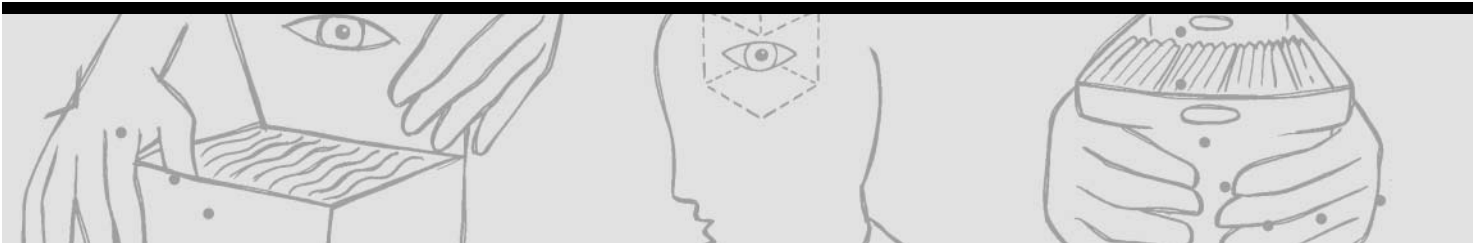


Glass

:: SECTOR ACTION PLAN



GLASS SECTOR ACTION PLAN

NEW ZEALAND PACKAGING ACCORD 2004

1. INTRODUCTION

This sector action plan has been prepared by ACI Glass Packaging New Zealand (ACI GPNZ). While it originally represented the manufacturing position, it has been modified and subsequently re-formatted to cover the entire glass sector.

The plan demonstrates the glass manufacturing sector's commitment to reducing the environmental impacts of packaging materials and products, and is supported by other enterprises involved in the selling, importing and reuse of glass products, other than the prime manufacturer.

This commitment includes working cooperatively with other sectors, acknowledging some aspects of the Accord require significant joint effort to make acceptable progress.

Glass has long been used as a packaging medium and those involved in its production and sale long ago adopted policies to minimise its environmental effects by recycling and reuse.

2. ABOUT THIS SECTOR

The glass sector, while clearly defined by a unique product type, greatly overlaps the brand owners and retailers sector that is the prime user of its products, particularly those supplied to the market as indirect imports.

The New Zealand glass industry is not represented by a single professional body. However, those involved in the manufacturing use of glass packaging are often members of the Packaging Council of New Zealand (PAC.NZ), the Food & Grocery Council, the New Zealand Retailers Association and the Recycling Operators of New Zealand (RONZ).

3. THIS SECTOR ACTION PLAN

As part of the process, all parties to the Accord have prepared sector action plans. Sectors represented in the Accord are:

-
1. Aluminium

 2. Brand Owners and Retailers

 3. Central Government

 4. Glass

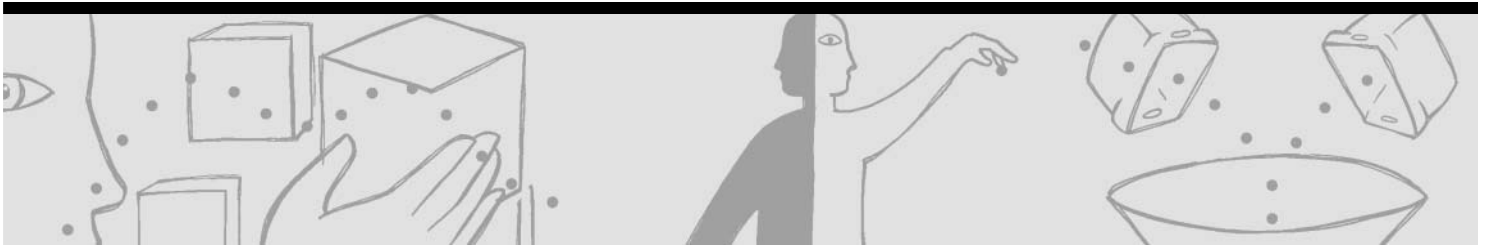
 5. Local Government New Zealand

 6. Paper

 7. Plastics

 8. Recycling Operators of New Zealand

 9. Steel



This sector action plan identifies the contribution that the sector and the organisations it represents will make to the achievement of *New Zealand Packaging Accord 2004* objective and, in so doing, related aspects of the *New Zealand Waste Strategy*.

It reflects the collaborative approach of the Accord process, which encourages all parties to work towards achieving a common objective and, of necessity, acknowledges that there are different ways of doing this.

Each party to this plan has agreed to the implementation of the activities/outcomes it lists as a minimum commitment to the Accord. The actions agreed to within the sector are detailed in the tables that follow, along with the timeframe the sector has to plan, implement and, where stated, achieve each of its commitments.

4. PARTIES TO THIS PLAN

The following companies have acknowledged their role in the packaging chain and made a commitment to the Accord either directly, through PAC.NZ, or via their industry body. Companies initially participating in this sector action plan are:

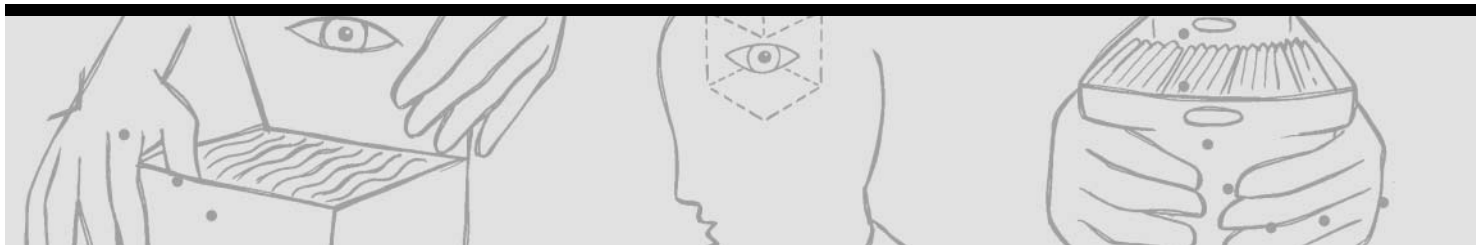
ACI Glass Packaging New Zealand
Cospak (NZ) Ltd
Recovered Materials Foundation
The Associated Bottlers Company Ltd
Visy Recycling NZ Ltd.

Note: The Recovered Materials Foundation will also be a party to the *RONZ Sector Action Plan*. A number of enterprises are involved in the collection and washing of bottles, which, as integral components of the recovery and recycling process, will be asked to supply data to be integrated into the *Glass Sector Action Plan*.

5. WHAT THIS SECTOR ACTION PLAN CONTAINS

The sector has agreed to address all eight Accord measures of progress as listed below. It was agreed that not every measure will be equally applicable to individuals within the sector. However, as the areas are interconnected they should be read and interpreted in a synergistic manner. The measures for action are:

1. Mass balance data
2. Trends of annual estimated packaging waste to landfill (or other disposal methods) per person
3. Packaging design and procurement
4. Development of sustainable markets for reused and recycled packaging materials
5. Programmes to achieve national targets (including plastic shopping bag reduction target)
6. Consumer information and involvement
7. Accord promotion
8. In-house waste reduction and resource recovery.



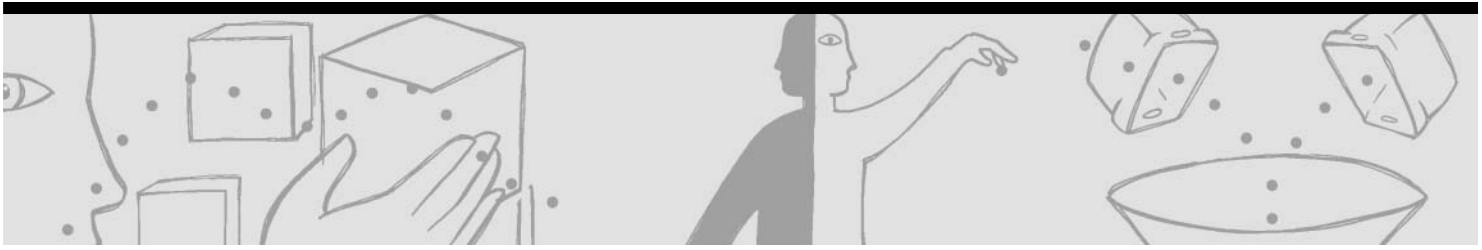
In general, during the first two years of the Accord (Years 1 and 2) the sector will work towards benchmarking its activities and progress. In the last three years (Years 3-5) there is an expectation of improvements being made. The sector will work with all other sectors to reduce the consumption of packaging and improve its recovery. It will report annually on the activities listed in this sector action plan.

6. SECTOR ACTION PLAN ACTIVITIES

1. MASS BALANCE DATA (CLAUSE 20)

PAC.NZ will report aggregates annually on behalf of brand owners, retailers and packaging manufacturer groups. Weights of packaging materials consumed and recycled will be collected and presented in formats used since 1994, thus allowing year-by-year comparisons. Reporting methodology will be improved and data will be independently reviewed.

COMMITMENT	ACTIVITIES	YEAR
COMPANY/ORGANISATION		
Contribute to packaging consumption (including imports) and collection data.	<p>PAC.NZ will work with all companies in the sector to determine and implement data reporting as appropriate.</p> <p>ACI GPNZ commits to providing PAC.NZ with data according to the methodology outlined in A-G, below.</p> <p>A. Production tonnes Total “New Zealand manufactured annual sales tonnes” of ACI GPNZ, based on in-company reports.</p> <p>B. Direct imports Total “Imported glass annual sales tonnes” of ACI GPNZ, based on in-company reports.</p> <p>C. Direct exports Total “Annual exported sales tonnes” of ACI GPNZ, based on in-company reports.</p> <p>D. Indirect exports The “Glass-packaged wine/other” export figure is estimated from data obtained from ACI GPNZ customers and the New Zealand Winegrowers Association. This covers glass-packaged spirits, RTDs, soft drink and wine. The tonnages are based on an estimated weight per packaging type.</p>	Years 1-5



COMPANY/ORGANISATION (CONTINUED)

E. Indirect imports

Not applicable to ACI GPNZ.

F. Materials recovered

Includes all container glass recovered through the ACI GPNZ *National Glass Reclamation Programme* as industrial and post-consumer. Excludes in-house ACI GPNZ material recovered. Based on in-company reports.

G. Materials recycled

Includes all container glass consumed by ACI GPNZ in the making of new container glass. Based on in-company reports.

Note: Differences between materials recovered and recycled either go into stock or are consumed ex stock. The expectation is that for the period 2003-06 tonnes of materials recovered will exceed recycled tonnes, with the cumulative differences going into stockpiling of recycled glass. On possible investment in 2006 by ACI GPNZ, the expectation is that the materials recycled for 2007-08 will exceed the materials recovered, as it will be necessary to consume stockpiled recycled glass to normal operational levels.

SECTOR

Collate data by packaging types by sector.

Provide PAC.NZ with data.

Years 1-5

ACI to continue to provide on behalf of the sector information outlined in B, D and E, specifically. This is to be reviewed as part of joint commitments below.

A. Production tonnes

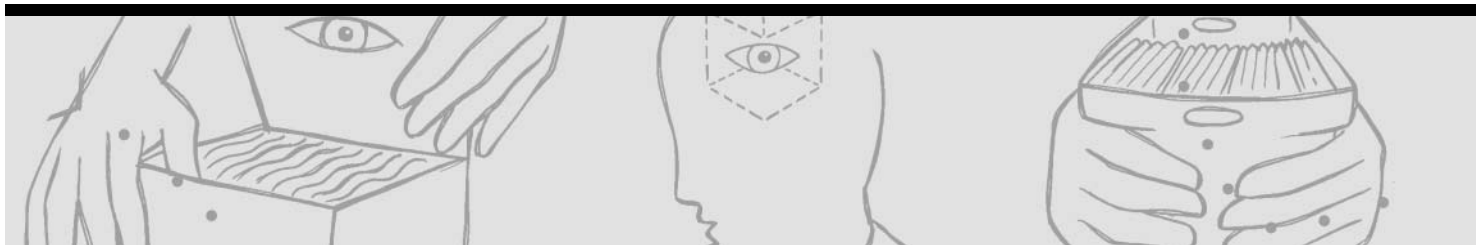
Not applicable to sector.

B. Direct imports

Department of Statistics New Zealand overseas trade statistics monthly report. *Note: ACI GPNZ applies a theoretical weight to the number of containers in each size category. (Information provided by ACI GPNZ on behalf of the sector.)*

C. Direct exports

Not applicable to sector.



SECTOR (CONTINUED)

D. Indirect exports

The “Glass-packaged beer” export figure is estimated from the data of the Department of Statistics for “Annual packaged beer New Zealand container glass exports”. (Information provided by ACI GPNZ on behalf of the sector).

E. Indirect imports

Due to the large number of imported products packaged in glass (food, wine, beer, pharmaceuticals, water, cosmetics, oils etc.) and the absence of pack information on it, a factor (annual GDP growth, as published by Statistics New Zealand) is applied to the previous year’s tonnage to derive an annual estimate. (Information provided by ACI GPNZ on behalf of the sector).

F. Materials recovered

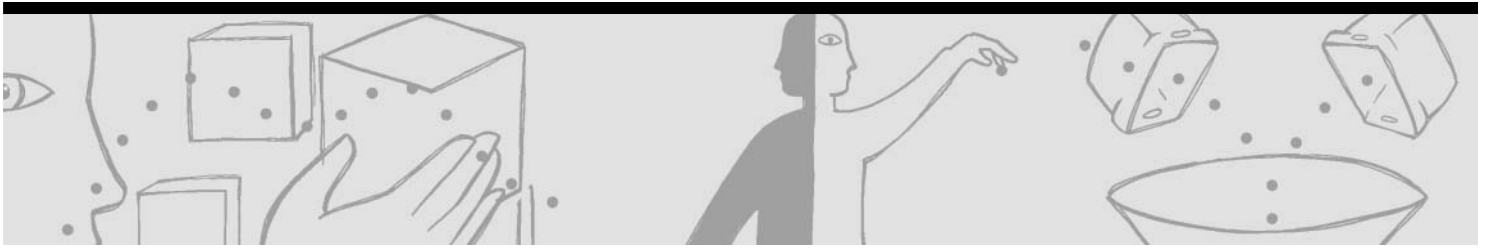
Provide in tonnes by calendar year, container glass recovered post-consumer.

G. Materials recycled

Provide in tonnes by calendar year, total container glass recycled within secondary markets and/or reused (refilled).

JOINT

Improve/revise a format for mass balance data to achieve transparency.	All data to be collated by PAC.NZ, by packaging types by sector.	Years 1-5
PAC.NZ reports annually.	Independent verification and methodology to be improved and put in place.	
Independent review of PAC.NZ findings.	Improve/revise format for mass balance data to achieve transparency.	



2. TRENDS OF ANNUAL ESTIMATED PACKAGING WASTE TO LANDFILL PER PERSON (CLAUSE 21)

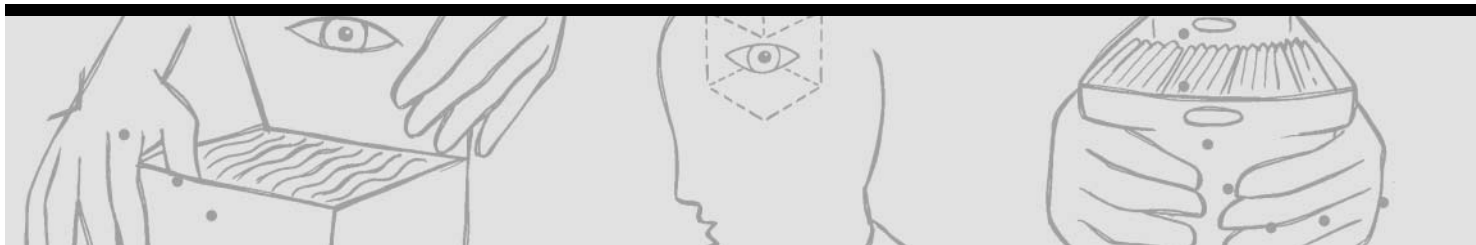
Annual estimates of packaging waste to landfill (or other disposal method) per person by material (paper, plastic, glass, steel, aluminium, composites) and in aggregate, by weight. An eventual reduction in these rates will be one of the important indicators of the Accord’s success.

COMMITMENT	ACTIVITIES	YEAR
COMPANY/ORGANISATION		
	Collect data and report findings to all sectors on packaging types.	
SECTOR		
	Improve packaging format for Solid Waste Analysis Protocol (SWAP).	
JOINT		
	Decrease in per capita rates of packaging waste to landfill.	Refer to other activities.

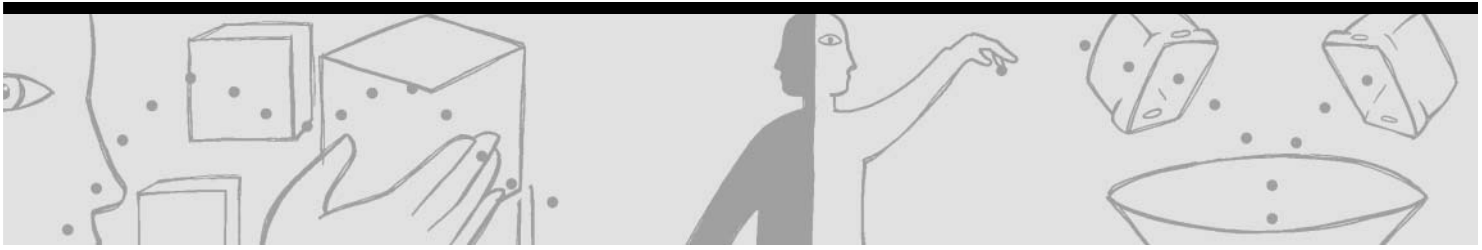
3. PACKAGING DESIGN AND PROCUREMENT (CLAUSE 22)

Annual sector action plan reports will document:

- **Packaging design:** a drive for sustainability in packaging design by creating and participating in better design industry training programmes, reviewing new and existing packaging against codes of practice, cooperating with the resource recovery sector during packaging design, and dealing with non-compliance with the *PAC.NZ Code of Practice*
- **Packaging procurement:** improving policies and practices by adhering to codes of practice for sustainable packaging procurement and through supply chain initiatives.



COMMITMENT	ACTIVITIES	YEAR
COMPANY/ORGANISATION		
Ongoing review process for new and existing packaging using <i>PAC.NZ Code of Practice</i> .	<p>ACI GPNZ to implement and fulfil three key commitments:</p> <ul style="list-style-type: none"> document how the environmental impact of a product design will be considered in the New product development (NPD) process, in the form of set measures. This will include the <i>PAC.NZ Code of Practice</i> and will also extend to measures specific to glass recycling document information provided to ACI GPNZ customers during the course of a NPD, this being based on set measures audit the current product range against the same measures above report to PAC.NZ on the annualised outcome of the measurement. <p>ACI's proposed set of measures</p> <ol style="list-style-type: none"> Container colour and recoverability: A tabled performance score out of a maximum of 60 points for the recoverability and relative tolerance to cullet usage by colour eg, emerald green will score highly, given an optimum as high as 80 percent cullet use. Container weight will be a factor in the score achieved eg, when two options exist in the NPD process. Consumer-ready package recyclability and recoverability: A tabled performance score out of a maximum of 15 points for the impact on recyclability and recoverability of the container in the decorative state, as it is likely to be received by the consumer eg, consideration will be given to the closure, labelling, sleeving or other decorative additions or finishes. Secondary packaging used for container handling: A tabled performance score out of a maximum of 25 points for the extent of reuse and recyclability of the secondary packaging applied in the pack design eg, the use of returnable pallets and layer boards positively impacts on the score. 	Years 1-5



COMPANY/ORGANISATION (CONTINUED)

4. *PAC.NZ Code of Practice* compliance:
Verification of compliance to the code will be applied as a measure of product design eg, the impact that the proposed container has on the resource recovery sector will be considered and, where required, a process of consultation will be undertaken.

Report on sector company initiatives to improve the recoverability and recyclability of goods purchased.

Maximise opportunities for “green” purchasing within the supply chain associated with container glass.

Raw materials

The most significant raw material in the ACI GPNZ glass manufacturing process is recycled glass. We seek to continue to maximise the proportion of recycled material consumed.

Secondary packaging

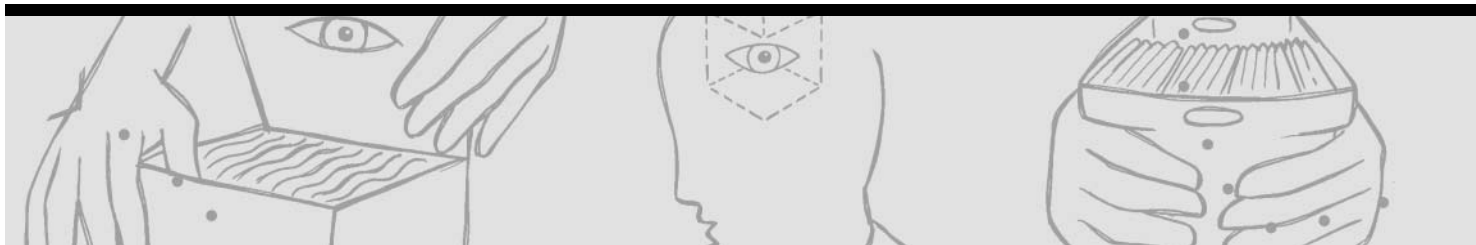
Secondary packaging (that used to handle shipment of glass containers, such as pallets, layer boards and shrouds) constitutes a significant commercial volume. Current business processes facilitate a reuse/recycle rate in excess of 90 percent within ACI GPNZ.

Machine components

Residual machine componentry (post-use) represents significantly less of the purchasing volume, but still offers an opportunity to recycle as most of this material is steel. ACI GPNZ will continue the practice of recycling in this area.

General administrative materials

This area represents the least significant proportion of the total purchasing volume; however, there still exist many opportunities to purchase “green”. ACI GPNZ operates to ISO 9002 standards. Purchasing policy and procedures are contained in the *ISO Manual*. ACI GPNZ commits to reviewing and updating “Purchasing Policy and Procedures” to incorporate environmental considerations in purchasing decisions.

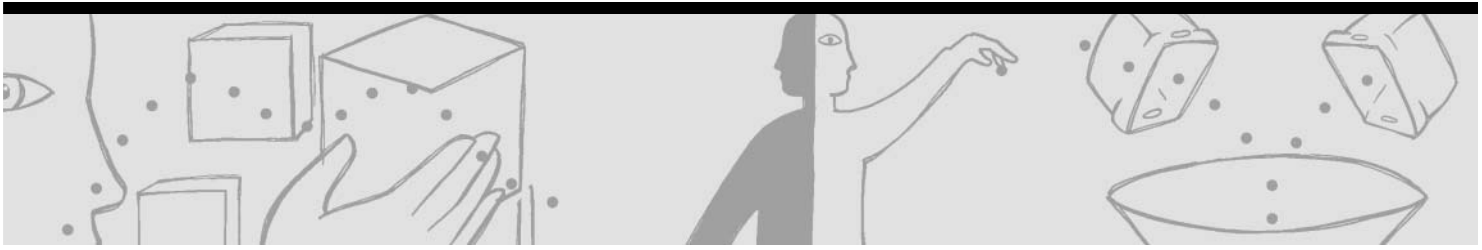


SECTOR		
Report the number/percentage of companies/organisations that have implemented a review process of new and existing packaging.	Develop a methodology for audit and undertake an audit of the existing product range.	Years 1-5
Industry training programmes.	Report on the impact of package design and/or procurement on the recoverability of the package.	
Rectify non-compliance complaints.	Assess and report on compliance with <i>PAC.NZ Code of Practice</i> .	
	Identify and quantify areas within design and/or procurement for improving recoverability and recyclability of container.	
JOINT		
Design a checklist for packaging audits and identify and address design issues.		Years 1-5

4. DEVELOPING SUSTAINABLE MARKETS FOR REUSED AND RECYCLED PACKAGING MATERIALS (CLAUSE 23)

Closing the loop on waste by developing and fostering sustainable markets for reused and recycled packaging materials. Annual sector action plan reports will document cooperative ventures between industry sectors, identify any barriers to, and any frameworks supporting, sustainable resource efficiency industries in New Zealand, and any results from joint initiatives.

COMMITMENT	ACTIVITIES	YEAR
COMPANY/ORGANISATION		
Develop purchasing policies that encourage the use of recovered materials.	<p>Maximise the volume of recycled glass that can be consumed by ACI GPNZ at its manufacturing location, and provided at the required quality/price levels.</p> <p>ACI GPNZ is committed to a recycled glass market maximum of 80,000 tonnes prior to capacity extension and a market of between 80,000 and 100,000 tonnes after capacity extension.</p> <p>ACI market growth initiatives</p> <p>ACI GPNZ can currently consume 70,000 tonnes of recovered container glass annually. ACI GPNZ will endeavour to increase its capacity to consume at least 80,000 tonnes annually (estimated 2006).</p>	Years 1-5



COMPANY/ORGANISATION (CONTINUED)

It is important to note that even with the planned capital investment in increased capacity to consume environmental cullet, there will still be a limit to what can be consumed.

The ACI GPNZ recycled material purchasing strategy under this sector action plan is to purchase in excess of the 70,000 tonne annual limit (prior to investment) while confidence in the capacity investment exists. This requires stockpiling of recycled glass for expected future consumption. The cost of this initiative is fully covered by ACI GPNZ, but likewise the strategy is dependent on forthcoming approvals for investment.

This market growth is dependent on recycled glass quality levels being maintained, as evidenced by glass kerbside and commercial-type programmes, rather than through comingled collections which have demonstrated quality deterioration potential. Other sectors have a bearing on the methodology used, and ACI GPNZ views the trend towards kerbside collections (or other segregated collections) as a favourable step for recovered (and marketable) volumes.

SECTOR

Report the number/percentage of companies/organisations with purchasing policies that encourage the use of recovered materials.

The sector commits to a recycling target of 55 percent by 2008.

Years 1-5

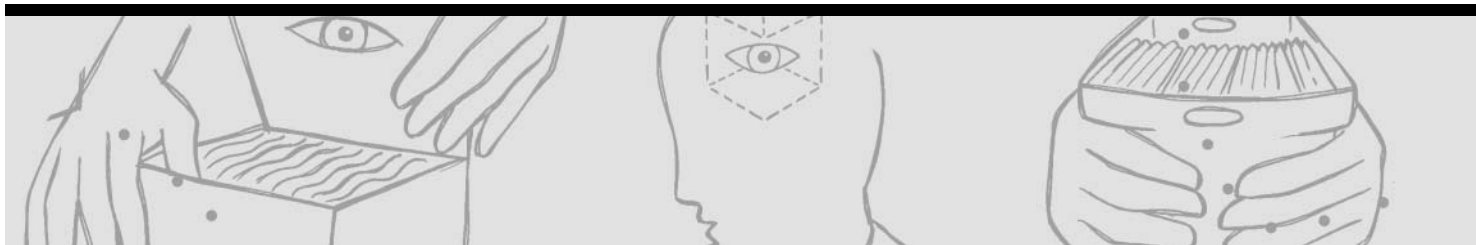
The sector commits to working to identify and remove barriers to recoverability of the package.

JOINT

Work with other sectors to develop and support sustainable markets for recovered packaging materials.

Encourage joint sectors to find or develop alternative markets, especially for distant locations, where environmental and commercial factors will assist application in other uses.

Years 1-5



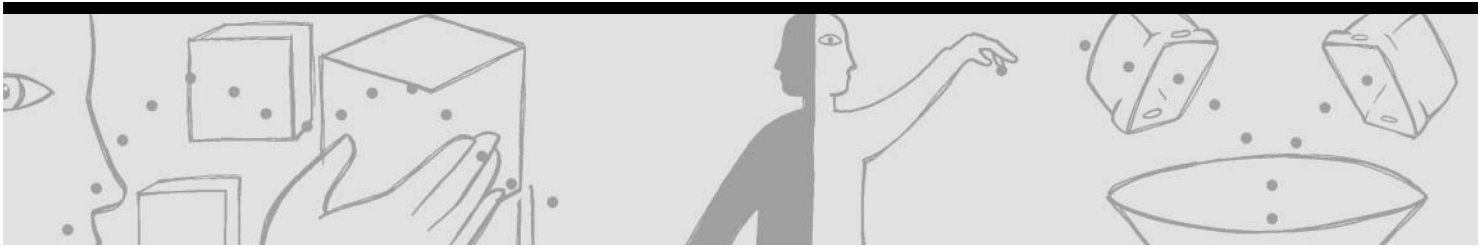
5. PROGRAMMES TO ACHIEVE NATIONAL TARGETS (CLAUSE 24)

The following are 2008 national recycling targets for recovery of packaging materials (by weight as a percentage of consumption):

- Aluminium 65%
- Glass 55%
- Paper 70%
- Steel 43%
- Plastic 23%

All sectors will review these targets and materials within two years of signing the Accord. A plastic shopping bag reduction target, by quantity, will be identified in the *Brand Owners and Retailers Sector Action Plan*.

COMMITMENT	ACTIVITIES	YEAR
COMPANY/ORGANISATION		
Contribute to recovery and recycling systems.	<p>ACI GPNZ undertakes to purchase from appointed principal suppliers any post-consumer container glass meeting its quality standard and other requirements.</p> <p>ACI GPNZ is committed to a recycled glass market of a maximum of 80,000 tonnes prior to capacity extension and a market of between 80,000 and 100,000 tonnes after capacity extension.</p> <p>ACI National Glass Reclamation Programme ACI GPNZ commits to continuing to provide a dependable market for container glass collectors (absorbing supply/demand fluctuations etc).</p>	Years 1-5



COMPANY/ORGANISATION (CONTINUED)

Other activities

ACI GP New Zealand environmental function

ACI GPNZ is committed to providing an internal facility solely devoted to:

- the *National Glass Reclamation Programme* – liaison with ACI principal suppliers (glass collectors), Visy Recycling New Zealand (cullet beneficiator)
- provision of a 0800 line for public enquiries
- provision of a facility for communication and consultation with groups such as those in the materials recovery industry outside of principal suppliers, local government, RONZ, ACI GPNZ customers who require assistance and/or education in regard to glass reclamation, other ACI GPNZ departments and any other interested or concerned parties
- regularly updating information contained on the website.

New Zealand Glass Environmental Fund

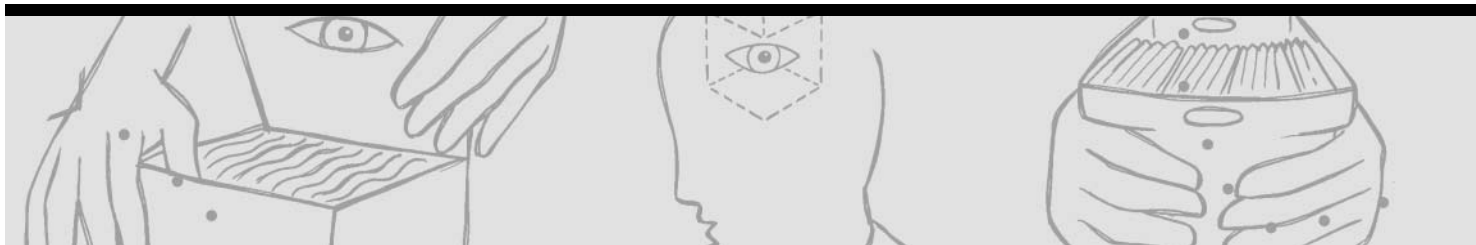
To commit \$25,000 (currently) per annum for environmental projects to be undertaken by all groups within the New Zealand education system. This includes a dedicated administrator and all promotion of the fund nationally.

SECTOR

Meet agreed national recycling targets.	The sector commits to a recycling target of 55 percent by 2008.	Years 1-5
Use mass balance (and SWAP) data to track and report progress against targets.	The sector commits to working to identify and remove barriers to recoverability of the package.	

JOINT

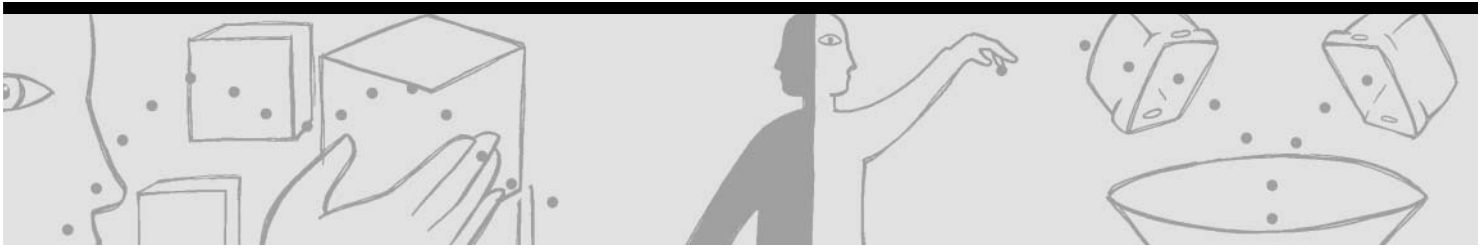
Identify and address recovery issues.	Joint sectors commit to working to identify and remove barriers to increasing the recycling rate of the package.	Years 1-5
Meet agreed national recycling targets.	Joint sectors recognise that all sectors play an important part in the full supply chain of recycling and that it is the sum of these programmes that result in ultimate recycling achievements.	



6. CONSUMER INFORMATION AND INVOLVEMENT (CLAUSE 25)

Ways of informing consumers and involving them in sustainable packaging design and packaging resource recovery programmes must be developed. Consumers must be made more aware of packaging issues and empowered to act on their decisions about packaging purchases, recovery and disposal.

COMMITMENT	ACTIVITIES	YEAR
COMPANY/ORGANISATION		
Implement relevant parts of the programme.	<p>Communicate with established audiences through the activities outlined.</p> <p>Work through PAC.NZ on joint initiatives, where necessary.</p> <p>ACI GPNZ – Consumer Information Programmes</p> <p>Glass recycling website ACI GPNZ has established a website to provide information on the following:</p> <ul style="list-style-type: none"> the glass-making process: easy to follow, step-by-step explanation of modern glass manufacturing glass recycling: the dos and don'ts of glass recycling plus the benefits the New Zealand Glass Environmental Fund: \$25,000 (currently) available to schools for environmental projects; easy to download copy of the application form and guidelines. <p>Public enquiries The provision of an 0800 line for general enquiries.</p> <p>Newsletter Inclusion of any general consumer educational information, as agreed, in future publications of ACI GPNZ's <i>Clear Vision</i> newsletter.</p>	Years 1-5
SECTOR		
Assess programme and develop an implementation strategy.	As per the agreed communications plan.	Years 1-5



JOINT

Develop a communication strategy for consumer information on the Accord.

Establish a representative working group to:

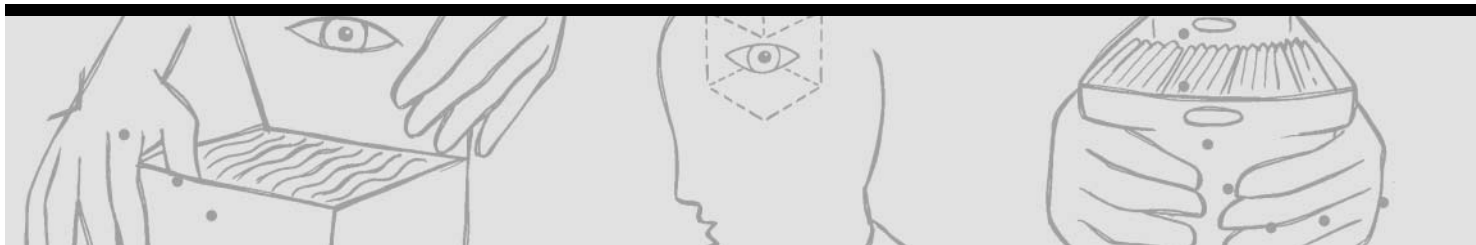
Years 1-5

- Identify the critical components in educational material, cost-effective means for delivering messages and a timeline for implementation of activities. (This group should consider the timeframe over which educational materials will be produced and delivered and the date for review and modification of any programme).
- Review and evaluate existing educational material and programmes. Also identify other specific opportunities that will support the Accord generally, and the sectors in particular.
- Identify aspects which are consistent or inconsistent with Accord objectives and amend/delete them where they serve no other or a redundant purpose. Where programmes are consistent with objectives, critical factors are to be promoted and included in current and new programmes.
- Develop clear, generic messages capable of implementation by all sector groups and appropriate for scaling to the size of individual operations. There should not only be consistency of message but also consistency of delivery.
- Ensure that generic messages are aligned with existing material.
- Identify and act on opportunities related to the *New Zealand Waste Strategy* and other programmes, such as *lifeafterwaste*.
- Identify effective ways of conveying information about packaging and the *PAC.NZ Code of Practice for the Packaging of Consumer Goods* and the complaints procedures it contains.

Inform consumers about the need for and the role of packaging eg, health and safety, tampering/pilfering, social and economic issues, its contribution to the total solid waste stream, levels of packaging recovery and recycling, the environmental footprint of packaging types, gains made in packaging performance and recovery to date and the part consumers can play in the Accord.

Monitor and review results and improve consumer information and education strategies as required.

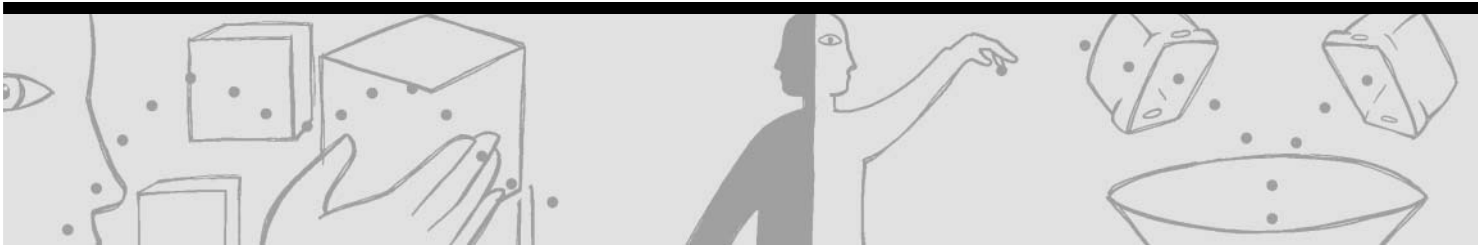
Years 3-5



7. ACCORD PROMOTION (CLAUSE 26)

Ensuring target sector and consumer audiences know about the Accord and that its issues involve them, as well as ensuring they understand the commitments embodied in sector action plans. It is also important to promote and recognise excellence in environmentally acceptable packaging.

COMMITMENT	ACTIVITIES	YEAR
COMPANY/ORGANISATION		
Promote the Accord within the company/organisation.	<p>Ensure target audiences know that the Accord exists and are aware of ACI's commitments to it.</p> <p>ACI GPNZ – target audiences</p> <ul style="list-style-type: none"> • customers • staff and associates (internal and external) • suppliers of recovered glass. <p>Tactics</p> <ul style="list-style-type: none"> • identify the key decision-makers in the target audience group • communicate an overview of the Accord and its objectives • encourage a dialogue on any environmental issues arising from commercial activities. 	<p>Years 1-2 (Documentation)</p> <p>Years 3-5 (Promotion)</p>
SECTOR		
Promote the Accord within the sector.	<p>Work with PAC.NZ to:</p> <ul style="list-style-type: none"> • ensure that promotion of the Accord encompasses all commercial interested parties in container glass supply into the market or associated with the use of the recovered material • ensure that there is understanding of and commitment to the Accord by those enterprises represented by the Glass Sector Group • promote and recognise excellence in environmentally acceptable packaging. <p>(Other activities as per the agreed communications plan.)</p>	Years 1-5

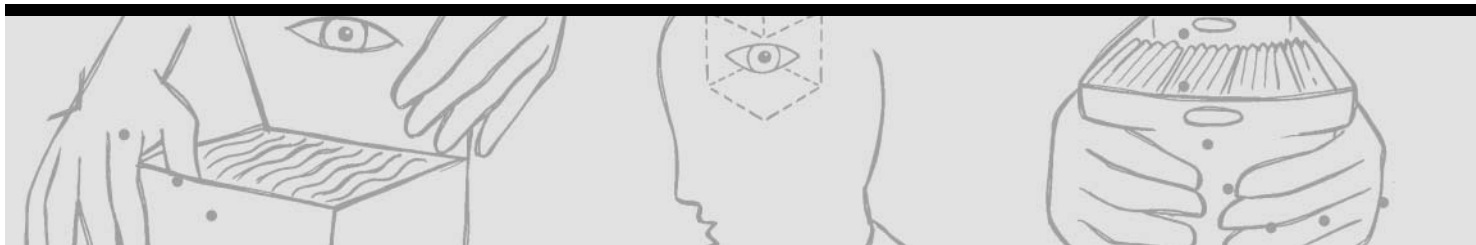


JOINT		
Work with other sectors to promote the Accord.	Develop concise and consistent messages for promotion within extended sector groups.	Years 1-5
Target audiences: <ul style="list-style-type: none"> • signatories to the Accord (sector groups) • entire packaged goods industry (internal and external) • local government • central government • supply chain • media • consumers. 	Promote and encourage participation in environmental awards programmes such as the Environmentally Acceptable Packaging Awards (PAC.NZ) and the Green Ribbon Awards (MfE). Provide ongoing assessment of the delivery of these messages.	

8. IN-HOUSE WASTE REDUCTION AND RESOURCE RECOVERY (CLAUSE 27)

Promoting in-house waste reduction and resource recovery across sectors and reporting annually on any initiatives.

COMMITMENT	ACTIVITIES	YEAR
COMPANY/ORGANISATION		
Initiatives to reduce waste and improve resource recovery.	Compliance with the <i>PAC.NZ Code of Practice</i> . ACI adherence to the ACI GPNZ <i>Environmental Policy</i> as well as commitment to the <i>ACI Asia-Pacific Packaging Environmental Policy</i> at executive level. ACI initiatives – existing <ul style="list-style-type: none"> • Membership of the Energy Efficiency and Conservation Authority (EECA) <i>Energy Wise Business Programme</i>: ACI GPNZ has taken advantage of the energy audit incentive scheme and was audited in November 2003. The management audit results showed ACI GPNZ to be a leader in energy management in Australasia. 	Years 1-5



COMPANY/ORGANISATION (CONTINUED)

- Secondary packaging: ACI GPNZ commits to the practice of maximising the proportion of reusable and/or recyclable secondary packaging materials in the supply chain, with a view to taking action in its own operation to minimise waste in the customer's business.
- Internal waste: ACI GPNZ commits to recycling internally the majority (80 percent plus) of the glass waste arising from its manufacturing activity. It should be noted that internal recycled glass is not part of the national mass balance calculations but additional to it.

ACI initiatives – in development

- ACI GPNZ *Environmental Plan*: A draft plan is presently in place and requires further refinement before being incorporated into the *ISO 14001 Environmental Management System*.
- *ISO 14001 Environmental Management System*: ACI GPNZ has draft documentation prepared for pre-audit in 2004, with a view to obtaining full accreditation.

Waste minimisation initiatives are being formulated with a view to including them in the ISO 14001 programme. This will include tracking and reporting on waste minimisation activities.

SECTOR

Report the number/percentage of organisations with initiatives.

Report on companies with benchmarking and/or involvement in waste minimisation initiatives, environmental policies etc.

Years 1-5

JOINT (NO JOINT COMMITMENT)