



# Australian Packaging Covenant

## Action Plan

1<sup>st</sup> July 2010 to 30<sup>th</sup> June 2015

## The Qenos Australian Packaging Covenant Action Plan

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## Introduction

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Qenos is delighted to be a part of the Australian Packaging Covenant (APC) and recognise the inherent value in this innovative program with its shared involvement of all members of the packaging chain. We look forward to continuing working with our customers and other members of the chain to realise the mutual benefits offered by the Australian Packaging Covenant.

This submission contains Qenos' APC Action Plan for the 5 year period, from **July 1st, 2010 to June 30th, 2015**. The first year of this period will entail focus on familiarisation with Qenos' APC obligations, establishing internal commitment to APC, identifying resources, developing actions and commencing internal education.

Qenos' APC plan specifies activities that support the Packaging Covenant performance goals and key performance indicators. Qenos has numerous systems and commitments made to facilitate the ongoing reduction in environmental impact of our products and our processes. Many of these are reported annually in our Sustainability Report and made available on the Qenos web site.

Reports will be submitted annually to the Australian Packaging Covenant Council and provide data on the progress of activities throughout the duration of the plan. However, some activities, particularly those relating to specific customer projects and commercially sensitive internal plans, will remain commercial in confidence and will not be disclosed as a matter of course.

This plan has been prepared by APC coordinator with support of action owners, and is endorsed by Qenos management.



Stephen Bell  
General Manager, Commerical

## Qenos Overview

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Qenos is an Australian leader in the manufacture, distribution and trading of polymers and is a vital link in the nation's manufacturing chain.

Our manufacturing operations in Altona and Botany employ approximately 750 people and focus on supplying Australia's growing polymer market. The world class quality of Qenos products reflects the skills and expertise of our people, our efforts in technology development, and our focus on sustainability, efficiency and innovation.

Qenos adds significant value to natural resources, creating high value products. We bring on the ground technical expertise to assist our customers to produce their best and work hard to build strong relationships with all of our stakeholders – our customers, employees, shareholders, financiers, suppliers, unions, regulators, governments and local communities – relationships that are critical to future growth and prosperity. Qenos make products that contribute to conserve Australia's resources and energy.

Every day in our homes, factories and farms, Australians rely on products made from the polymers and chemicals produced by Qenos. From juice and milk bottles to mobile garbage bins, water tanks and pipes to packaging of cleaning products and food wrapping, Qenos polymers are everywhere.

Qenos is a subsidiary of China National Bluestar (Group) Co. Ltd, a joint venture between China National Chemical Corporation and The Blackstone Group. Our international links allow us to source specialty products from around the world and give us access to global business opportunities.

Qenos continues its role as a leader and innovator and is focused on delivering sustainable solutions.

## Our Products

At Qenos we use Australian oil and gas feedstocks from Bass Strait and the Moomba Basin. Our plants produce olefins and a full range of polyethylene products, including high density polyethylene (HDPE), low density polyethylene (LDPE), linear low density polyethylene (LLDPE) and medium density polyethylene (MDPE). We also supply a diverse range of specialty polymers. Capacity is in the order of 200,000 tonnes HDPE, 90,000 tonnes LDPE and 125,000 tonnes of LLDPE.



Qenos does not manufacture or supply consumer packaging. Our products are supplied in business to business packaging forms to facilitate the transfer of our products to the manufacturing industry.

## Our Market

The Australian market for virgin polyethylene is roughly 600kt. Of this, approximately 55-60% is used in the packaging industry.

Material sold to the consumer-packaging segment can be divided into rigid and flexible markets. The rigids market is predominantly bottles and containers for milk, juice and household and industrial chemicals, as well as caps and closures. The flexibles market is primarily films for food packaging including frozen foods, bread and fresh produce; shopping bags; cling and shrink wraps; industrial films and extrusion coating applications such as liquid paper board.

In addition to its use in the packaging market, some of our end products are used for water management activities such as polyethylene piping and rotational moulded water tanks. Polyethylene is used for pipes and fittings; in wire and cable applications; in the automotive components sector; for tanks and storage, in household goods, and in construction.

Whilst Qenos is Australia's sole local producer of polyethylene, imports are readily available and make up a significant proportion of virgin polymer consumption. Also, some segments of the packaging market are predominantly serviced by imported finished goods.

## Our Locations

Qenos has extensive manufacturing facilities in Altona, Melbourne and Botany Bay, Sydney.

### Qenos Melbourne

The Qenos Altona site covers 103 hectares, 15km west of Melbourne. It includes the registered office of Qenos as well as three plants – Olefins, Plastics and Resins. Olefins produces ethylene for the downstream plastics plants and for other manufacturers. Both Plastics and Resins plants manufacture High Density Polyethylene (HDPE), which is used in a wide range of markets including packaging, telecommunications and pipes for water conservation, irrigation, mining and energy.

### Qenos Sydney

The Qenos Botany site covers 37 hectares in a major chemical and plastics manufacturing area located next to Botany Bay shipping terminal. The three major facilities at Botany – Olefines, Alkathene and Alkatuff – produce ethylene, low-density polyethylene (LDPE), linear low-density polyethylene (LLDPE) and high-density polyethylene (HDPE). The polyethylene produced is used across a range of industries and applications including consumer and industrial packaging, water conservation, waste management and agriculture.

## Our Commitments to the Environment

Qenos is committed to protecting the environment as a key responsibility. This responsibility must be met while also meeting market demands, adding value to the country's natural resources and ensuring long term company prosperity. In line with this, Qenos and its antecedent companies have supported the Responsible Care program in Australia since its inception in 1989 and Qenos operates its business in accordance with the principles of Responsible Care.

An integrated Safety Health and Environment Operating System (SHEOS) is in operation at all Qenos facilities. SHEOS requires environmental and resource efficiency issues to be considered in all decisions associated with our production and in particular in the management of change process. This includes consideration of energy consumption/greenhouse production, water consumption, waste generation/disposal, contamination of land/groundwater, emissions and amenity issues such as noise and odour. These environmental aspects are included in our Environment Improvement Program to proactively reduce the impacts.

Significant results have been achieved in the responsible management and use of resources. At Altona, these programs and the Ethane LPG feedstock conversion resulted in using 20% less water, 37% less trade waste (waste water), 50% reduction in general waste and a 70% reduction in prescribed waste in 2006. At Botany, off-site disposal of hazardous waste has been minimised. For example oily waters are treated with the components recovered to the operating processes and TEAL catalyst wastes are successfully destroyed on-site.

A cogeneration facility is being designed for the Altona facility to provide all the sites electricity and will produce 50% of the steam required delivering significant energy and greenhouse efficiency gains. Qenos and its antecedent companies has been maximising the amount of Ethane feed stocks for ethylene manufacture improving the energy efficiency of production.

Qenos is an active participant in regulatory programs such as the Energy Efficiency Opportunities program which has identified a number of energy efficiency projects that are being implemented. Qenos energy consumption and greenhouse emissions are reported to the National Greenhouse and Energy Reporting database.

Qenos Altona operations have Accredited Licensee status by the Victorian Environment Protection Authority under Section 26B of the Environment Protection Act. Our Botany, facilities operate under a Protection of the Environment Operations Licence.

Qenos continues to demonstrate the community right to know concept and is open and transparent in interaction with the wider community by maintaining an open dialogue with consultative community groups, regulators and supporting industry associations. Qenos gets actively involved in the regulatory process individually and accepts invitations from the regulatory bodies or industry associations to participate in workshops, surveys and trials.

## Qenos and Recycling

Qenos was one of the key players in establishing a viable recycling system for High Density Polyethylene (HDPE) milk bottles in Australia, preventing them going to landfill – a system which today recovers over 50% of HDPE milk bottles.

Qenos continues with its commitment to promoting and encouraging recycling. This has taken the form of promoting recycling and waste reduction through: providing education material to schools; support for various recycling exhibitions and events; speeches and presentations on recycling and maintaining involvement in relevant industry associations.

## Lightweighting in the Dairy Industry

Over time, players in the dairy industry, including Qenos, have continually worked to reduce the weight of HDPE milk bottles. To date, bottle weight has been reduced by as much as 7 percent since its introduction in the early 1980's.

Milk sold in 2 litre plastic bottles is already the lightest liquid packaging available in the Australian market and is supplied to the market in returnable crates and pallets, which are increasingly made from recycled material. It is estimated that there is only a small further reduction in bottle weight possible without a significant change in technology.

## Down gauging in the Flexibles market

Since the introduction of local manufacture of linear low density polyethylene at the Qenos Botany site in 1992, it has been more feasible to replace single layer LDPE products with either multilayer polyethylene structures or blended structures, enabling down gauging of up to 30%.

The trend towards down gauging continues today, reducing package weights and packaging costs, and correspondingly reducing the amount of material which enters the waste stream. Qenos continues to explore opportunities to deliver down gauged solutions to our customers.

## Previous NPC Achievements

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Qenos was involved during the development of the first National Packaging Covenant, became a signatory and our first plan commenced in May 2001. Qenos was later a signatory to the strengthened NPC Mark 2 and has provided action plans and annual reports on our NPC activities.

There have been over 35 action items within our plans, many of which have run over a multi-year time frame and programs have become embedded in Qenos business processes. Some of the Qenos' NPC activities are highlighted below.

### Packaging Supply Chain Cohesion / Market Development

Qenos joined together with a number of other industry signatories to initiate and support a project funded by the Kerbside Recycling Group and arranged by the Plastics and Chemicals Industry Association (PACIA). The project endeavoured to expand the market for recycled materials. Qenos and other PP Industry Recycling Group Members contributed resources, technical expertise and enthusiasm toward the project: Technical and Market Feasibility of Recycling Post Consumer Polypropylene.

### Product Distribution

Over many years Qenos has worked with our customers to enable our polyethylene product to be supplied in refillable shipping containers (18 tonnes) instead of palletised 25 kg bags. This has reduced the packaging materials required and transport costs, and has alleviated environmental, safety and waste concerns.

Qenos now delivers about 75% of domestic product sales in bulk containers. Qenos completed a program of down gauging of container liners for bulk packaged product in line with the 'reduce' principle. This extensive program involved approximately 16 trials and the transition to use of down-gauged liners was completed during the 2006-07 reporting period, removing approximately 30 tonnes per annum of material from the system.

A semi bulk packaging rationalisation program was completed rationalising out the use of non-reusable resin packs and octabins. For customers using bulk bags, Qenos has a flexible approach to promote recycling: For example, if a customer wants Qenos to take the bags back and recycle them, we will do that or, alternatively, if they want to keep the bags for their own use, Qenos has no objection to allowing the customer to recycle the bags. The plastic bulk bags that are not recycled by customers or by Qenos are sold to another recycling business. In addition, Qenos recycles the bulk bags received from its suppliers.

Qenos have also undertaken a long term project to down gauge the material used in its 25kg plastic packaging form. Significant resources have been involved in this long term project, including development of numerous film rewind formulations, evaluations and subsequent trials.

### Education

Qenos is directly involved with local schools regularly and other surrounding schools as required, providing them with information on our activities including provision of Ollie Recycles program using the CD-rom's. Qenos was a major sponsor of the Ollie Recycles program, along with other PACIA members.

Qenos hosted school tours, open days and exhibitions to improve community awareness and giving large number of interested visitors the opportunity to learn about Qenos processes, end products, community interaction, environmental programs, recycling initiatives and health and safety developments.

Qenos personnel access shareholder expertise and regularly hold formal technology exchanges with international experts, gathering data on technology advances including the use of recycle in value adding applications. Qenos contribute relevant data to industry research such as studies into raw material use, packaging and recycling. Qenos was involved in the Sustainable Design Steering Group supporting the completion of a series of public documents (Quickstart Publications) that aim to answer many questions that designers face when dealing with sustainability and design when using plastic.

### Community links

Qenos meets with many community groups for consultation and to report on our performance. It does this through formal consultative avenues and through informal communication.

In Victoria, Qenos is a founding member of the [Altona Community Neighbourhood Consultative Group \(ACNCG\)](#). The ACNCG comprises members from industry, residents, local council and authorities. The Group meets three times a year and the Environmental Monitoring Team (EMT – a sub-committee) meets four times a year. In NSW, Qenos is a member of the Botany Industrial Park Community Consultation Committee (BIPCCC) which comprises residents, council officers, regulators, local industry and a representative from all BIP companies. The BIP Manager chairs the meetings which are held four times a year. These meetings provide an opportunity for industry, council, regulators and community to raise concerns and for Qenos to hear and understand community expectations.

Progress is reported to the wider communities in which Qenos operates. The ACNCG newsletter, Consultative Chronicle, communicates ACNCG activities to local residents, businesses and community groups. The BIP brochure reports on the environmental performance and resource efficiency of plants in Botany and is distributed annually to local homes and businesses.

### Industry links

Qenos is involved with industry through a range of programs, groups and associations. By working across the plastics industry, we can build a sustainable future. We can also combine our expertise and skill to continually improve performance in the key areas of sustainability, environment, health and safety.

Qenos is actively involved on industry groups such as the [Plastics and Chemicals Industries Association \(PACIA\)](#) and [Australian Industry Group \(AIG\)](#). Qenos has representation at the board level of PACIA, and in each of the industry councils.

Qenos is working with PACIA and other industry members to compile the annual recycling survey, which is the foundation database for measuring improvements in plastics recycling. Qenos is also a partner in the PACIA/Victorian Government initiative aimed at identifying sustainability opportunities.

#### Minimising Impact of Production on Environment

Qenos manufacturing facilities are continuously monitoring the energies and materials used and any wastes generated with drive to minimise the impacts on the environment and community. In period from 2005 to 2009, water consumption was cut by 25 per cent; trade waste generation reduced by 34 per cent and manufacturing wastes and emissions decreased.

Qenos has developed multi faceted Environmental Improvement Plans (EIP) and production teams are involved in implementation of improvements for example, waste minimisation programs, sourcing outlets for generated scrap and reworking material where possible. An EIP initiative in Altona was a dedicated team working to develop a market for a production stream that was historically put into prescribed waste landfill. This project successfully finalised the upgrade of a former waste stream into 700 tonnes per annum of marketable product.

## Qenos Action Plan

Action items are numbered based on which APC goal and KPI that they address.

APC KPI	Qenos Status (Baseline Data)	Qenos Action Items	Program Owners	Timeline
<b>Goal 1. Design</b> – optimise packaging to achieve resource efficiency and reduce environmental impact without compromising product quality and safety.				
KPI 1. Proportion of signatories in the supply chain implementing the Sustainable Packaging Guidelines for design for procurement of packaging.	Qenos is a raw material supplier therefore consumer packaging design is not core to our business, however Qenos works with our customers on elements of their packaging design, including material selection and optimisation. Many elements are considered such as the required product technical attributes, optimising processing conditions, and minimising generation of waste. Qenos does not manufacture or supply consumer packaging. Our products are supplied in business to business packaging forms facilitate the transfer of our products to the manufacturing industry.	1.1.1 Development of strategy for supporting our customers' efforts to implement the Sustainable Packaging Guidelines (SPG).	Marketing Manager	Q2 2011
		1.1.2 Development of information package addressing relevant aspects of SPG for our products.	Product Development Manager	Q4 2011
		1.1.3 Review existing program for Qenos product packaging optimisation with SPG.	Logistics Manager	2013
<b>Goal 2. Recycling</b> – The efficient collection and recycling of packaging.				
KPI 3. Proportion of signatories with on-site recovery systems for recycling used packaging.	Qenos has a number of established systems in place to recover materials from facilities for reuse and recycling, including paper, cardboard, steel, used lighting, printer and photocopier consumables. Scrap polyethylene from the plants and the Technical Centre are recovered and sold for recycling. Qenos NPC reports have included relevant waste recovery data.	2.3.1 Onsite collection and segregation of wastes, the measurement of packaging going to landfill or being recycled.	Senior Environmental Affairs Advisor	Annual July-June reporting
KPI 4. Proportion of signatories with a policy to buy products made from recycled packaging.	Qenos has implemented a Buy Recycle policy (Purchasing Manual 1.1.4) to promote the purchase of materials with recycled content.	2.4.1 Review the Qenos 'buy recycled' purchasing policy and practises.	Procurement Manager	Q3 2011
		2.4.2 Implement identified improvement opportunities from policy review.	Procurement Manager	Q2 2012

APC KPI	Genos Status (Baseline Data)	Genos Action Items	Program Owners	Timeline
<b>3. Product Stewardship</b> – a demonstrated commitment to product stewardship by the supply chain and other signatories.				
KPI 6. Proportion of signatories that have formal processes for working with others to improve design and recycling of packaging.	Genos works with and supports our customers on elements of their packaging design including provision of technical data and specialist polymer expertise. Genos' product development system (PDMS) includes a series of electronic prompts to ensure that consideration is given to the PC principles and the environment throughout scoping developmental stages of projects. Genos has significant involvement in industry bodies, including PACIA, where Genos personnel add value and support relevant waste reduction, Covenant promotion or recycling projects.	<p>3.6.1 Implementation of SPG strategy (Action Item 1.1.1) which will include achievement of identified milestones and record keeping.</p> <p>3.6.2 Update Product Attributes and PDMS documentation to reflect SPG principles (previously ECoPP).</p> <p>3.6.3 Involvement in appropriate industry bodies supporting relevant waste reduction, sustainability, covenant promotion or recycling projects.</p>	<p>Product Development and Marketing Managers</p> <p>Product Development Manager</p> <p>Executive Chairman, General Manager Commercial, Product Technology Manager &amp; Community Relations Manager</p>	<p>Commence by Q1 2012</p> <p>Q2 2012</p>
KPI 7. Proportion of signatories demonstrating other product stewardship outcomes.	Genos provide our customers technical data and specialist polymer expertise to assist with packaging design, material selections, the appropriate use and the disposal options, for packaging they manufacture using Genos polyethylene. Genos have extensive product stewardship procedures to ensure that information is readily available to our customers.	<p>3.7.1 Provide ongoing support for customers via annual Genos product stewardship KPI's</p>	<p>Product Development Manager, Quality Assurance Manager &amp; Product Technology Manager</p>	<p>Calender year reporting</p>
KPI 8. Reduction in the number of packaging items in the litter stream.	Genos sponsors the education of school communities and industry via plant tours and provision of information outlining Genos recycling activities and encouraging appropriate recycling/disposal of materials made or supplied by Genos. Onsite wastes are managed via established recovery processes and product losses onsite or at offsite packaging sites and transport companies are regularly measured and monitored with a view to continuous reduction.	<p>3.8.1 Support of industry action plans, education programs and activities where Genos products found in litter stream.</p> <p>3.8.2 Genos material lost is collected and sold as scrap for alternate use and recycling. Targets are incorporated into performance monitoring of the packaging and transport companies utilised by Genos.</p>	<p>PACIA representatives &amp; Corporate Affairs Officer</p> <p>Logistics Manager</p>	<p>Annual July-June reporting</p>

## Covenant Contact Details

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For comments or questions regarding our Action Plan, please contact:

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