

GLASS PACKAGING FORUM

PRODUCT STEWARDSHIP SCHEME

Accreditation Report 2020-2021



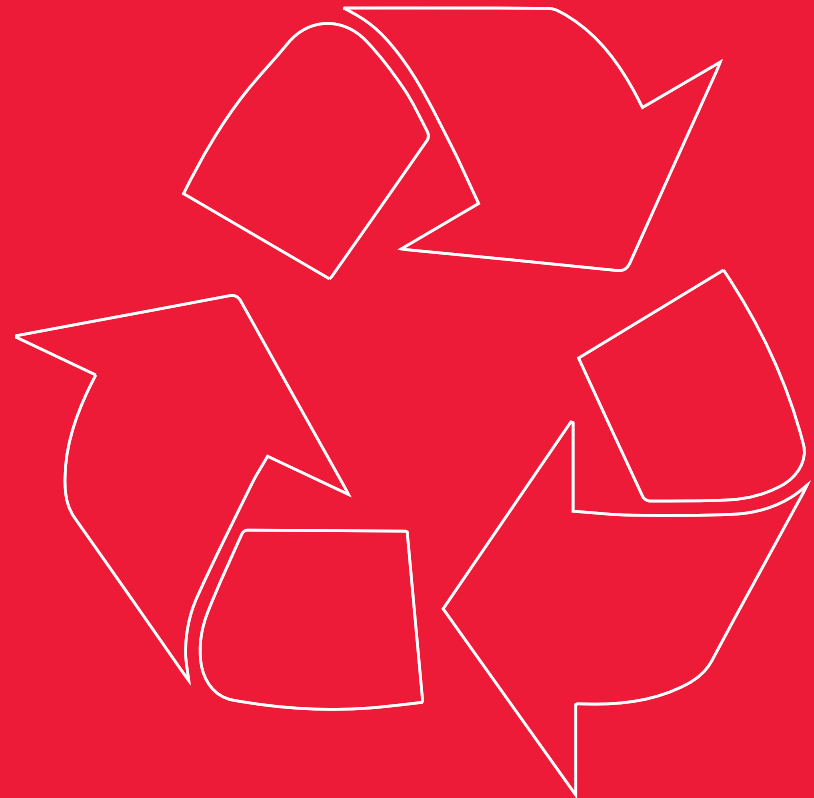
GLASS
PACKAGING
FORUM

THE
PACKAGING
FORUM



Contents

Our purpose Zero container glass to landfill	1
Scheme scope	1
Sustainable Development Goals	1
Reporting Period	1
Executive summary	1
Governance	1
Who we are	1
Steering Committee and Scheme Management 2020-2021	1
Scheme snapshot	1
Highlights	1
Funding highlights	1
Challenges	1
Opportunities	1
Scheme operation and results	1
Grant funding	1
Advocacy and stakeholder engagement	1
Mass balance	1
Objectives and targets	1
Promotion of the scheme – communication and marketing	1
Looking to the future	1
Supporting reuse/refillable solutions	1
Standardised kerbside collection and recyclability labelling	1
Explore lifecycle analysis of glass packaging in the New Zealand context	1
Other opportunities	1



OUR PURPOSE

ZERO CONTAINER GLASS TO LANDFILL

Our goal is to keep glass out of landfill by capturing all container glass for recycling, reuse and where necessary, alternative uses. Effective recycling of glass, like all recyclable material, relies on a dependable glass supply network to ensure consistent availability of quality material.

The scheme supports a whole-of-material solution for all container glass (beverage and non-beverage containers) and encourages the use of best practice collection methodology – glass separate and colour-sorted at source.

The Glass Packaging Forum (GPF) therefore supports the standardisation of kerbside collections, with glass separate and colour-sorted at source.

Container glass is an excellent example of the circular economy in action and the GPF works to support the expansion of onshore, circular solutions – be they for bottle-to-bottle recycling or refill schemes.



SCHEME SCOPE



The GPF operates Aotearoa New Zealand's only government-accredited, voluntary product stewardship scheme for glass bottles and jars.

Funding is sourced entirely from member levies, which are based on the tonnage of glass they put into the New Zealand market.

The scheme offers grants through contestable funding rounds for projects which improve glass recovery, recycling, reuse or alternative uses. This funding is the primary way in which the scheme members support, enable and improve the country's glass recovery rate and outcomes.

The grant applications are assessed by the scheme manager and steering committee to ensure the most cost-effective use of the available funds.

Additionally, funding covers the work of the scheme manager to advise and support stakeholders to improve the glass network and therefore environmental outcomes for container glass.

Communication to all stakeholders, including consumers, also has a key role to play and is a vital part of the scheme operation.

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The GPF recognises the significance of the United Nations' Sustainable Development Goals (SDGs)



Goal 12: Responsible Consumption and Production

The GPF Product Stewardship Scheme plays a part in allowing New Zealand consumers and businesses to meet this goal. The scheme enables producers to take increased responsibility for the products they put into the market through their voluntary levies. The levies allow the GPF to provide funding to improve infrastructure, plant or services, the lack of which might otherwise limit recovery and outcomes.



Goal 13: Climate Action

By improving the circularity of glass in New Zealand, the scheme and its members are helping to reduce the impact of climate change. Recycling glass requires less energy, fewer natural resources and is a more carbon efficient process than manufacturing new glass.



Goal 17: Partnerships

The GPF partners at a local level with organisations throughout the supply chain, based on a shared goal of increasing the recovery and recycling or reuse of glass in Aotearoa.

REPORTING PERIOD

The GPF Product Stewardship Scheme achieved re-accreditation on 23 March 2018. This report covers the third year of the seven-year accreditation period.

Specifically, this report covers:

Financial reporting for the dates	1 April 2020 - 31 March 2021
Funding and activities completed between	1 April 2020 - 31 March 2021
Mass balance reporting for the dates	1 July 2020 - 30 June 2021

(in line with council reporting year)

EXECUTIVE SUMMARY



Results are static

This year the glass recovery rate remains static at 75%, while the bottle-to-bottle recycling rate has dropped marginally by 1% to 61% of recovered glass.

While this recovery rate remains high compared to many countries around the world, our target is 82% by 2024, and we also want to see a lift in the bottle-to-bottle recycling rate.

Activity continues to target improvements

Improving data is an ongoing area of focus and we again engaged independent consultants Grant Thornton to review our data methodology. Their report concluded we are using the best currently available data sources and suggested testing some data assumptions, which we have incorporated in this year's mass balance.

We are mindful of and grateful for the high level of trust and confidence our members and other organisations in the supply chain place in us by supplying commercially sensitive information.

Grant funding saw \$237,651 allocated to 15 projects, the majority of which were for infrastructure which improves glass recovery outcomes. Collectively these projects had a positive impact on some 11,500 tonnes of glass per annum.

We welcomed a continued trend among councils choosing to switch to a glass separate collection at kerbside – the best practice method for collecting high-quality glass for recycling.

We were pleased to note one of the two biggest centres that continue to use co-mingled collection, Christchurch City Council, is considering a change to glass separate collections as part of its solid waste management review.

The CRS working group delivered its report to the Ministry for the Environment in September 2020 regarding a proposed container return scheme for beverage containers, however it has not been released. The costs and benefits of any CRS compared to an alternative regulated model and the status quo have not yet been open to public scrutiny.

Our vision for the future

While we believe there are still gains to be made under a voluntary product stewardship model, we also believe these will remain incremental without system-level change.

A variety of collection systems and standards, varying quality of data capture, and the inherent tension between the level of voluntary fees and improving industry participation are some of the obstacles to achieving our goals under a voluntary system. Costs and responsibility of recovery continue to fall largely to councils, rather than producers and consumers.

We believe the key factors that have the potential to deliver step change are:

- Improved accuracy of data at every step of the supply chain. This would most likely require regulation, either as part of regulated product stewardship, or as part of a tracking system for all recoverable resources. The GPF would welcome the opportunity to be involved in a co-design project for these purposes.
- Regulated product stewardship fully funded by industry. The ideal model would deliver better design choices, better collection methodology, expansion of access to the collection network, alleviation of logistics issues and higher recovery and recycling rates.

While we believe there are still gains to be made under a voluntary product stewardship model, we also believe these will remain incremental without system-level change.

- Standardised kerbside collection, with glass collected separately – we already know that this leads to more glass being recovered and lower contamination, meaning more can be recycled. Currently only 54% of the population has access to glass collections separated at source.
- Improved recovery from the commercial sector, particularly hospitality. While we would like to see more participation in the scheme from hospitality, the reality is that many of these businesses are currently focussed simply on keeping their doors open, due to the current pandemic.
- Investment in the collection network and infrastructure – to increase access to kerbside collection and drop off facilities and alleviate pressure on storage capacity and logistics.
- Citizen education and behaviour change initiatives – ideally these would be consistent, evidence-based, nationwide initiatives in order to have the biggest impact.
- Significant and strategic investment in technology and infrastructure such as improved tracking and processing technology.

We are heartened to see that a number of the strategies in the proposed waste strategy consulted on by the Ministry for the Environment at the end of 2021 align with some of these factors.

Our call to action

In February 2021 we asked the Minister for the Environment to declare container glass a priority product. In support of this we have been exploring independently how a regulated model could address the entire glass lifecycle as well as leverage existing collection networks and infrastructure. We believe such a model would deliver a recovery rate upwards of 85%.



Dominic Salmon
3R Group Ltd
(Scheme Manager)

GOVERNANCE

A row of glass jars filled with dark, round objects, possibly chocolate-covered almonds, on a reflective surface. A teal diagonal graphic element is in the top left corner.

Who we are

The Glass Packaging Forum operates under the governance of The Packaging Forum. Its board is made up of elected representatives from its product stewardship schemes along with appointees from other parts of the packaging industry.

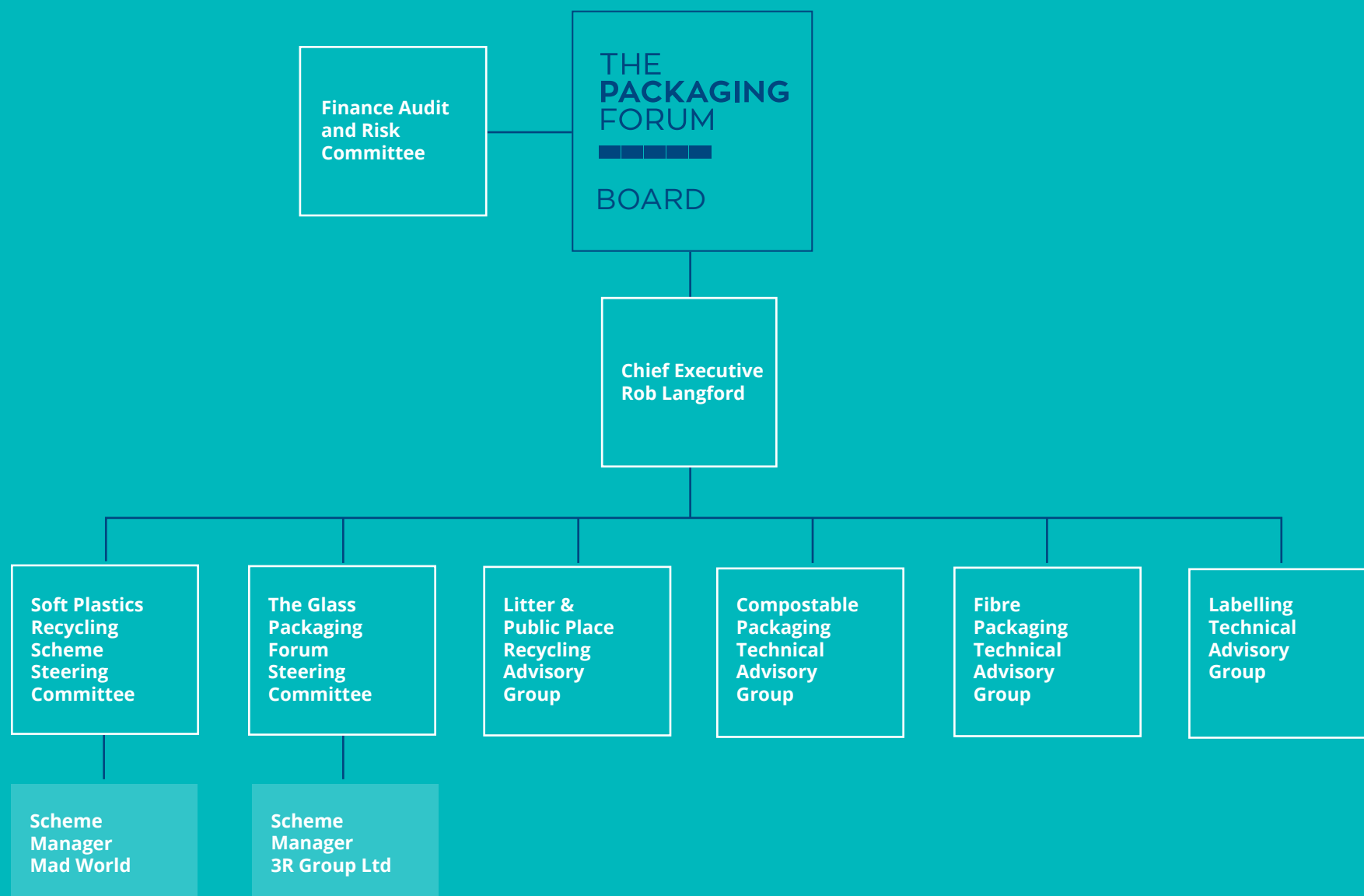
In October 2020 The Packaging Forum appointed its inaugural CEO, with Independent Chair Rob Langford taking up the role. His appointment comes as the pace of change and level of engagement with Government, communities and other stakeholders increases, making a fulltime leadership role essential.

The Packaging Forum is responsible for the management of levies, administration and record keeping. The Board also takes advice from advisory or steering committee groups representing the various stewardship schemes and other initiatives within its scope.

The GPF Steering Committee, nominated from the GPF scheme membership, provides strategy and guidance to the Scheme Manager, approves the scheme's budget and approves funding requests from its contestable fund.

Since 2017 the day-to-day management of the scheme has been contracted to 3R Group. The GPF Scheme Manager, reporting to the GPF Steering Committee Chair, is responsible for all operational aspects of the scheme and provides information, advice and expertise to assist the steering committee in its decision making.

The Packaging Forum structure 2020-2021 financial year



Steering Committee and Scheme Manager 2020-2021



Karen Titulaer
Chair



Don Chittock
Fulton Hogan



Monique Sprosen
Pernod-Ricard



Sara Tucker
Lion



Penny Garland
Visy Glass



Yuri Schokking
Smart Environmental



Jo Jalfon
Asahi Beverages (NZ)



Nick Keene
Hospitality NZ



Kitty Sandoval
Frucon Suntory



Dominic Salmon
3R Group Ltd
(Scheme Manager)

SCHEME SNAPSHOT

Highlights

Funding



15

PROJECTS FUNDED



\$237,651

AMOUNT FUNDED



11,500

PROJECTED TONNAGE IMPACT

Outcomes



Container glass
recovery rate



Bottle-to-bottle
recycling rate

See detailed results section
for more information.

Key advocacy issues

Glass separate
collection

Regulation to improve
glass circularity

See detailed results section for more information.

Selected funding highlights

Project: Glass storage upgrade & recycling trolley rollout education

Purpose: Support rollout of recycling trolley

Recipient: Bin Hire

Hawke's Bay company Bin Hire developed an innovative recycling trolley for retirement villages in Napier. The trolleys could also help solve some of the challenges the hospitality sector faces around recycling glass.

The glass collected using the new system required an upgrade to Bin Hire's glass storage facility, which the GPF helped fund with a \$17,645 grant. The GPF also helped fund the promotion and education around the use of the trolleys with a further \$2,000.

The trolleys were initially rolled out to 11 retirement villages as well as Hygge Café and at lines company Unison's Napier office, with more customers set up. Their compact and easy-to-use design means they could help hospitality businesses, particularly those with limited space, improve their glass recycling. Further rollout has been impacted by the pandemic.



Project: Glass storage upgrade

Purpose: Fit-for-purpose glass storage bunkers for influx of colour-sorted glass

Recipient: Northland Waste/Whangarei District Council

In 2020 Whangarei District Council, and its contractor Northland Waste, adopted the best practice method of collecting glass separately and colour sorting at kerbside. The resulting influx of high-quality glass meant new storage bunkers had to be constructed to aggregate the glass before being transported to Auckland.

The 25-year-old bunkers were not big enough and it was feared they would result in overflow and contamination of the glass.

The Glass Packaging Forum awarded \$42,720.66 to purchase the interlocking concrete blocks needed to build the new bunkers. The result was a positive impact on over 4,800 tonnes of glass which gets sent to Auckland to be recycled.





Project: Take back and refill scheme

Purpose: Provide beauty product a take back and refill scheme

Recipient: Aleph Beauty

Assisting Aleph Beauty launch its take back and refill programme is part of the GPF's commitment to helping reuse and refill schemes in New Zealand.

The Kiwi-owned company took a circular economy approach to its glass makeup jars by incentivising customers to return empties to then be refilled. Aleph applied to the GPF to fund the purchase of a commercial-grade dishwasher, with a grant of just over \$3,300.

The scheme was launched in April 2021.



Challenges

Data

The voluntary nature of the GPF product stewardship scheme means there is no requirement for members of the glass supply chain to provide data about glass use, recovery, or end of life.

We develop the clearest picture possible through engagement with members, councils, contractors, community recyclers, importers and distributors, as well as using third party data.

A recent report by independent consultants Grant Thornton states that we use the best available current data sources. It will only be through regulation of data collection that data from the entire supply chain can be collated with the highest level of confidence.

Uncertainty about future regulation

The proposed container return scheme (CRS) for beverage containers has been a major focus over the past reporting period as pressure by pro-CRS groups mounts on Government to mandate a CRS with glass included.

However, the report by the CRS Working Group remains unreleased. Therefore, the economic impacts and cost benefit analysis of a CRS vs an alternative form of collection under a regulated framework have yet to be publicly examined.

The GPF believes at least one other model under a regulated framework should be thoroughly explored before a decision is made about whether to include beverage glass in a CRS.

Co-mingled collection systems in major centres

While the number of regions offering glass separate collection systems has increased, major centres like Auckland and Christchurch continue to use comingled wheelie bins. This not only increases the cost of recovering glass due to slower sorting and processing but means a higher proportion of glass is lost through contamination.

We are encouraged that Christchurch City Council indicated in November 2020 it would explore a glass separate collection system as part of a review for its 2021-31 Long Term Plan. A council of this size moving to a glass separate, colour-sorted at kerbside system would be a major win for glass recycling and the GPF is eager to support the council make this transition in any way it can.

Imbalance between supply and demand for NZ glass

For glass recycling to be as sustainable as possible it needs to operate in a closed loop – returning to its point of manufacture to be remade into new containers.

However, the ability to recycle more of the glass collected is limited by market demand for the recycled product.

The volume of glass being imported, both filled and unfilled, creates an imbalance between the amount of glass available to be collected for recycling and the demand for New Zealand-made, recycled glass.

As mentioned in the previous report there is currently a limit to onshore furnace capacity for processing recovered glass into new containers. As glass recovery rates improve further this will require more investment in processing. The Visy Industries acquisition of O-I Australian and New Zealand glass manufacturing business in 2020 was a development that stands to shape the future of the container glass market in NZ.

More than half of councils who responded to our survey reported contamination as being a barrier to better recovery rates for glass.



Challenges

Network resilience

Network resilience was again tested in this reporting year, when necessary furnace maintenance was delayed due to Covid-19.

This led to a delay of several weeks in restarting the furnace and a temporary suspension of flint glass deliveries to the recycling plant. A solution was found in shipping excess glass offshore for recycling, though this was challenging due to shipping availability.

Like the Kaikoura and Christchurch earthquakes before it, this has highlighted the need for additional capacity throughout the network. It's noted that the impact of seasonal consumption of glass, particularly in tourism destinations with a high proportion of tourists to residents, also puts pressure on capacity in some areas.

Contamination

More than half of councils who responded to our survey reported contamination as being a barrier to better recovery rates for glass. The solution for this issue is largely consumer education and behaviour change initiatives. The GPF welcomes grant applications which focus on this issue.

Membership

As a member organisation maintaining and growing member numbers and engagement is crucial. This is even more so because of the voluntary status of the scheme.

We therefore work hard to cultivate relationships with new and existing members. A regulated framework would strengthen membership, which in turn would increase the positive impact the scheme could have on glass outcomes.

With the future of regulation (particularly the proposed CRS) unresolved, it is challenging to attract new members.

Opportunities

Priority product status

The GPF has been in favour of container glass falling under a regulated product stewardship model for some time as we believe this would facilitate the best outcomes for glass bottles and jars in New Zealand.

While glass was not included in Government's July 2020 priority product announcement, we nevertheless made a request to Environment Minister Hon David Parker to declare container glass a priority product and commence a co-design project.

Moving to a regulated scheme would level the playing field as all members of the container glass supply chain would be compelled to contribute to funding better environmental outcomes for glass. Data would also be improved as industry would be required to supply this data as part of their participation in the scheme.

Supporting refillables

Reusing glass containers is undoubtedly the most circular path, however the centralisation of the supply chain in Auckland makes this a challenge from both an economic and environmental standpoint due to the cost and carbon footprint of transport.

The GPF recognises the role of the ABC Swappa Crate system and some craft brewers and small milk producers, as well as other industries in enabling refillable options and believes this can be built on.

The GPF is eager to help assist refill schemes to overcome their challenges, through scheme design, grant funding or promotion. We are pleased to note an increase in grant applications for such schemes.

Consumer education

For glass recycling to function efficiently all stakeholders in the supply chain need to play their part, with consumers being one of the most critical. Consumer education and behaviour change is therefore vital.

A report by NZIER found the majority of the population is enthusiastic to recycle but lacks the necessary information to do so correctly. While these 'wish-cyclers' create contamination issues, they have the potential to have a hugely beneficial impact on recycling rates.

Educating this group is therefore a focus of the GPF, and while we have some influence through our own channels, we are also supportive of wider and more cohesive recycling education and behaviour change initiatives such as those posited in the government's proposed waste strategy.



SCHEME OPERATION & RESULTS

Grant Funding

The 2020-2021 period saw a number of strong applications, with 15 projects awarded funding totalling \$237,651 – an increase of 10% over the previous year. Variations of this range in grant funding year to year typically reflect the quality and scope of applications.

Collectively these projects had a positive impact on some 11,500 tonnes of glass. The majority of grants went to North Island projects, including Northland where there had previously been little investment by the GPF.

The GPF has maintained a focus on 'sensible infrastructure', with the majority of successful applications being for infrastructure which improves glass recovery outcomes.

However, the GPF recognises the importance reuse and refill schemes play and actively looked to help fund projects with this focus.

A highlight was therefore an application from New Zealand-owned and made cosmetics company Aleph which sought funding for a refill scheme for some of its glass packaged products. While the project was relatively small in scale, it showed commendable innovation and industry leadership in the pursuit of greater sustainability.

Another highlight was Hawke's Bay company Bin Hire. It developed innovative recycling trolleys which not only make recycling easier for older or less mobile people but could potentially help the hospitality industry overcome some of its glass recycling obstacles.

The rollout of the bins required additional storage capacity, with the GPF funding \$17,500 to upgrade glass bunkers and a further \$2,000 to help promote the trolleys.

Our first funding round of the period was also focussed on projects which would help future proof against similar events to the Covid-19 pandemic, which exposed weaknesses in recycling systems nationwide.

Of the grants three were not yet operational due to various unforeseen circumstances or delays but were underway at the time of writing.



The GPF has maintained a focus on 'sensible infrastructure', with the majority of successful applications being for infrastructure which improves glass recovery outcomes.

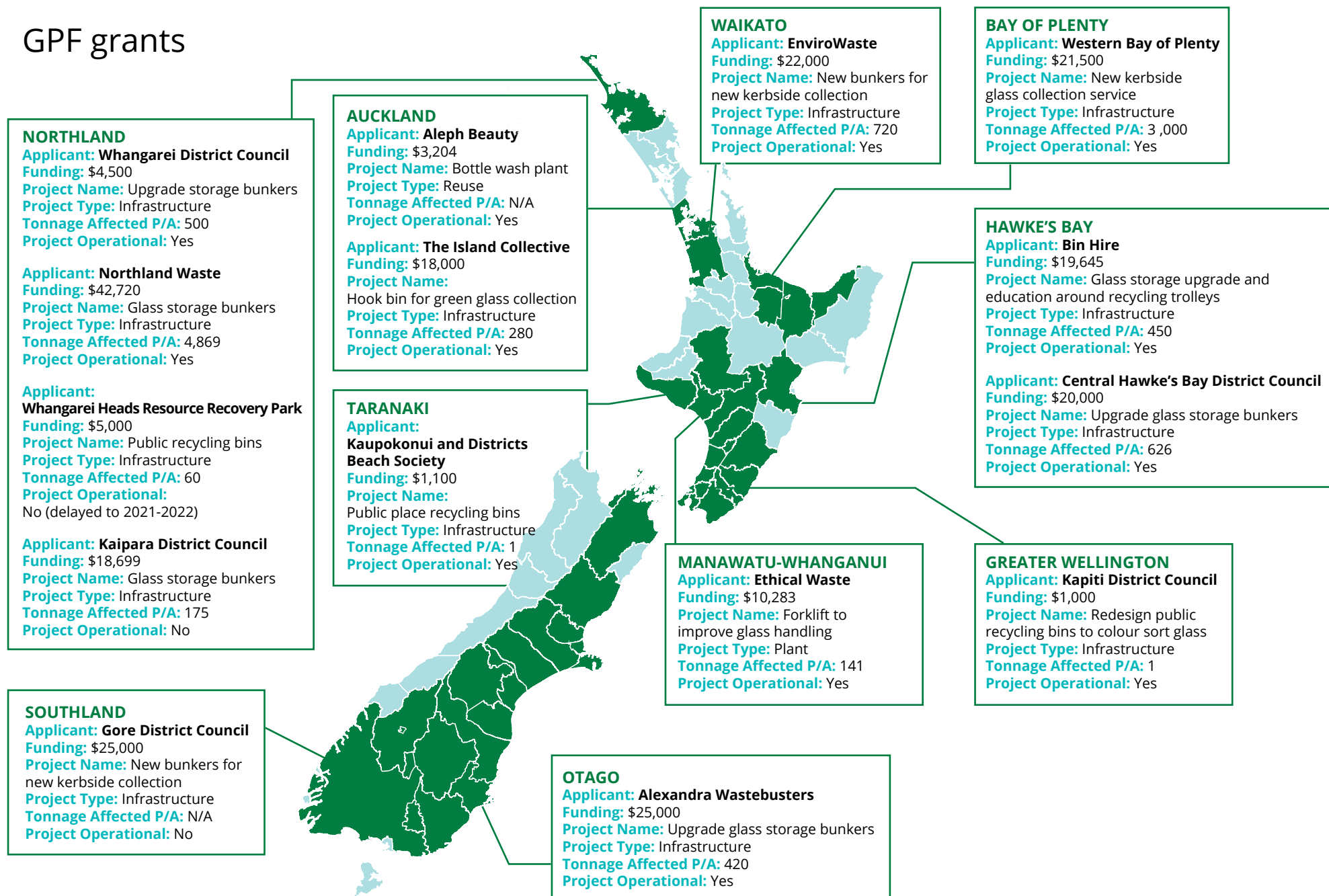
Applicant name	Funding approved	Project name/description	Project type	Region	Tonnage affected P/A	Project operational
Whangarei District Council	\$4,500	Urgent improvement to existing storage bunkers	Infrastructure	Northland	500	Yes
EnviroWaste	\$22,000	New bunkers for new kerbside collection	Infrastructure	Waikato	720	Yes
Ethical Waste	\$10,283	Contribution toward cost of forklift	Plant	Manawatu-Whanganui	141	Yes
Alexandra Wastebusters	\$25,000	Improve glass storage bunkers	Infrastructure	Otago	420	Yes
Aleph Beauty	\$3,204	50% of bottle wash plant	Reuse	Auckland	N/A	Yes
Kapiti District Council	\$1,000	Adjust public recycling bins to allow for glass colour sorting	Infrastructure	Greater Wellington	1	Yes
Gore District Council	\$25,000	New bunkers for new kerbside collection	Infrastructure	Southland	350	No
Whangarei Heads Resource Recovery Park	\$5,000	Bins for new community recycling centre	Infrastructure	Northland	60	No
Northland Waste	\$42,720	Glass storage bunkers	Infrastructure	Northland	4,869	Yes

Applicant name	Funding approved	Project name/description	Project type	Region	Tonnage affected P/A	Project operational
Kaupokonui and Districts Beach Society	\$1,100	Public place recycling bins	Infrastructure	Taranaki	1	Yes
Bin Hire	\$19,645	Glass storage bunkers and promotion of recycling trolleys	Infrastructure/education	Hawke's Bay	450	Yes
Western Bay of Plenty Council	\$21,500	Part fund glass collection crates for new kerbside service	Infrastructure	Bay of Plenty	3,000	Yes
Kaipara District Council	\$18,699	Glass storage bunkers	Infrastructure	Northland	175	No
Central Hawke's Bay District Council	\$20,000	Upgrade storage bunkers	Infrastructure	Hawke's Bay	626	Yes
The Island Collective	\$18,000	Hook bin for green glass	Infrastructure	Auckland	280	Yes

Each funding application is:

- Considered and scored against GPF key criteria
- Scored by three assessors and a summary report completed
- Submitted to the GPF Steering Committee (GPFSC) for consideration
- Accepted or declined by the GPFSC
- Asked to provide results and photos for accountability, public relations and educational purposes

GPF grants



Advocacy and stakeholder engagement

Engagement on data

Obtaining consistent data from members of the supply chain can be challenging due to staff churn in key positions, the variety of record keeping practices, and competing priorities.

Prior to sending out our mass balance data survey this year we took the opportunity to invite council officers to a webinar to discuss the importance of accurate data. We explained how we use their data to help create our mass balance reporting and target funding to where improvements can be made.

We will be following up with a webinar to present the findings once this report is submitted to the Ministry for the Environment.

This year we have also worked more closely with key members to understand the nuances of container type and weight for their product ranges.

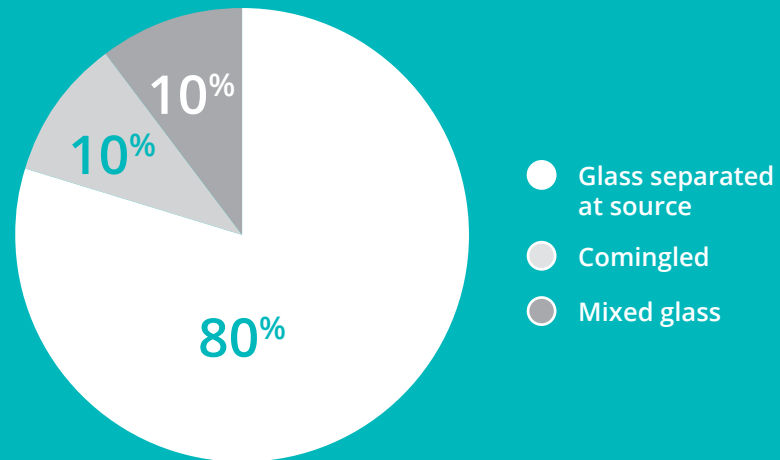
Stakeholder webinars

Webinars were held to keep members up to date on the conversation around how future regulation may affect container glass and existing infrastructure.

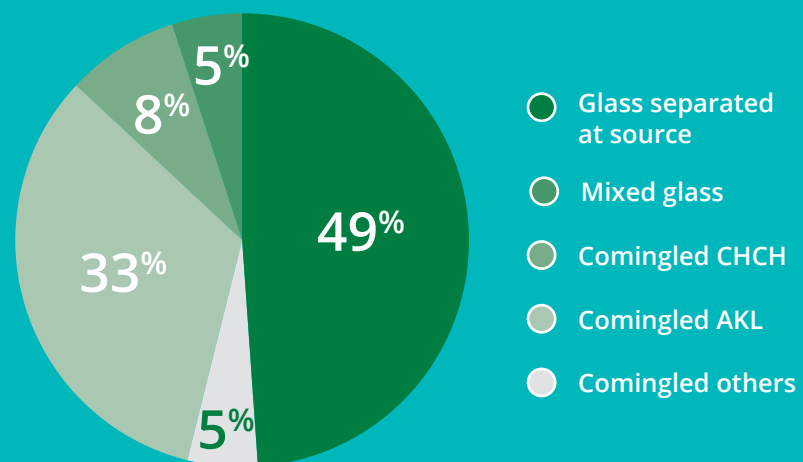
Advocacy on regulation

In February the GPF wrote to Environment Minister Hon David Parker, to request that container glass be declared a priority product and that a co-design process entered into to create a regulated scheme under the priority products framework. Members of the GPF steering committee, the scheme manager and The Packaging Forum CEO also had a follow up meeting with the Minister.

Councils by collection type



Population served by collection type



Population statistics from Statistics New Zealand,
collection methods from GPF records

Glass separate collection

The way in which glass is collected had a direct impact on the quantity of high-quality, recyclable material available to go to the furnace.

Best practice glass collection means more glass is recovered and recycled, right here in New Zealand. That means:

- We need to extract less raw resources
- We reduce the carbon causing process of making new glass vs using existing glass
- We use less energy by running furnaces at lower temperatures

The GPF continues to advocate for the best practice collection method of separate and colour-sorted at source by engaging with councils, contractors and community recyclers to encourage and help enable this. Grant applications for these projects are given priority.

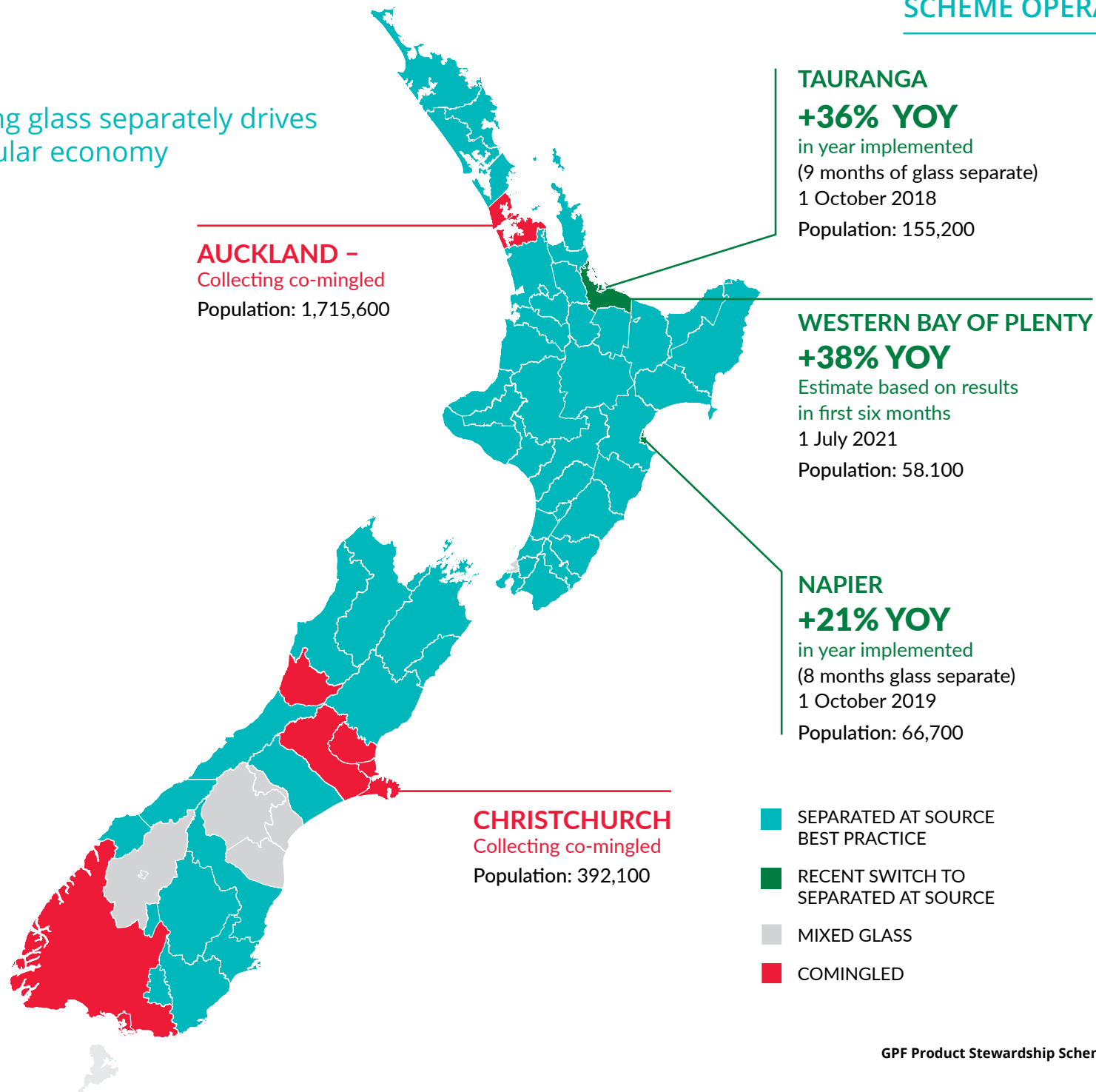
There has been an ongoing shift to this collection methodology since 2016-2017. In 2020-2021 we saw this continue, including one of the country's biggest councils, Hamilton City Council, moving to a glass separate collection system.

79% of councils

now use the best practice collection -
glass separated at source.

Only 49% of the population
is served by this method.

Collecting glass separately drives
our circular economy



Mass balance

Data methodology

Data is collated for the year July 2020 to June 2021, in line with the councils' reporting year.

The GPF's data methodology focusses on three key metrics:

- How much container glass is consumed in New Zealand
- How much is recovered
- What the outcomes for recovered glass are

Our data sources are:

- Statistics New Zealand – alcohol available for consumption
- GS1 – packaging specification data
- IRI – supermarket scanning data
- Councils and waste contractors – collection volumes
- Members – volumes, packaging intelligence
- End markets (e.g. processors, roading contractors etc) – outcomes
- Published data

Councils, contractors, processors and end markets provide data via surveys or one-on-one correspondence and form the backbone of data on recovered glass and its outcomes. We continue to see a pleasingly high level of participation.

All collected data is aggregated using a 'black box' approach. Due to commercial sensitivities, a number of confidentiality agreements apply to this process.

Where possible we obtain data from more than one source in order to cross check it, e.g. data reported by councils is cross checked with contractors, or with published council data, and end uses reported by councils are cross checked with processors.

We engage with supply chain system leaders GS1 and data analytics and integrated data provider IRI, which provides greater clarity on what proportion of the market is comprised of non-alcohol glass.

We also make use of data from Statistics NZ, which captures all alcoholic beverage volumes available for consumption. This is the one source of data which is captured by regulation and has a high degree of accuracy.

Independent data review

Ensuring we are collecting the right data and that it's correctly interpreted is vital to not only drawing accurate conclusions but demonstrating best practice.

We have therefore again engaged with independent consultants Grant Thornton to review our data methodology, having made minor changes since their review in 2019.

Their report found we are using the best currently available data to produce a picture of how much glass is consumed each year, how much is recovered and what the outcomes are.

It also confirmed the best data sources are at the beginning and end of the glass lifecycle but there are some opportunities to improve knowledge at the intermediate stages.

The report highlights there is very little regulation requiring data collection and public reporting – which is the biggest obstacle to improving data. As a result, the GPF's accredited voluntary product stewardship scheme relies on those in the supply chain, from importers and retailers to collectors and processors, to choose to provide their data.

Grant Thornton's report points out a key to tackling data shortcomings is for government regulation to require reporting in a uniform way from everyone in the supply chain. This would form a part of any kind of regulated product stewardship, but could also be developed as part of a wider reporting system for New Zealand's waste, resource recovery and recycling systems for a range of materials.

Assumptions and loss

Despite the extensive work to gather data, assumptions must inevitably be made with current methodology, taking three key assumptions into account:

- What percentage of alcoholic beverage packaging is glass
- What weight this glass accounts for (using average container weights)
- What level of loss is happening in the system

While accurate statistics on the volumes of alcoholic beverages available for consumption are available from Stats NZ, the packaging type is not specified.

There is also a myriad of alcoholic beverage bottles varying in terms of shape, size and weight so an assumption must be made on an average bottle weight.

The report recommended that the GPF implement regular formal reviews of its assumptions to ensure they reflect current industry trends. A review has been carried out this year.

Loss in the system can occur in a few ways, such as broken glass sticking to labels, contamination making it impossible to recycle glass, loss in transit, and glass fine grinds falling through the sorting system.

While some loss is unavoidable, improving our understanding of where loss is happening and why will help us tackle the causes.

Glass consumption - alcohol

Member tonnage declarations - collected quarterly

Statistics New Zealand – alcohol available for consumption, by category

These statistics reflect production, plus imports, less exports and must be converted to tonnage

Data confidence level – **very high**

Volumes packaged in glass

The first assumption we formally reviewed this year was the percentage of alcoholic drinks sold in glass. We did this by working closely with our members and acknowledge their trust in supplying us with such commercially sensitive information.

We found that some categories, e.g. wine and spirits, are still packaged almost exclusively in glass. In other categories, such as beer, cider and RTDs, there has been a significant shift to other packaging types, such as aluminium cans. This change has happened over a relatively short time and is largely driven by customer demand in the supply chain.

Data confidence level - **high**

Container weight

The second assumption we formally reviewed this year was average container weight. For some categories we were able to cross check container specification information from GS1 with member intelligence. For other categories, for which GS1 does not have data, (spirits and RTDs) we relied on member intelligence alone.

Average weights were applied by category, i.e. wine, spirits, beer, cider, RTDS.

Data confidence level - **high**

Glass consumption – non alcohol

GS1 – packaging specifications

IRI – volume sold in supermarkets

This is the second year we have used this combined data source. GS1 data provides container specifications, including material and weight. IRI data records scanned sales through supermarkets. These data sets are overlaid to provide us with high level glass tonnage for non-alcohol beverage and other glass containers e.g. glass packaged food, supplements and beauty products.

We use this as a proxy for all non-alcoholic beverage, food and other glass containers. It doesn't account for convenience stores, service stations, boutique stores and online sales. While we accept this is an undercount that we can't quantify, we can reasonably assume this is not too great.

We do not use alcoholic beverage sales data from IRI, as it would not account for the proportion sold at bars, nightclubs, restaurants, liquor stores and events. All alcoholic beverage data is sourced from the Statistics New Zealand data for alcohol available for consumption.

Data confidence level – **very high**

Glass recovery

Councils – tonnage recovered

Waste contractors – tonnage recovered

End market data – tonnage recovered

Publicly published data

This data is obtained via an online survey, or in some cases from published reports. Where possible we cross check between sources. The medium to high confidence level is due to the variance in record keeping and in the contracts councils have with waste collectors. In some cases councils refer us directly to their contractors for data.

Data confidence level – **medium to high**

Glass outcomes

Councils

Waste contractors

End markets

This data is obtained via an online survey. We recognise data methodology and quality varies, however in many cases we are able to cross check data between councils, contractors, end markets and publicly published data. End markets are generally recording volumes for financial transaction purposes and have been very generous in sharing information. Again, we acknowledge the high level of trust they place in us given commercial sensitivities.

Data confidence level – medium to high

Loss in the system

Assumptions based on recovery, outcomes and market intelligence

Loss in the system can happen at a number of points between collection and processing.

Some loss occurs simply from the nature of transporting glass, creating glass dust and fragments too small to be recognised by an optical sorter. Other issues can also lead to glass not being recognised by an optical sorter. Some intelligence on this has been provided by end users.

Some loss in the system is also likely to be from contamination.

Data confidence – low to medium

Contamination

Over half of the councils responding to our survey reported contamination as being a barrier to achieving better recovery rates. Contamination may be recognised at the point of collection, or at the point of processing, both leading to rejection of glass from the system. Contamination can be from non-recyclable refuse, organics, labelling, or other recyclables.

Due to the variety of ways councils, contractors and end users operate, this is not recorded in a uniform way across the country.

Some contamination may only be solved by community education and engagement. Some councils and contractors have put concerted effort into this and improved their outcomes.

For example, Christchurch was widely reported in the media as having high levels of contamination following the March 2020 lockdown, but behaviour change initiatives by the council and its processor EcoCentral successfully reduced contamination to less disruptive levels. Ashburton also took action in educating householders to reduce levels of contamination.

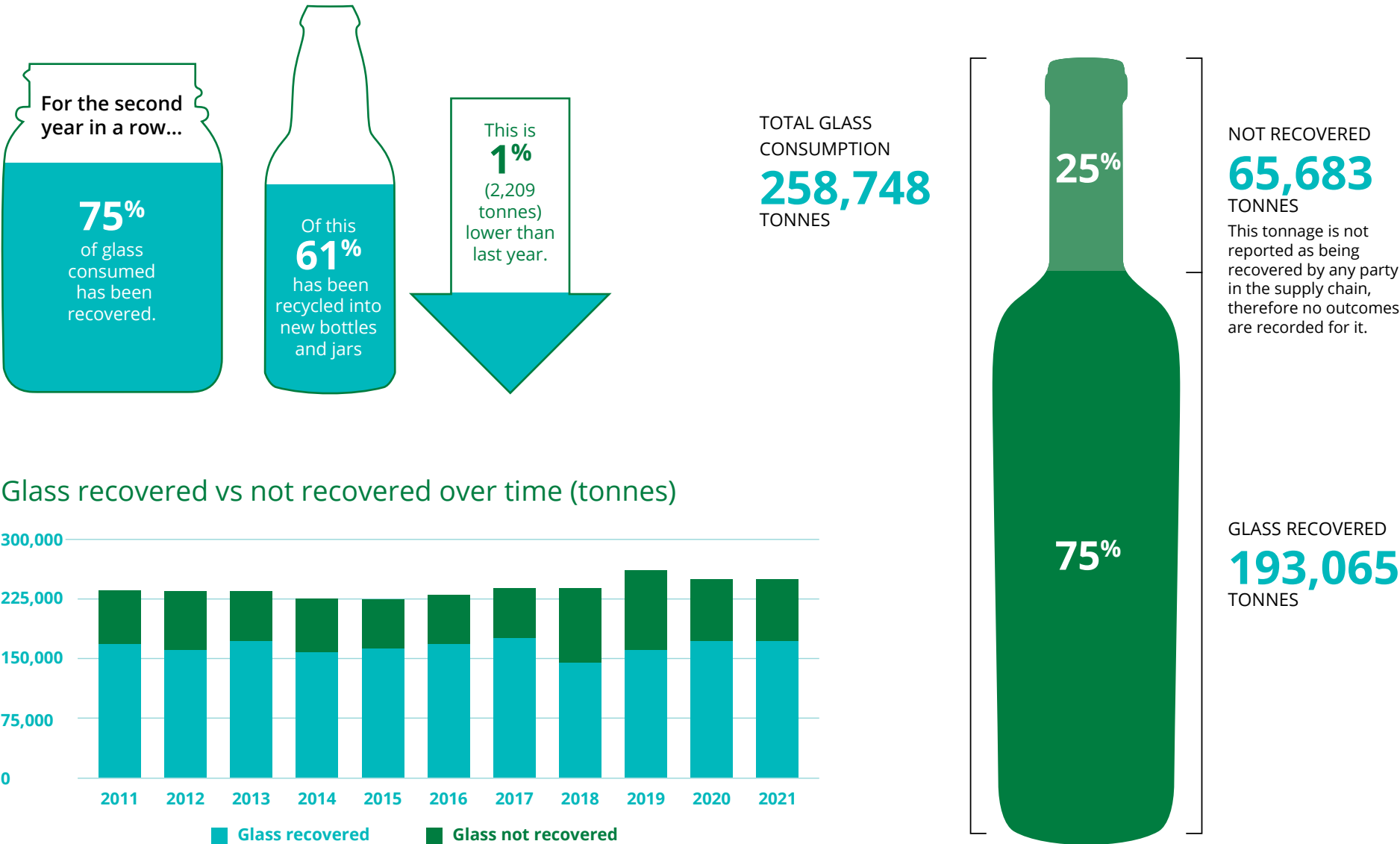
Advancements in sorting technology would also go some way to resolving contamination issues, as would improved collection practices.

Glass recycled offshore

As noted earlier in this report, a Covid-19 related delay in restarting one of New Zealand's three glass furnaces after required maintenance led to a short period where flint glass couldn't be accepted by the processor. This put stress on storage infrastructure across the country. Fortunately, this was alleviated within a matter of days, when the processor was able to procure suitable shipping to export some glass for offshore recycling. This tonnage has been included in the bottle-to-bottle recycling figure.

Mass balance results

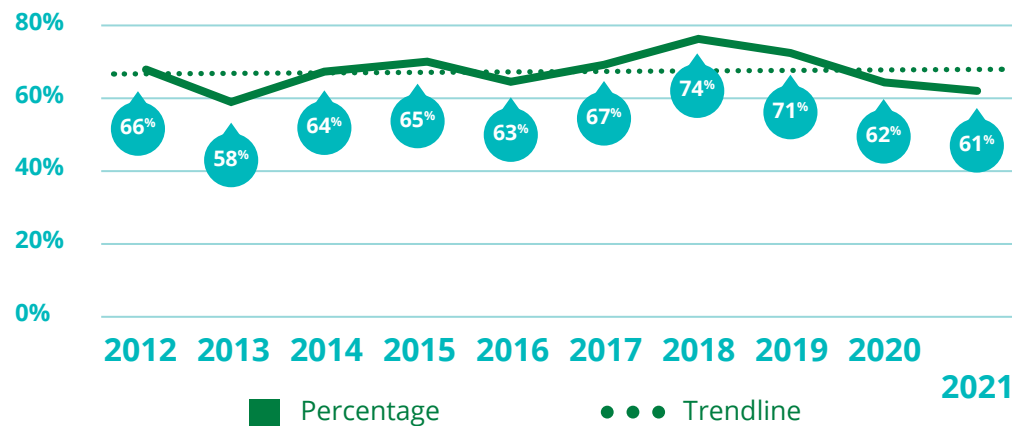
Glass recovery rate 2020-2021



Outcomes for recovered glass 2020-2021

OUTCOMES	2020 TONNES	2021 TONNES	2020 %	2021 %
Council use	19,323	8,653	10%	5%
Landfill	21,012	28,559	11%	15%
Aggregate road-ing	17,142	31,700	9%	16%
Bottle-to-bottle recycling	120,452	118,243	62%	61%
Loss in glass supply network	15,331	5,910	8%	3%
TOTAL	193,259	193,065	100%	100%

Bottle-to-bottle recycling rate with trendline

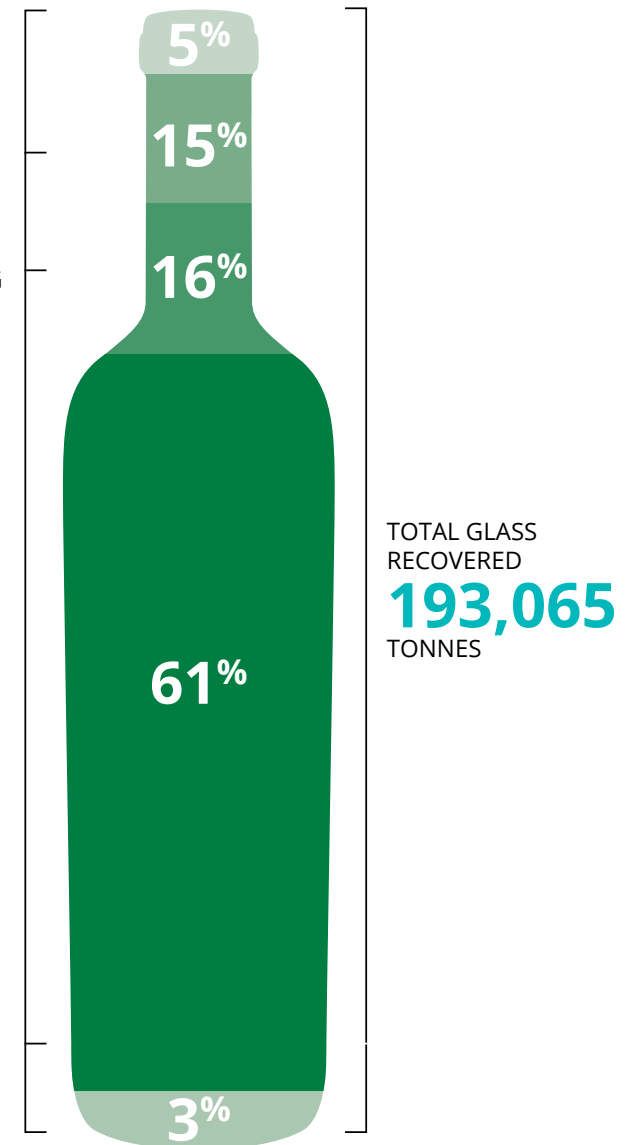


The bottle-to-bottle recycling rate is highly dependent on quality of glass received and the level of market demand for New Zealand made glass containers.

COUNCIL USE
8,653
TONNES
LANDFILL
28,559
TONNES
AGGREGATE ROADING
31,700
TONNES

BOTTLE TO BOTTLE
RECYCLING
118,243
TONNES

LOSS IN GLASS
SUPPLY NETWORK
5,910
TONNES



Objectives and targets

The following table outlines the objectives and targets set for the scheme and shows our 2020-2021 performance toward achieving these goals.

OBJECTIVE	PARAMETER	2024 TARGET	2019-20 PERFORMANCE	2020-21 PERFORMANCE
Increase in the volume of container glass recycled	Report on diversion activity and be recognised as the reliable source of container glass recycling data by collating national data on container glass diverted from landfill via all activities.	82% of total container glass into market is diverted	75%	75%
Completeness of scheme	Close the gap between consumption data and tonnage declared by members	90% of consumption data comes from members	On track	On track
		≥ 60% industry engagement survey response rate	Survey not conducted this year	Survey not conducted this year
Stakeholder support	Management and operational staff with council and the commercial collector network who have direct influence over glass recycling in their region are actively engaged in the scheme	≥ 60% local government engagement survey response rate	81% engagement from local government on mass balance survey, either directly or through contractors	98% engagement from local government on mass balance survey, either directly or through contractors
Contribution to community	GPF investment fund set aside for regional recycling initiatives annually	Budgeted investment fund allocation represents at least 40% of total operations budget by 2024	44%	39%

Promotion of the scheme - communications and marketing

Stakeholders:

- Scheme members
- Other producers (potential members)
- Councils
- Recycling contractors and processors
- Community recycling organisations
- Consumers
- Organisations seeking funding to improve outcomes for glass
- Minister and Ministry for the Environment
- Elected government officials

Engagement with stakeholders is key for any successful product stewardship scheme and as such has been, and remains, a high priority for the GPF.

To achieve this we have made use of media releases and interviews, regular newsletters, grant funding articles, advertising, advertorials and editorials in industry publications, the GPF website and through branding in conjunction with grant funding.

Our social media has been primarily focussed on Facebook, but we have also made use of parent organisation The Packaging Forum's LinkedIn page.

Our funding rounds were followed by articles for the GPF website outlining the aims of the grants, followed by updated individual articles once each grant got off the ground. These were circulated to local and national media (as appropriate) as well as on social media via Facebook. The majority of these were carried in local and regional publications and websites.

Main channels of communicating and promoting the scheme's objectives, activities and results:

- e-newsletters
- Media via media releases
- Website content
- Social media
- Webinars
- Face to face meetings

We also began a series, called Glass Heroes, profiling individuals and organisations working to improve glass recovery and sustainability. These have proven particularly popular on social media.

We updated our series of animated videos to promote the GPF's goals and achievements via social media and our website.

In order to clearly and effectively communicate the GPF's position on container return schemes, its pro-regulation stance and create a balanced national conversation, a standalone website was created, glassforgood.kiwi, and there was some media activity.

The GPF scheme manager and The Packaging Forum CEO also continued to build and maintain stakeholder relationships through one-on-one communication, although the impacts of Covid-19 Alert Levels have somewhat limited opportunities for face-to-face meetings.





Looking to the future

The GPF continues to support regulated stewardship for container glass.

Engaging with the Ministry for the Environment is key in this regard as is building public awareness around our goal of a regulated scheme and its benefits.

Given the relatively high starting point, we believe a regulated scheme can achieve a recovery rate of 85% or higher.

Supporting reuse/refillable solutions

Debate around a proposed CRS has increased interest and an appetite among the public for more reuse/refill options.

Correspondingly we are seeing an increase in funding applications to support reuse schemes. While most have been small scale, we expect this market segment will continue to grow, and that larger industry members may recognise the opportunity for a competitive advantage.

Advancement of technology for inventory tracking and consumer apps could enable the development of decentralised nationwide refillable systems.

Standardised kerbside collection and recyclability labelling

Government has indicated a growing desire to improve recycling rates by investigating a standardised kerbside collection system as well as standardised recyclability labelling system – the two going hand-in-hand.

The GPF is strongly in favour of this, particularly a kerbside system which collects glass separately and colour sorts it at source. We are therefore eager to participate in any conversations or consultations which will help progress this, while being a voice for the container glass sector.

Explore lifecycle analysis of glass packaging in the New Zealand context

Glass is a cradle-to-cradle solution right here in Aotearoa New Zealand. The varying environmental impacts of imported and locally manufactured glass, as well as other packaging options, have yet to be explored in the New Zealand context.

Other opportunities

There are a number of opportunities for creating better outcomes for container glass, which we will continue to help develop through funding, advice, advocacy and stakeholder engagement:



**CONSUMER
EDUCATION**



**PRODUCER
EDUCATION**



**CONTINUED
DATA
IMPROVEMENT**



**ALTERNATIVE
USES FOR GLASS
WHICH CANNOT
BE RECYCLED
OR REUSED**



**IMPROVED
INFRASTRUCTURE
CAPACITY AND
LOGISTICS**



**ADVANCEMENT
IN SORTING AND
PROCESSING
TECHNOLOGY**

FINANCIALS

A close-up photograph of a hand holding a condensation-covered beer bottle. The bottle is dark brown and has numerous water droplets on its surface. In the background, other similar bottles are visible, suggesting a refrigerator or a cold storage area. A red diagonal overlay covers the top left portion of the image, where the word 'FINANCIALS' is written in white.

Glass Packaging Forum incorporated statement of profit and loss For the year ended 31 March 2021

REVENUE

Support regulated scheme development (third party contributions)	79,907
Interest income	2,386
Levies	636,853
Total revenue	719,146

EXPENSES

Operating costs

CRS Design Working Group	20,738
Support regulated scheme development	147,939
External funding projects	246,016
Third Party Verification	22,522
Reports to the MFE	862
Travel and accommodation	3,867
Total operating expenses	508,586

Overhead costs

AGM and annual report	808
Bank fees	26
General	1,086
Insurance - all schemes	1,037
CEO/Scheme managers/Administration/Contractors	190,292
Stationery, postage and printing	10
Subscriptions/MYOB	379
Telecommunications	748
Website hosting/Facebook and support costs	1,753
	196,139
Total expenses	704,725
Net surplus (deficit) before taxation	14,421
Taxation expense	(249)
Net surplus (deficit) after taxation	14,172

Thank you to our members for helping to improve outcomes for glass

Membership financial year 2020-2021

AB-InBev (NZ) Ltd

Bulmers
Harvest Cidery
Ranga
Scrumpy
Strongbow
Thomas & Rose

Alana wines

Arthur Holmes Ltd

Asahi Beverages

Asahi
Boundary Road Brewery
Carlsberg
Charlie's
Codys
Estrella
Long White Vodka
Matua Wines
Penfolds
Peroni
Phoenix
Somersby
The Better Drinks Co Ltd
Vodka Cruiser
Wolfblass
Woodstock Bourbon Cola

Ata Rangi

Babich Wines Ltd

Beam Suntory (NZ) Ltd

Black Barn Vineyards

Blackmores

Booster Wines

Sileni Estates

Brewers Association NZ

Ceres Organics

Chateau Waimarama Company Ltd

Cloudy Bay Vineyards Ltd

Coca-Cola Amatil (NZ) Ltd

Constellation Brands

Kim Crawford Wines
Nobilo Wines
Sekaks Wines

Coopers Creek Vineyard

DB Breweries Ltd

19+ brands
Amstel
Black Dog
DB Draught
DB Export
Desperados
Flame
Heineken
Kingfisher
Lagunitas
Monteith's
Orchard Thieves
Rekorderlig
Sol
Tiger
Tuatara
Tui

Delegat's Wine Estate Ltd

Endeavour

Foodstuffs NZ

Pam's
Henry's Beer & Wine
New World
Pak'nSave
Four Square
Gilmours
Liquorland
Fresh Collective

Frucor Suntory NZ Ltd Simply Squeezed

Fulton Hogan

Giesen Wines

Hansells

Hunter's Wines (NZ) Ltd

Integria Healthcare

Johnson Estate Ltd

Spy Valley Wines

Karma Drinks

Kono Beverages

Kono Wines
Tohu Wines
Tutū Cider

Lawson's Dry Hills

Lion

140+ brands
Steinlager
Speights
Mac's
Panhead
Emerson's
Corona
Wither Hills
Lindauer
The Ned
Trinity Hill
Morton Estate
Smirnoff
Bombay Sapphire
Tanqueray
Gordon's
Bacardi
Good Buzz
Strangelove

Mars New Zealand

Matua Wines

Mills Reef Winery

Moi Agencies Ltd

Mt Difficulty Wines

Nautilus

Neill Cropper & Company Ltd

Bundaberg
Royal Crown Draft Cola

Nestle New Zealand

New Zealand Beverage Council

Pask Winery

Pernod Ricard

60 brands
Brancott Estate
Montana
Stoneleigh
Deutz Marlborough
Church Road
Jacob's Creek
St Hugo
Wyndham Estate
Campo Viejo
Mumm
Jameson
Absolut Vodka
Beefeater
The Glenlivet
Martell

Red Seal

Rubbish Direct

Sacred Hill Vineyards Ltd

Saverglass NZ Ltd

Simplot New Zealand Ltd

Te Mata Estate Winery

The Antipodes Water Company

Villa Maria Estate Ltd

Esk Valley Estate
Kidnapper Cliffs
Riverstone
Te Awa / Leftfield
Thornbury
Vidal
Villa Maria

Visy Glass (formerly O-I)

Wainhouse Distribution

Whitehaven Wine Company Ltd

Woolworths New Zealand

Countdown
Freshchoice
SuperValue

Yealands Estate Wines Ltd



THE
PACKAGING
FORUM

