Each ball represents 0.5Mt

Blue recycled

Red & black landfilled

C&I commercial & industrial

Res residential

Potential Diversion C&I

Material	Input	Yield %	Diverted
Residual	33	0	66
Concrete	18	50	9
Fibre	17	66	11
Timber	12	10	1
Plastic	8	50	4
Metals	7	90	6
Glass	3	33	1
Total	100		33

Processing Capacity – MRFs (Sorting)

Material	Company	Capacity t/y	Location	Start
Residential	Visy	80,000	ACC & MCC	2008
Residential	Onyx	20,000	MCC & NSCC	2005
Residential	RMF	25,000	CCC	2009
Residential	TPI WAM	8,000	Timaru	2007
Residential	Smart Enviro	50,000	AK	2000
Resi, C&I	TPI Allbrite	100,000	North Island	1995
C&I	TPI WAM	100,000	AK	2000
C&I	P Reclaim	100,000	AK	1990
C&I	Fullcircle	100,000	National (fibre)	1990
C&I	Becon	100,000	CH	2008
Total		700,000	NZ	

Processing Capacity – Reprocessing

Material	Company	Capacity	Location	Diversn %	Value \$/t
Metals	Sims	300,000	AK, CH	71	200
Fibre	CHH	250,000	AK, Kinleith	44	150
Plastic	Astron et al	25,000	AK	10	0-500
Glass	OI	75,000	AK	67	0-50
Greenwaste	Living Earth	100,000	AK,WN,CH	60	10
Food waste	None	0		0	0
Timber	Reharvest	25,000	AK	13	10
Concrete	Various	excl	AK, WN,CH	20	0
Total		775,000	NZ		

Commodity Markets –

Material	Source	Demand Growth	End Products
Metals	Car bodies & cans	High, Asia	Steel & aluminium
Fibre	Cardboard, office & news	High, Asia	Cardboard Packaging
Plastic	Containers, film, packaging	High, Asia	Resin
Glass	Bottles	Low, Process capacity	Bottles
Greenwaste	Garden waste	Low, Market capacity	Mulch & compost
Food waste	Kitchen waste	Low, Market capacity	Compost & biofuel
Timber	Untreated timber	Low, Market capacity	Mulch
Rubber	Tyres	Low, Market capacity	Various
C&D	Concrete & Gypsum	Medium, Market capacity	Aggregate, soil add

Sorting Technology

Manual	1 item per sec
Optical	comparative spectra
Air Classifier	heavy from light
Screen	big from small
Screen	flat from round
Magnetic	metal from nonmetal



The Plug - Combo

- Follows the trend set by Councils for single stream (commingled)
- Two bin collection service for C&I customers
- Designed with the customer in mind – space, participation, simplicity, less trucks on site (carbon footprint)
- Payment for recyclables \$30/t

Combo



3m³ Bin shown

1.5m ³ Bin	
Nominal Capacity	1.5m ³
Max Loading Weight	150kg
Depth	920mm
Width	2038mm
Height	1196mm



3m³ Bin shown

3m ³ Bin	
Nominal Capacity	3.0m ³
Max Loading Weight	300kg
Depth	1522mm
Width	2038mm
Height	1454mm



660L Bin shown

660L Bin	
Nominal Capacity	660L
Max Loading Weight	66kg
Depth	784mm
Width	1370mm
Height	1215mm



660L Bin shown