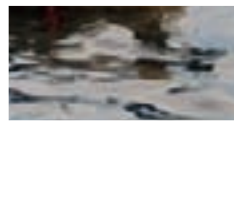
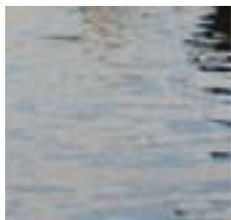
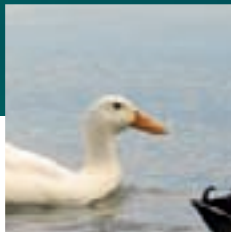
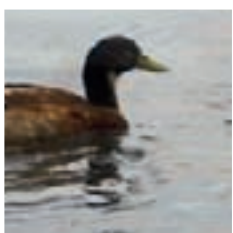
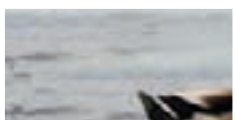


## Sustainability Report 2010





# Sustainability Report 2010



Produced by Qenos Corporate Affairs Department  
April 2010

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*Our ultimate aim is to conduct business with no injuries, to minimise environmental impact on the community, and to be efficient in everything we do.*





# A Message from the CEO

Sustainability is at the very essence of what we do across all aspects of our work at Qenos – in the development of polymer solutions for society; in our manufacturing processes; in our valued relationships with all of our stakeholders; and in our commitment to a healthier environment.

As an Australian leader in the manufacture, distribution and trading of polymers, Qenos adds value to natural resources and through its know-how and application of chemistry we develop sustainable solutions to meet the needs of a growing market.

Qenos has a key role and a major responsibility in committing to sustainability and we take this responsibility seriously. Since 2005 we have reduced our mains water requirements by 25 per cent. We continue to improve efficiency and decrease pressure on resources and we are proud to be acclaimed as an industry leader in water savings. We liaise with governments to develop carbon and energy policies that encourage investment in greenhouse gas reduction. We know that these efforts are right for the future of our business and for the wider industry.

Qenos has access to a wealth of expertise and knowledge in its people. By applying that expertise, and by working with our customers, technology partners, government agencies, resource and energy suppliers, Qenos delivers solutions that improve the sustainability and efficiency of our business and the industry. Examples include:

- Progressing technology development in the production and use of polymers, in areas such as food packaging, water conservation and infrastructure efficiencies
- Increasing production to meet growing market needs and gain efficiency through economies of scale
- Replacing potable water supplied to the Altona manufacturing operation with recycled water
- Substituting potable water with treated groundwater at our Botany operation
- Developing proposals for co-generation of steam and electricity.

As a member of the Plastics and Chemicals Industries Association and founding signatory to the Sustainability Leadership Framework, Qenos is pleased to introduce its first Sustainability Report.

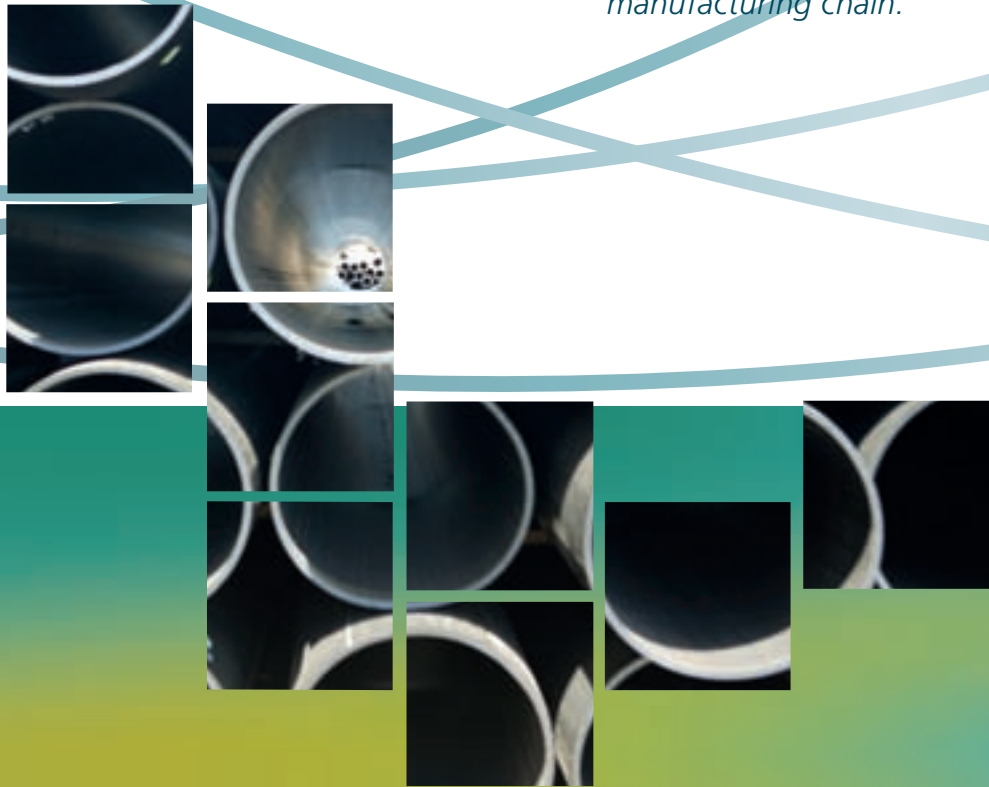
In this report we outline our performance in the critical areas of health and safety, people, water and energy, waste and emissions, business practices and community. We share highlights from recent years and also look confidently to a sustainable and bright future.



**Jonathan Clancy**  
Chief Executive Officer



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





# Qenos - A Bluestar Company

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.

As an Australian leader in the manufacture, distribution and trading of polymers, Qenos is a vital link in the nation's manufacturing chain. Our manufacturing operations in Altona and Botany employ around 800 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. We work hard to build strong relationships with all of our stakeholders – our customers, employees, shareholders, suppliers, unions, regulators, governments and local communities – relationships that are critical to future growth and prosperity. We make products that

contribute to efforts to conserve Australia's resources and energy.

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.

As we enter this new decade, Qenos continues its role as a leader and innovator and is focused on delivering sustainable solutions.

# Qenos Products



*During the past 15 years,  
Qenos products have become  
vital in water conservation,  
infrastructure efficiency and food  
packaging integrity.*



Polyethylene is increasingly used in products that contribute to efficiency in industry, agriculture and domestic settings. The fundamental attribute of polyethylene is its ability to make a fit for use product that has a lower environmental footprint and, across the supply chain, provides a lower total cost compared to alternatives.



## Water Conservation

Qenos has been the major driver in the use of polyethylene for water storage tanks, both in rural and domestic environments. An estimated 395,000 polyethylene tanks (average capacity 5,000 litres) are produced annually, with the potential to capture in excess of 28,000 million litres of rainwater per year, making a significant contribution to water conservation in Australia. Water tanks manufactured in the last five years can harvest approximately 120 days of Melbourne's daily water supply or 90 days in Sydney each year.



## Industrial Pipe

Polyethylene is used extensively in industrial pipe production for applications in the mining, gas and water sectors. The combination of water savings via elimination of evaporation loss, lightweight and higher transport efficiency and longer operational life, has significantly reduced the environmental footprint when compared to traditional materials such as iron and concrete.



## Food Integrity

The wide use of polyethylene in films and bottles has enhanced the integrity of food products in transport, on the shelf and in the home. Qenos continues to improve and develop new products that will enable our customers to achieve their product integrity goals using less polyethylene materials.

## Packaging

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 has been a signatory of the National Packaging Covenant since 2001 and 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.





*At Qenos we believe all injuries are preventable.*



## Health and Safety

Qenos uses an integrated Safety Health and Environment Management System to manage all aspects of safety, health and environment.

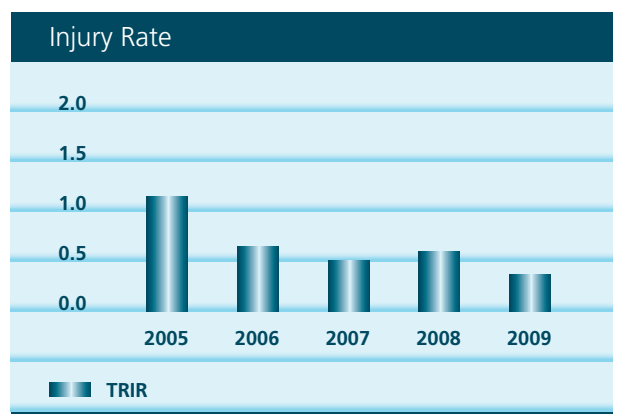
As an operator of Major Hazard Facilities, Qenos has a comprehensive risk management process that involves our workforce in identifying and assessing workplace risks. Our program of risk controls uses a hierarchy to eliminate risks from the workplace, where practical, and to have a safe system of work for residual risk.

All members of our workforce participate in a safety induction and undertake job-specific safety training to ensure they have the skills to safely complete their work.

Performance goals are set for all aspects of health and safety and key performance indicators are used to steward performance. A systematic safety committee structure and briefing process keeps all our workforce abreast of safety issues and provides an avenue for employees to raise concerns about health and safety.

Qenos has on site medical centres and a program to monitor employee health on an ongoing basis.

Qenos uses Occupational Safety and Health Administration guidelines for injury classification. The chart shows a very low injury rate less than 0.5 injuries per 200,000 work hours. We are striving to lower it further.





# Qenos People

Effective practices and procedures are in place for the recruitment, development and motivation of employees as well as systems to enhance their wellbeing.

## Workforce Development

Qenos recruits a diverse group of employees, ranging from new graduates through to people with extensive industry experience.

We partner with local universities to offer a vacation employment program for engineering and chemistry students. These students can then join the pool of candidates considered for graduate recruitment. Qenos also offers traineeships and apprenticeships to provide development opportunities for future chemical industry workers and contribute to the talent available for recruitment.

New employees are introduced to the vital role Qenos plays in the supply chain through a series of rotational inductions. These inductions provide knowledge in all areas of the business, including safety, products, customers and suppliers. Job-specific training and a mentoring program help new employees become part of the workplace.

As a Registered Training Organisation, Qenos delivers a high standard of in-house, competency-based training for technical skills and, where necessary, engages the services of recognised external training providers.

Personal development of employees is managed through a competency-based system to assist employees achieve their career aspirations and to maintain the skills required to operate our business into the future. This includes work assignments, engagement in technical networks, leadership development and opportunities to participate in sponsored community outreach programs.

## Employee Wellbeing

The health and wellbeing of our employees is a key priority at Qenos. Our comprehensive Safety Health and Environment Management System protects employees from potential exposure to occupational harm. Employment policies include flexible working arrangements, such as part-time work and special leave provisions, to assist employees to manage varying personal needs.

Employees and immediate family have confidential access to a free assistance program and all Qenos employees have access to policies and procedures via our intranet system.

## Security

Maintaining security for the Qenos facilities is a normal part of our business. Security procedures are documented and integrated with the Safety Management System, which includes Emergency Response.

Security is maintained by the presence of security personnel and by independent annual audits to verify that our security system is effective.

These procedures protect the company's assets, maintain control of access to the Qenos facilities and deter common criminal activity.



*Qenos continually looks to improve resource efficiency in our production processes and in the application of our finished products.*



## Resource Efficiency

Qenos continues to significantly reduce pressure on Australia's resources. Since 2005, water consumption has been cut by 25 per cent, trade waste generation has been reduced by 34 per cent and manufacturing wastes and emissions have decreased.

### Mains Water Use

Qenos facilities use substantial quantities of water in the manufacturing process. The two main uses are for cooling water (approximately 50 per cent of water use) and steam generation (approximately 40 per cent of water use). The balance is consumed by minor process uses or as mains water.

Our strategy is to reduce mains water use in three ways:

1. Using water efficiently
2. On site recycling of water
3. Substitution of mains water with alternative water supplies.

Since 2005 Qenos has reduced water consumption by 25 per cent – from 6037 million litres (ML) to 4476 ML. This has been achieved through efficiency projects, water re-use, plant shutdowns and alternative water supplies.

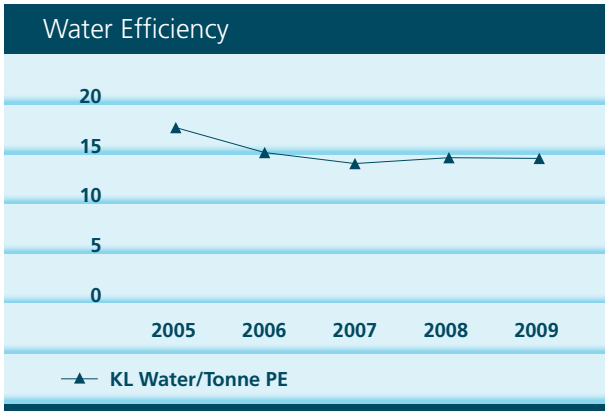
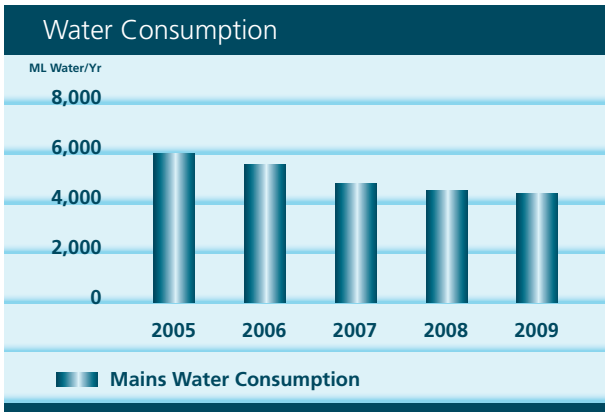
Treated groundwater from the Orica groundwater treatment plant is being used as a substitute supply at the Qenos Botany facilities and in 2009 456 ML of treated groundwater was used, displacing mains water.

At Altona 156 ML of water was reused after onsite treatment. A further project to recycle water at our Altona plant was commissioned in 2009 and is being capacity tested. This project, which is co-funded by the Victorian Government, should save 150 ML per year, with the potential to save up to 400 ML per year.

A City West Water project to provide recycled water from the Altona sewerage treatment plant to Qenos and local parks and golf courses is scheduled for completion at the end of 2010. Also co-funded by the Victorian Government, when fully commissioned this project will supply the Qenos Altona facilities with up to 2,000 ML of water per year

The charts show the five year trend of decreasing mains water use and increasing efficiency.

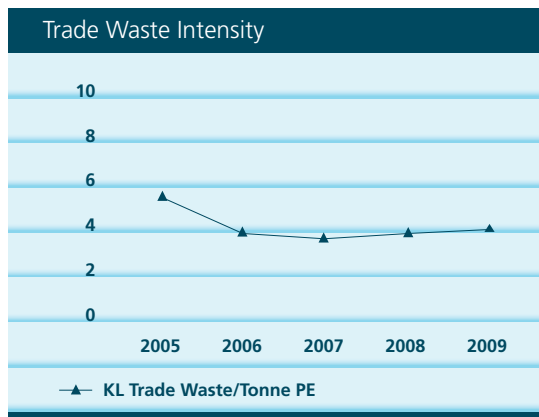




# Trade Waste

Qenos facilities generate trade waste from sources including boilers, cooling towers, demineralisation plant purges and contaminated water from the process plants. Recent projects focused on reducing trade waste have achieved significant cuts.

Through water efficiency and water recycling initiatives, Qenos has reduced trade waste generation by 34 per cent – from 1950 ML in 2005 to 1283 ML in 2009. Recycling of wastewater at the Altona facilities reduced trade waste by 230 ML/yr while other efficiency projects reduced it by 200 ML/yr. The remaining reduction was due to the closure of the Altona polypropylene and rubber manufacturing facilities in 2005.



# Waste and Emissions



*“The feasibility study and the REWARDS funding were a critical step for us, as they allowed us to significantly improve sustainability outcomes for us and Victoria, reduce ‘waste’ to landfill, Prescribed Industrial Waste costs and create an additional product and revenue stream.”*

(PACIA Case Studies, [www.pacia.org.au/Content/CaseStudies.aspx](http://www.pacia.org.au/Content/CaseStudies.aspx))

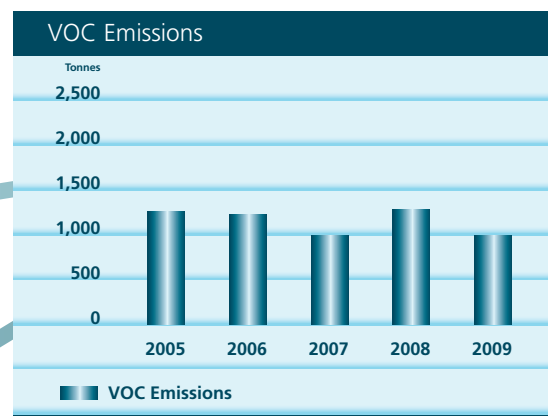
Qenos has made outstanding progress in reducing waste and emissions from our manufacturing facilities, creating a product and income stream at the same time.

Qenos uses the waste hierarchy system to guide reductions and continually monitors and measures wastes and emissions. Since 2005 we have significantly reduced the amount of industrial waste sent to landfill.

A highlight of this reduction was turning waste into a valuable commercial product stream. Qenos developed a new wax product from waste polyethylene wax at the Altona facilities. We now sell 700 tonnes of this new wax product each year as a feedstock to third parties. This has delivered a financial gain of nearly \$1million per annum for Qenos – wax sales account for just over half this figure, with the balance achieved by cutting very high waste disposal costs – while improving the resource efficiency gained from our feedstocks. This outcome was made possible through a Rewards Grant, a program delivered through the partnership between the Plastics And Chemicals Industries Association (PACIA) and EPA Victoria.



The table above shows the dramatic reduction in waste to landfill. (The shutdown of polypropylene and rubber production at Altona in 2005 contributed to the step change in waste. The increase in 2008 was due to waste disposal associated with demolition of the redundant equipment from the facilities shutdown in 2005).



Qenos has operated a program to reduce Volatile Organic Carbon (VOC) emissions from our manufacturing facilities since the 1990's. The program minimises emissions from all sources. Qenos operates an annual leak detection and repair program where in excess of 25,000 specific components of the plants are systematically tested for potential emissions. As the graph indicates, the annualised trend is stable.



## Energy and Greenhouse Gas Emissions

Qenos uses steam cracking technology to manufacture ethylene and has two polymerisation plants in each State to process the ethylene into polyethylene. Onsite boilers and gas fired furnaces are used in the manufacturing process. The fuel used in the furnaces and boilers accounts for over 90 per cent of Qenos' energy consumption and onsite greenhouse gas emissions.

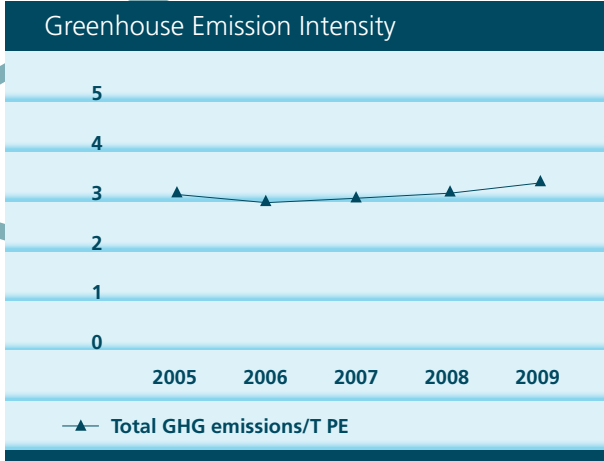
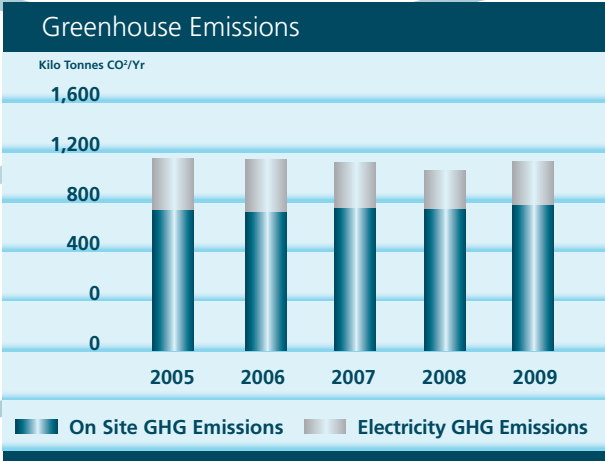
Purchased electricity is six to eight per cent of Qenos' energy use, while greenhouse emissions associated with the generation of the purchased electricity is 30 per cent.

Energy consumption and greenhouse gas emissions have been stable since the Altona facility's rationalisation in 2005. Optimisation of existing assets through efficient operation and a number of small energy reduction projects has been the focus during this period. These projects have included:

- Re-gearing works at Altona to slow down a recycle compressor saving 17,600 Kw of electricity and 1,800 tonnes of CO<sup>2</sup> per annum
- Water washing the convection section of a steam cracking furnace at Botany, saving 10,000 GJ of natural gas and 500 tonnes of CO<sup>2</sup> per annum
- Optimising combustion in the steam cracking furnaces at Altona and Botany saving 108,000 GJ of energy and 6,800 tonnes of CO<sup>2</sup> per annum.

Qenos is currently working with energy suppliers to evaluate the viability of cogeneration facilities to provide steam and electricity for the Altona and Botany facilities.





The charts above show the stable greenhouse emission profile since 2005. The greenhouse intensity was higher in 2009 due to lower production at Altona caused by an ethane feed disruption until March.



# Innovation

Qenos recognises that innovation is essential to the future of the polymer industry. We have a key role in ensuring innovative products are available to our customers so that we remain competitive and viable.

Our research and development facility, the most comprehensive polyethylene laboratory in the southern hemisphere, provides the platform for Qenos to transform global technology trends and technologies into innovative new products tailored for the Australian market.

Innovation at Qenos is based on two primary building blocks: future customer needs and access to the latest polymer technology to design products to meet these needs.

The first is achieved by closely working with our customers to help them to exploit technical opportunities and at the

same time develop a clearer understanding of their current and future requirements.

The second is achieved via established partnerships with leading global technology providers, to make available access to the latest polyethylene trends and developments. Through these global partnerships, Qenos is working to introduce world-first platform technology at our Altona and Botany facilities, which will provide unique products for our customers.

Through research, applications development and understanding marketplace trends, Qenos is creating products that will enable customers to be more globally competitive and innovative.

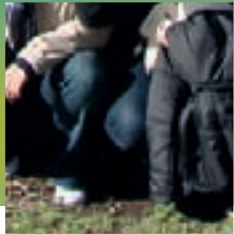
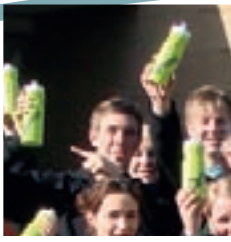


# Supply Chain Partnerships

Qenos is working with the Plastics and Chemicals Industries Association (PACIA) and other members of the industry to compile the annual recycling survey, which is the foundation database for measuring improvements in plastics recycling.

Qenos has agreed to be a partner in a PACIA/Victorian Government initiative aiming to identify sustainability opportunities in a specific market segment supply chain.





# Community

## Communication

Through our Community Communications system and commitment to the industry Community Right to Know Code, Qenos encourages local communities to contact the company at any time with safety, health and environmental enquiries.

Qenos is a member of the Altona Complex Neighbourhood Consultative Group (ACNCG) and The Botany Industrial Park Pty Ltd (BIP) Community Consultation Committee. These committees meet regularly and provide a forum for open dialogue between the community and the member companies. The focus is on health, safety and environmental issues. In 2009, Qenos conducted three community consultative meetings in Botany and seven at Altona.

The Consultative Chronicle was issued twice in 2009 by the ACNCG, while in Botany an annual brochure is distributed by the Botany Industrial Park on behalf of Orica, Qenos and Huntsman. These communications speak directly to local communities, organisations, businesses and schools, providing information on operations as well as efforts and achievements in environment and safety.

Qenos senior personnel both in Botany and Altona, regularly attend public forums and events to keep involved with local communities. These activities also provide a valued opportunity to gauge community perception of the industry, listen to community concerns and respond to questions.

## Response to Community

The Environmental Telephone Hotline provides a single point of contact with the companies in the Altona Chemical Complex. The 24-hour toll-free hotline (1800 161 050) is managed by the Qenos Environmental Advisor for Altona, with shift personnel from Qenos Olefins trained to respond to community calls. In Botany a 24-hour toll-free Community Hotline (1800 025 138) is also available for local residents.

The hotlines provide Qenos with prompt notice, enabling it to carry out immediate investigations into the possible sources of the concern and provide feedback to the caller. If there is an issue with Qenos operations that is causing the concern it is generally able to be addressed at the time before causing further issues. Longer term issues arising from complaints are managed by the Qenos Environment Improvement Process.

In 2009, Qenos received 20 community complaints attributed to its operations.

These were:

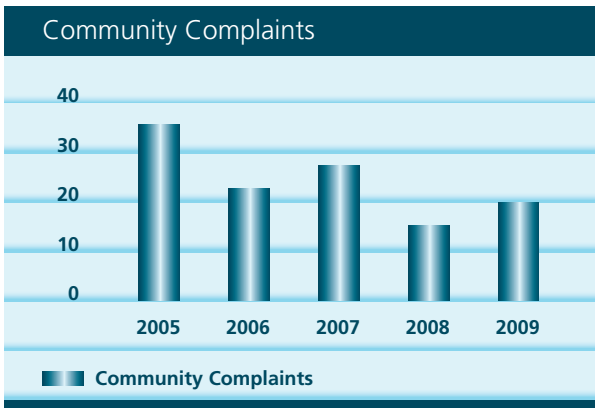
- Five odour complaints related to an event where hydrocarbon emissions were emitted from the Botany Olefines cooling tower
- Five noise and light complaints when the Altona Plastics ground flare facility operated to burn waste gases from a plant shutdown
- Nine complaints about noise from the elevated flare at the Altona Olefines facility - a flare improvement plan is now in place
- One odour complaint due to background odour from the Altona Olefines facility waste water treatment plant.

While the number of complaints varies from one year to the next, the general trend since 2005 has been downward.

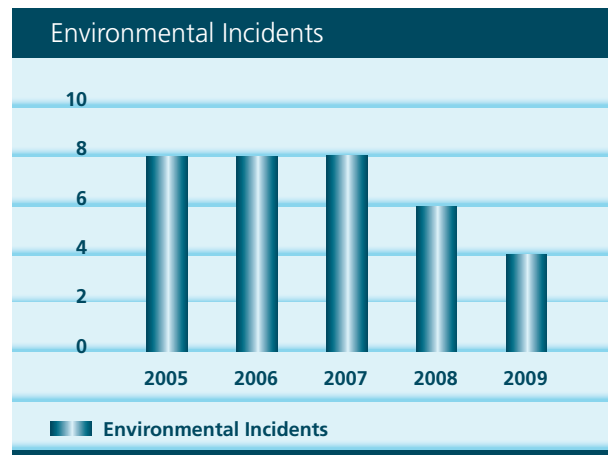
*Qenos is proud to be part of the communities in which it operates.*



Qenos has a duty of care to the environment and we take seriously our social responsibilities. We communicate regularly and openly with our neighbours and are proud of the associations we have built.



Investigation reports including remedial measures were prepared for all four events, forwarded to the relevant Environmental regulator and discussed at community consultative committee meetings.



Environmental incidents also declined in 2009. Two of the incidents related to events that caused more than three community complaints, the third related to the leakage of 1500 litres of antioxidant in kerosene into a containment bund at the Altona Olefins plant. The fourth was also at the Altona Olefins facility where a pressure safety valve release contained 21 kg of butadiene.



## Corporate Social Responsibility



*The capability of the people at Qenos contributes to the success of our business.*





## Working in Our Communities

Community investment is an integral part of Qenos' commitment to social corporate responsibility and we appreciate the opportunity to connect with, assist and benefit from our involvement with local communities.

In line with our Community Right to Know affiliation, Qenos provided community engagement opportunities via informative site tours for industry groups, school and university students, local, state and overseas visitors. We welcome such opportunities to showcase our people, plants and products.

Consistent with our vision and values, Qenos encouraged employees to volunteer their time to assist disadvantaged and marginalised members of the community and local organisations. The Qenos Graduate Network contributed to the Sacred Heart Mission in St Kilda by volunteering at The Meals Program and working in the Mission's vegetable garden. An employee drive to donate food provided nearly 80 Melbourne families with a heartier Christmas table. The Botany Graduate Network completed long awaited

painting and repair work at a local Women's and Children's Centre which provides parenting and family support services.

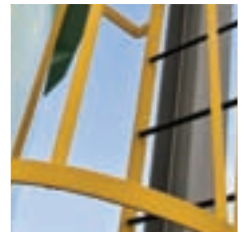
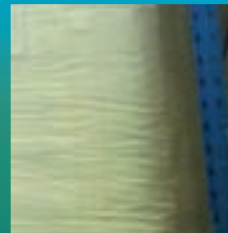
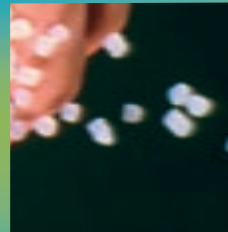
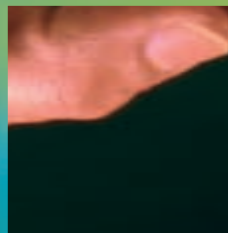
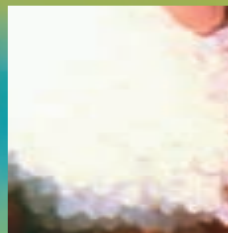
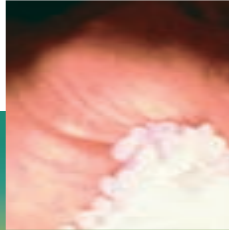
Qenos employees also participated in community and charity events such as Run for the Kids in Melbourne, The City to Surf in Sydney, Footy Colours Day and Ride to Work Day. Other employees contributed to local schools via the Scientists in Schools program or by providing vocational guidance or literacy assistance to young students. One of our young chemists appeared on 'Scope', a television program aimed at demystifying the science of polymers.

As a supporter of Whitelion, Qenos has provided mentoring and guidance to assist several young people pursue employment opportunities. Following an initial period of supervised employment within the Qenos maintenance section, one young Whitelion participant has now secured a full time apprenticeship with a Qenos contracting company.

Qenos contributes to the daily life of local communities through

sponsorship of sporting and other clubs including Altona Football Club and the Coogee Juniors, the Altona Gators basketball club, the Yarra Bay ANZAC sailing race, Randwick and Koorringal Golf Clubs, as well as soccer, swimming and lifesaving. We have assisted Sunnyfield Respite, Baywest Youth Housing, the MAD Foundation; Western Health and Children's Hospitals in both Victoria and New South Wales. We are proud of our involvement with the Matraville Christmas Carols and have been associated with local artists for over 25 years by sponsoring the Qenos Art Show and the Rotary Club of Altona Art exhibitions. In kind donations of furniture and office equipment have been made to local organisations including The Mens' Shed; Amaroo; Laverton Garden Club and Probus.

Qenos acknowledges its responsibility to show leadership in community involvement and will continue to implement a sustainable community program.



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