



**Recycling in New Zealand:
A \$100 Million + Export Industry**

Preliminary Scoping Study

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Introduction

The recycling industry in New Zealand has not, until recently, been considered a significant export earner. In fact it has never really even been identified as a discrete industry. However, when the earnings from its various components are combined, an interesting picture emerges.

The recycling industry is varied, complex - and tenacious. With little central government or private sector support, it has identified markets, solved its own problems and amalgamated the efforts of a multitude of small to medium sized businesses, not-for-profits and individuals to provide significant environmental, social and economic benefits to the country. The industry has a rich skill base, is highly innovative, and is motivated with a passion rare in most other industries.

Recycling has the potential to develop into a major export earner for New Zealand. There is no reason why the recycling industry here cannot match proportionally those in many other parts of the world – such as Ohio which boasts a USD\$22.5 billion recycling industry¹ or Germany where the waste and recycling industry is bigger than either the steel or telecommunication industries².

The potential of the New Zealand industry looks especially bright when it is considered that in the last two years 40% of New Zealand's local authorities have adopted targets of zero waste to landfill (most by 2015). A nation-wide swing towards sustainability is under way that will provide a huge incentive to re-design our current systems, processes and products to maximize recycling and resource recovery.

This document is not a comprehensive report; it is simply a scoping study, highlighting some of the more readily accessible data from a selection of businesses. Its purpose is threefold: to expose the hidden potential of the industry as a significant export earner, to highlight the need for an in-depth analysis of the recycling sector, and to identify the industry as one worth nurturing and supporting by both central and local government.

The New Zealand Recycling Industry

For the purposes of this report, exports from the recycling industry have been broken into four categories:

1. Commodities (paper, glass, plastic etc.)
2. Products made from recycled materials
3. Technology (machinery etc.)
4. Expertise (consultancy)

This report briefly examines each of these categories, providing examples of businesses involved in exporting their goods and services and indicating growth potential.

1. Commodities

'Commodities' are post consumer recyclables picked up through kerbside collections, resource recovery centres and drop off centres. Included are paper, cardboard, glass, plastics (HDPE, PET and polypropylene), aluminium cans and steel cans. Also incorporated in this category are post-industrial waste: scraps and parings from businesses using paper, plastic, glass, steel and aluminium in their production lines. The majority of these commodities have undergone little value adding, other than through sorting or baling. Information on the export of these commodities is gathered by customs at ports of departure and is available through Statistics New Zealand.

The following table summarises the export earnings of each commodity, excluding copper based materials.

New Zealand Commodity Exports – 1999 & 2000 ³

Category	1999		2000	
	Quantity (T)	NZ \$	Quantity (T)	NZ \$
Plastic Total	4,802	\$1,857,029	6,597	\$2,644,948
Paper Total	35,495	\$4,850,167	101,202	\$21,707,816
Glass Total		\$53,812		\$161,868
Ferrous and Non-ferrous Total	105,343	\$36,613,830	107,688	\$44,633,726
Total Commodities Exported		\$43,374,838		\$69,148,358

In 2000, nearly \$70 million was earned through the export of recyclable commodities (most of this value being in metals). This shows an increase of almost 60% from 1999 with volume and earnings increasing in every category.

Estimates by a leading New Zealand metal exporter indicate that about three quarters of New Zealand's scrap metal is recycled locally, and only the remaining one-quarter is exported.

In addition to the standard commodity categories, an example of another exported recycled material is crumbed rubber from tyres. Value adding to this material has been achieved through the shredding process. A New Zealand tyre recycling company has recently started exporting

crumbed rubber to Australia. Within the first few months it has exported 60 tonnes/ month, earning over \$45,000. This company has invested \$1.5 million into machinery, which is currently operating at full capacity. With further machinery the business believes it could recycle every tyre in New Zealand, tripling exports to Australia and opening up markets to a range of other countries. They see plenty of future potential.

2. Products made from recycled materials

Many products are made in New Zealand from materials collected from the waste stream. This includes post consumer waste and post-industrial waste that are collected in a variety of ways.

While little value is added to commodities, the following businesses have added value through remanufacturing.

Listed below are a number of businesses manufacturing and exporting products made, either entirely or in part, from recycled materials. Most company names have been suppressed to protect commercially sensitive information.

Business	Export Earnings from Products made from Recycled Materials	Export value in last year
Rubber recycler and manufacturer	Currently exporting safety matting (mainly for the agricultural sector) with a value of \$15,000/yr and about to start exporting over \$100,000 a year to South Africa, Australia and the UK. Potential for further growth.	\$15,000
Plastic Recycler and manufacturer	Exporting processed plastic from industrial waste in resin form, mainly to Australia. Currently exporting about 200tonne/ month, worth about \$1.8 million a year. Potential for growth.	\$1,800,000
Plastic recycler and manufacturer	Exported about \$4 million in the last year (80% of their product) to the US, Canada, Japan, UK, Australia, South America and Europe. Manufacturing matting products for flooring, using recycled flexible PVC and rubber from car tyres. Not enough PVC waste available in NZ so currently importing scrap and virgin material. 20 staff employed and potential for growth.	\$4,000,000
Plastic recycler and manufacturer	Export over \$1,000,000/year of products made from recycled plastic. Developing further products and markets. Big potential for growth. Currently employ 35 staff.	\$1,000,000
Power Organics	Just started exporting. \$20,000 of liquid product sent to Australia this year. Expect to export about \$200,000 next year.	\$20,000
Manufacturer of toilet tissue from recycled paper	Exporting toilet paper made from 100% recycled paper to Rarotonga and US Samoa, valued at about \$180,000 annually.	\$180,000
Plastic recycler and manufacturer	Manufacturing a guttering accessory made from recycled plastic. Have started sales to Western Australia and are exploring the US market, which could easily be a \$250,000/ year market. A 40 ft container of product uses 14 tonne of post-industrial plastic.	
The Ark – computer recyclers	Not currently exporting a great volume of refurbished computers. However working to secure three granulators, one each for Auckland, Wellington and Christchurch, which will allow rendering of any surplus and un-usable electro-waste to a more compact form. This can then be exported to a processing plant in the US to be reprocessed.	

Plascrete International Ltd	Investigating several possibilities to export technology utilising waste plastic as an aggregate in concrete production. A development trust in Port Elizabeth, South Africa, is redeveloping a large area of housing and is investigating purchasing Plascrete technology to use as a building material and plastic waste recovery system. Another company is investigating Plascrete as way of recycling plastic from the Beijing Olympics. The concrete industry globally turns over \$13-14 trillion a year, so there is huge potential for this technology.	
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These companies, earning approximately \$7 million in export earnings per year, only represent a sample of New Zealand businesses involved in manufacturing from recycled materials. There are many other companies that use waste products, but do not export. For example, the largest plastic manufacturer in NZ used about 200 tonnes of recycled plastic in last six months, but does not export, as their products are generally too bulky.

3. Technology

There is huge potential for the manufacture and export of specialist recycling equipment, such as balers, shredders, crushers and composters. New Zealand companies have the ability and technological expertise to produce this equipment and, due to New Zealand's small yet demanding domestic market, we have a high standard of innovation.

A number of these innovations are listed below.

Business	Export Earnings from Recycling Technology	Export value in last year
Screening and Crushing Systems Ltd	Exporting in excess of \$3 million a year through sales of mobile concrete crushing machinery, screeners and shredders used for recycling. Exporting for last 5-6 years. Potential for growth.	\$3,000,000
VCU Technology Ltd	Export sales of \$2.8 million this year.	\$2,800,000
Earth Maker - Composter	Once international sales are underway, aiming for sales of \$1 million/year in the US, UK, Europe and Asian markets.	
LincLab	Developed a green waste composter called the HotRot, which is expected to earn \$500,000 in overseas sales this year.	
Ward Demolition	Exported attachments for excavators for concrete and steel cutting worth \$300,000 to US, Canada, and Australia last year. Sold demolition products (timber and second hand goods) to Samoa and Fiji worth \$50,000 last year. Huge potential for export of 2 nd hand goods to Pacific Islands. Have just had the use of crushed concrete aggregates approved for TransitNZ use.	\$350,000

These companies represent over \$6 million in overseas earnings annually.

4. Expertise

While the majority of New Zealand environmental consultants do not specialise in waste minimisation or recycling systems, there is a growing number of firms upskilling in this area. As a growing number of local authorities adopt Zero Waste goals, the demand for consultants with experience in recycling systems and waste reduction plans is increasing. As New Zealand consultants develop these skills, they are also able to promote this expertise to overseas markets.

A selection of these firms is listed below.

Business	Export Earnings from Recycling Expertise	Export value in last year
Consultant – Organic Waste Recycling System	Over last year has provided \$2 million worth of overseas consultancy, installing organic waste processing systems. Huge potential for further growth – but hard to get initial seed funding.	\$2,000,000
Waste Wise	Currently negotiating to sell the rights of its school education programme to Wales. Wales has approximately the same population and number of schools as NZ, and would like to implement the Waste Wise programme throughout.	
Waste Works	Exported NZ worm bins manufactured from recycled plastic to Australia - \$3,400 initially, but about to be expanded. Has just developed a new recycling system. Initial sales to Australia have been made and strong interest shown from Beijing, UK and the US (in particular the Salt Lakes City Olympics).	\$3,400
Consultancy firm	A Solid Waste Management Plan, including full recycling and composting has been sought from this consultancy firm by the Sri Lankan municipality of Galle. Cost yet to be established.	
Consultant	Provided \$10,000 worth of recycling expertise during two trips to Australia in last year.	\$10,000
Waste Systems New Zealand	Providing an integrated waste and recycling system in the Philippines, worth \$500,000.	\$500,000
Consultancy firm	In 2000 managed an Environmental Management tour of NZ for six Vietnamese people. About quarter of the content of this tour focused on recycling. Value - \$15,000.	\$15,000

This small selection of firms brings in over \$2.5 million per year.

Conclusion

The results of this brief scoping study show that the recycling industry in New Zealand is a significant export earner with potential for significant growth. From the small pool of businesses surveyed, \$85 million of export earnings has been identified. The real earnings of the recycling industry will obviously be far higher than this. As a point of reference, New Zealand's wine industry exported \$127 million in 1999 and organic growers currently export \$110 million of organic produce.

Support from local and central government in the form of research and development grants, tax incentives and legislation encouraging resource recovery would have a huge impact on the recycling industry. The benefits would be seen very quickly in an increase in export earnings. Added to this however are the even greater benefits of employment (for every 10,000 tonnes of recovered materials there is a net job gain of 21-39 jobs⁴), regional development (resource recovery is by nature highly localised), reduced importation of virgin materials, and preservation and protection of our '100% Pure' brand.

References

1. The National Recycling Coalition, Ohio Recycling Economic Information Study, Ohio Department of Natural Resources, 2001
2. Murray, Robin, Creating Wealth from Waste, Demos, London, 1999
3. Statistics New Zealand, Overseas Trade Exports, Years ending March 1999 and March 2000
4. Murray, Robin, Re-Inventing Waste – Towards a London Waste Strategy, Ecologika, London, 1998