Annex 12.3 – Communications Materials

QUEENSLAND CURTIS LNG

A BG Group – QGC Alliance

The Queensland Curtis LNG Project is an alliance between Queensland Gas Company Limited and BG Group plc to develop Queensland's coal seam gas for Australian and international markets.

The project

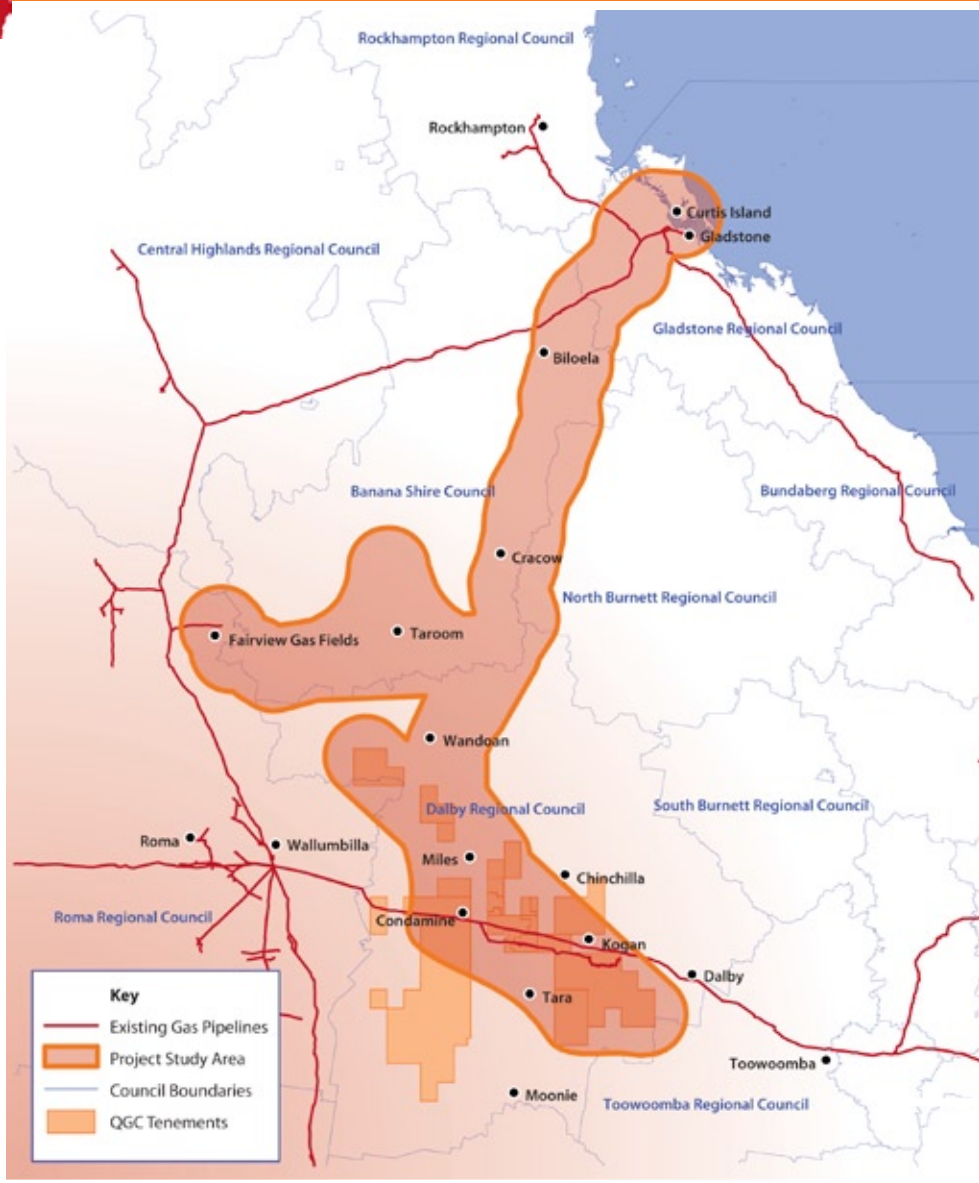
Queensland Gas Company Limited (QGC) of Australia and BG Group plc, a global natural gas business, are planning to develop coal seam gas from the Surat Basin in Queensland for Australian and international markets.

The Queensland Curtis LNG Project, an alliance between the companies, will involve an expansion of QGC's Surat Basin gas production operations near Chinchilla; a 380km pipeline to Gladstone on the Central Queensland coast; and a liquefied natural gas plant at Curtis Island.

The project is being designed to initially supply 3-4 million tonnes of LNG a year for export markets.

With an estimated capital expenditure of A$8 billion, the Queensland Curtis LNG project will rank as one of Australia's largest capital investments and secure Queensland's position as a leading Australian gas supplier.

A final investment decision on the project is scheduled for early 2010, with the first shipment of LNG expected in late 2013.



Key points:

- The expansion of QGC's coal seam gas operations in the Surat Basin
- A 380km gas pipeline connecting the QGC gas fields to Gladstone
- An LNG processing plant and export terminal with initial production capacity of 3-4 million tonnes a year, with potential for expansion to 12 million tonnes a year subject to additional gas reserves

The project proposes a 380km gas pipeline connecting the QGC gas fields to Gladstone

Coal seam gas

Coal seam gas occurs naturally when coal is formed deep underground by a process of heating and compressing plant matter.

Over millions of years, natural gas, or methane, becomes trapped in the coal seams by water, typically 300-600 metres underground.

When the water is removed, the pressure that has kept the gas in place changes, allowing the gas to flow.

When coal seam gas comes to the surface, any remaining water is separated from the gas which is compressed and sent by pipeline to customers.

In southern Queensland, water from coal seams is generally stored in evaporation ponds.

Companies are investigating how best to treat the water and ensure its beneficial use for communities affected by drought.

LNG

Liquefied natural gas, also known as LNG, is natural gas that has been cooled to liquid form for ease of transport and storage.

When natural gas from the coal seams is processed in the plant, it is refrigerated, or cooled, using the same principles at work in a household refrigerator or air-conditioning unit.

When it is cooled to about -162ºC, the natural gas liquefies and takes up 1/600th of the volume of natural gas.

In this form, it can be transported at atmospheric pressure in large vessels.

When LNG is returned to ambient temperature, it becomes the same natural gas used to cook meals, warm homes and power cars, buses and power stations.

LNG is odourless, colourless, non-corrosive and non-toxic.

Safety

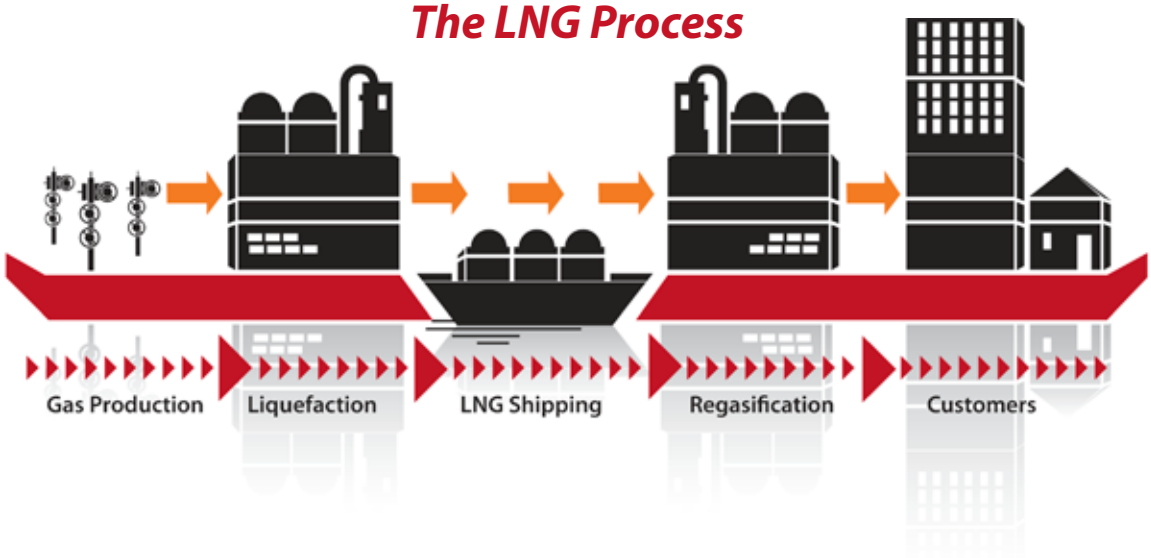
The LNG industry has an enviable safety record over more than 45 years of commercial operation.

Through the early identification, assessment and management of risk and the application of strict operating standards worldwide, LNG is safely produced and transported around the world.

Unlike LPG, or liquid petroleum gas that is used in barbecues, LNG is not stored under pressure. Storage tanks at LNG plants and on LNG ships are heavily insulated to keep the gas cold and liquefied at atmospheric pressure.

LNG facilities are constructed in line with strict engineering and regulatory guidelines and have sophisticated alarms and multiple back-up safety measures, including emergency shutdown systems.

The LNG Process



Key benefits of the project include:

- Provision of a clean and efficient energy source with carbon dioxide emissions about half those of coal
- Creation of about 4400 jobs, comprising around 3600 people during construction and more than 800 during operation
- Additional demand for goods and services in Queensland communities
- Significant investment in Queensland's gas industry to unlock supply options so Australia's gas market can grow, leading to more opportunities for gas producers and more supply and choice for consumers
- Potential to boost the supply of water, a by-product of coal seam gas production, to communities in southern Queensland
- Generation of significant royalties and tax revenues for the Queensland and Australian governments over the life of the project

Natural gas and the environment

Natural gas is a clean and efficient source of energy with relatively low carbon dioxide emissions.

Gas-fired electricity generation produces about half the carbon dioxide emissions of conventional coal-fired electricity generation and also uses significantly less water.

The Queensland Government has recognised this through an energy policy target that 18% of the state's electricity be generated from natural gas by 2020, up from the previous mandate of 13%.

Coal seam gas production for conversion to LNG also represents an exciting possible opportunity to deliver another important resource to southern Queensland: water, released as a by-product of gas extraction.

QGC, a partner in the Queensland Curtis LNG Project, is exploring options for harvesting the water from its operations in the Surat Basin for the benefit of local communities.

QGC has found that water from its coal seam gas operations typically contains 1500-4000 parts per million of dissolved solids, comparing favourably with much of the bore water from the Great Artesian Basin.

Seawater typically contains 35,000 parts per million of total dissolved solids.

In 2006, QGC completed a reverse osmosis trial at its Berwyndale South production facility near Chinchilla, confirming that drinking water can be produced from harvested water.

In early 2008, QGC entered into a long-term arrangement to supply more than half a billion litres of potable water each year to the town of Miles in southern Queensland.

Under the landmark water supply agreement, QGC will provide up to 1.5 million litres of purified water each day to the town using proven reverse osmosis technology.

The agreement is for an initial 20-year term and the regional council will have an option to extend the agreement for a further 10 years.

The project is estimated to create about 4400 jobs

What happens next?

The Queensland Curtis LNG Project will be assessed under Australian and Queensland environmental impact assessment legislation.

Under this process, the Queensland Government has declared the project to be of state significance and will co-ordinate the approvals process under the *State Development and Public Works Organisation Act 1971 (QLD)*.

Given the project may have the potential to affect matters of national environmental significance that are under Australian Government jurisdiction, it will also be assessed under the *Commonwealth Environmental Protection and Biodiversity Conservation Act*.

During the assessment, the Queensland Curtis LNG Project team will explain the development in detail, outline the potential environmental impact and describe how it intends to manage that impact.

Environmental studies will cover land, water, air, noise and visual impact. The project will also study social and economic impacts and safety and risk.

The assessment process will involve extensive engagement with parties who have an interest in the project including landholders, community organisations, indigenous groups, industry, conservationists and government.

Matters to be studied under the environmental assessment will be set out in Terms of Reference which are established by the Queensland and Australian Governments in consultation with other stakeholders, including the public.

The Queensland Government's Coordinator-General advertises the Terms of Reference nationally so people can have a say on what else should be covered.

The environmental assessment process is scheduled to be completed in late 2009.

The QGC-BG Alliance

Queensland Curtis LNG is an alliance between Queensland Gas Company Limited, an Australian publicly listed gas company, and BG Group plc, a global natural gas business with activities on five continents.

The alliance leverages QGC's extensive expertise in coal seam gas exploration and production with BG Group's experience in LNG plant operation, shipping and marketing natural gas to high-value markets.

QGC and BG Group believe that companies that operate responsibly and safely also prosper economically.

Our investment criteria take account of economic returns as well as environmental and social impact.

A guiding business principle of the Queensland Curtis LNG Project is to ensure that communities benefit from our presence.

In the past 45 years, LNG ships have made more than 80,000 voyages without a major accident or significant loss of cargo

For further information please phone our toll-free number:
1800 030 443
or visit:
www.qclng.com.au

For further information on QGC, please visit:
www.qgc.com.au

For further information on BG Group, please visit:
www.bg-group.com

QGC – A BG Group business

The ownership structure of the Queensland Curtis LNG Project was streamlined and simplified when QGC became a subsidiary of alliance partner BG Group following the announcement of an agreed merger in October 2008.

The friendly merger established QGC as BG Group's Australian business and sole operator of the Queensland Curtis LNG Project, spanning coal seam gas fields in the Surat Basin, a 380km underground pipeline and a liquefaction plant on Curtis Island.

The transaction consolidates QGC's extensive coal seam gas expertise and BG Group's international experience in liquefied natural gas within a single-company structure.

In addition to liquefied natural gas, the new QGC, with more than 320 staff, will focus on expanding its coal seam gas resource base in southern Queensland for the supply of domestic and export markets.

Already, QGC has dedicated a significant proportion of its fast-growing coal seam gas reserves to meeting Australia's energy needs. These reserves are projected to supply about 20% of Queensland's domestic gas market in 2009.

Founded in 2000, QGC has earned a reputation for establishing strong and beneficial relationships in the communities in which it operates.

A core business principle of the company is respecting communities and neighbours, and striving to minimise the impact of its operations on communities and the environment through partnership and co-operation.

New Managing Director starts

In January 2009 Catherine Tanna was appointed Managing Director of QGC, the operator of the Queensland Curtis LNG Project.

Ms Tanna has held senior positions with Shell and BHP Petroleum and has broad experience across the gas chain, including liquefied natural gas.

Originally from Queensland, Ms Tanna has a strong association with Gladstone where the RG Tanna Coal Terminal is named after her father Reg, previously general manager of the Gladstone Port Authority.

Ms Tanna will have strategic and operational oversight of QGC, BG Group's Australian business, including the development of QGC's coal seam gas resources, downstream market opportunities and the new Queensland Curtis LNG export facility near the port of Gladstone.

She took up her new role at QGC in early March.

Land contract signed

QGC has finalised a deal to buy from the Queensland Government a 270 hectare site for its proposed liquefaction plant on Curtis Island and committed an initial A$5 million towards the newly created Curtis Island Environmental Management Precinct.

QGC Senior Vice President, Growth, David Maxwell said the developments were a major step forward for the Queensland Curtis LNG Project.

The A$5 million contribution "enables the environmental values of the precinct to be studied and for plans to be developed and implemented in consultation with the community to protect these values," he said.

The Curtis Island Environmental Management Precinct was created when the Gladstone State Development Area was extended to the island in 2008.

The proposed Queensland Curtis LNG liquefaction plant will occupy less than 1% of Curtis Island.

Queensland Deputy Premier Paul Lucas welcomed QGC's contribution to the Environmental Management Precinct.

"This is a great example for other companies interested in doing business in Gladstone," said Mr Lucas. "The Environmental Management Precinct will be protected as an asset for the people of Gladstone.

"It places 75% of the State Development Area on Curtis Island off limits to industry.

"Consideration will be given to rehabilitating degraded land, protecting areas of high ecological value and any other use that would be compatible, such as walking trails and access to recreational fishing areas," Mr Lucas said.

Mr Lucas also heralded the deal for QGC, a BG Group business, to acquire a 270 hectare site on Curtis for the proposed Queensland Curtis LNG liquefaction facility.

"It's great to see a company of BG Group's calibre investing in Queensland's future, to create jobs and economic growth," said Mr Lucas, who signed the land contract in early February at a ceremony in Gladstone.

"This is a really promising step towards having a plant and export facility on the island in four years time capable of producing up to 12 million tonnes of LNG a year."

Mr Lucas said the project would create thousands of jobs for people in Gladstone and the Surat Basin, where the gas will be extracted and transported by underground pipeline to the coast.

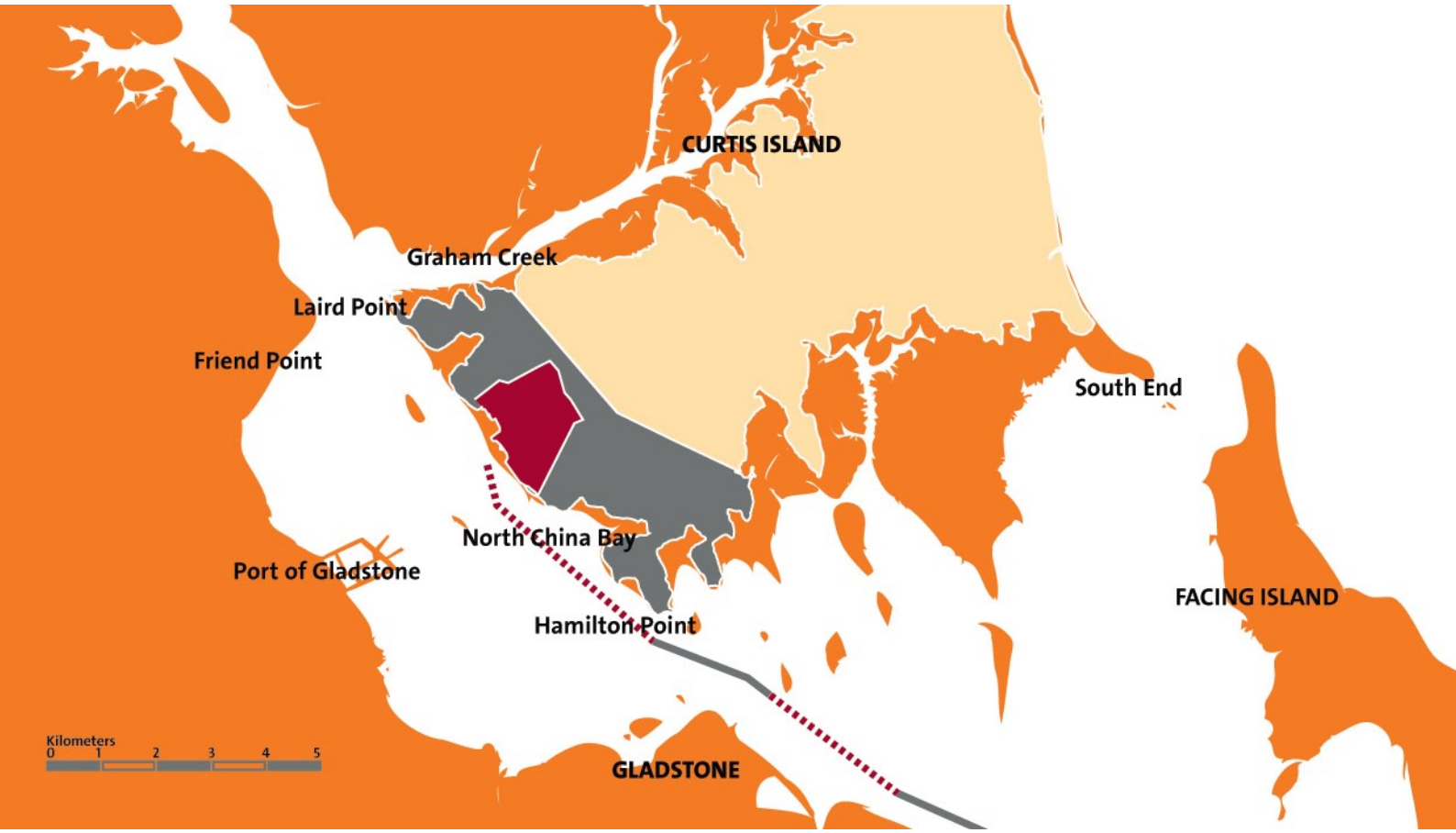
At the land contract signing: (from left) QGC General Manager Commercial Jim Seaton, QGC Senior Vice President Growth David Maxwell, Queensland Deputy Premier Paul Lucas and Queensland Assistant Coordinator-General Geoff Dickie

He said Gladstone would also benefit from the liquefied natural gas project by diversifying and adding to its existing strengths such as coal and aluminium.

"In tough economic times, a broader business base will make the local economy far more resilient and provide security for workers," he said.

"The LNG industry could add hundred of millions of dollars to the State economy every year from royalties and taxes.

"That translates into better schools, hospitals and services for people across Queensland," Mr Lucas said.



The ships are then escorted by tugs to ensure their course is clear of other vessels and that other harbour traffic complies with the moving safety zones.

These zones are based on the stopping distance of a typical liquefied natural gas ship travelling at 12 knots.

BG Group's policy is to observe moving safety zones set out by the Society of International Gas Tanker and Terminal Operators. These zones set minimum distances for ships entering and leaving port.

Safety zones ensure other craft maintain distances from liquefied natural gas ships of:

- About 1.5 nautical miles ahead of the vessel
- 0.5 nautical miles astern, or following, and
- 0.5 nautical miles on either side.

Fixed safety zones, maintained by tugs and marked by retractable buoys, are placed around liquefied natural gas vessels at berth to eliminate the presence of non-controlled sources of ignition in the unlikely event of a leak or spill.

The fixed safety zones will not impede the passage of recreational boat traffic, including between South Passage Island and the terminal jetty on Curtis Island.

In its first stage, Queensland Curtis LNG will load one to two ships a week at its Curtis Island terminal.

Loading a liquefied natural gas ship typically takes 20-24 hours.

Preliminary modeling suggests that liquefied natural gas ships, whether in transit or at berth for loading, will cause minimal, if any, disruption to existing users of Gladstone Harbour, including recreational vessels.

It is estimated that a liquefied natural gas ship travelling at 12 knots, with a moving safety zone, would delay the passage of other vessels in the harbour for a maximum of 10-15 minutes.

Also, Queensland Curtis LNG has the flexibility to schedule ship movements to avoid heavy traffic.

As part of its social and environment studies, Queensland Curtis LNG will assess traffic densities for Gladstone Harbour over the next decade and do detailed studies to help identify, manage and avoid impacts.

To date, the Australian Maritime College in Tasmania has replicated tidal, wind and weather patterns in Gladstone Harbour and is providing BG Group captains with valuable information about operating in the port.

Drama At The Gasfields

Families enjoying last year's Drama At The Gasfields

QGC's annual "thank you" to local communities in the Surat Basin is on again.

Drama At The Gasfields 09 promises an afternoon of good-humoured entertainment, music, drama, children's rides, food and drink for those who live and work in QGC's heartland.

The free event is on Saturday, 21 March 2009 in the gum-shaded grounds of Windibri Homestead on Berwyndale South Gasfields.

Brisbane's La Boite Theatre Company will perform a spirited new musical, "Opportunity", written for the occasion. "Opportunity" tells the story of another successful local export, tracing the journey of singer and songwriter Pete Murray from his Chinchilla boyhood to international acclaim.

"With lots of music and a very healthy dose of bush humour, "Opportunity" not only celebrates a great Australian talent but also acknowledges the debt we all owe to all those around us – our family, our friends and community," said writer and director Sean Mee.

Drama At The Gasfields 09 is the third festival of its kind staged by QGC. The first two events won state and national awards in 2006 and 2008 and the community response has inspired QGC to make Drama At The Gasfields an annual celebration.

The event runs from 2-8pm. Free buses will operate from Miles, Chinchilla, Dalby and Tara.

Timetables are available by calling +61 (7) 4662 7634.

Gladstone project office

The Queensland Curtis LNG Project office and information centre in Gladstone is now open.

Anyone with an interest in the project is encouraged to drop-by regularly at the office, at 172 Goondoon Street, to view displays, fact sheets and other educational resources about the project, coal seam gas and liquefied natural gas in general.

A 1.8-metre, scale model of BG Group's Methane Nile Eagle, one of nine vessels in the company's core fleet of liquefied natural gas carriers, will form part of the centrepiece display in the office.

QGC's Gladstone Manager Rosalyn Mann will be available to answer questions and to discuss opportunities for companies and individuals to become involved with the Queensland Curtis LNG Project.

New website

A new, upgraded Queensland Curtis LNG Project website was recently launched, featuring more information, images and resources about the project as well as improved navigation around the site.

The new website offers fact sheets on specific issues, latest news about the project and important details for companies and individuals interested in working with QGC to make Queensland Curtis LNG a reality.

Stakeholders can view the project's terms of reference and will have access to the environmental impact statement when it is lodged.

The Queensland Curtis LNG website can be viewed at www.qclng.com.au

Working on the project (continued)

ICN's Project Gateway website will be used to advertise contracts, supply opportunities and other work. Project Gateway will be activated when work packages have been prepared, beginning towards the end of 2009.

Suppliers

Companies and suppliers interested in working on the liquefaction plant component of the Queensland Curtis LNG Project are invited to register via the Bechtel supplier and contractor portal http://supplier.bechtel.com/

They may monitor the project via the main Bechtel website www.bechtel.com/australia

Suppliers may also contact Industry Capability Network Queensland on +61 (7) 3364 0678 or view their website: www.icnqld.org.au

Companies interested in working on the gas fields and pipeline component of the project can request a pre-qualification check-list directly from QGC via +61 (7) 3020 9401.

Jobs

Individuals interested in working on the Queensland Curtis LNG Project should regularly monitor the Bechtel website – www.bechtel.com/australia – for opportunities.

General roles with QGC will be advertised via the QGC website www.qgc.com.au and the BG Group website www.bg-group.com/careers

Contact

If you would like more information about the Queensland Curtis LNG Project please contact us at:

Email: info@qclng.com.au
Toll-free number: 1800 030 443
Website: www.qclng.com.au

QC LNG NEWS

October 2008

BG Group's Elba Island regasification plant in Georgia, U.S.

QUEENSLAND CURTIS LNG
A BG Group – QGC Alliance

Queensland Curtis LNG represents a major investment in Queensland's coal seam gas industry to unlock new supplies of cleaner energy for domestic and export markets.

Project on track

The Queensland Curtis LNG Project is now well underway and on track.

The project, an alliance between Queensland Gas Company Limited and BG Group, is focused on developing Queensland coal seam gas for Australian and international markets.

Much progress has been made in the few short months since Queensland Curtis LNG was declared a "significant project" by the Queensland Government in July 2008.

Studies have begun to ensure that the proposed development is environmentally and socially acceptable.

This assessment will result in an environmental impact statement, sometimes referred to as an EIS, that will explain the project in detail and outline its potential environmental, social and economic impacts.

The statement will also describe how the project intends to avoid or manage impacts and maximise benefits for local communities in the project area, and for Queensland.

When completed, the environmental impact statement should provide all the information that the Queensland and Australian Governments require to make an informed decision about the merits of the project and its impacts.

Input from community members and other stakeholders is integral to preparing the environmental impact statement.

This means people will be consulted widely, from Dalby and Chinchilla in the south through to Gladstone and Curtis Island in the north.

This newsletter outlines what we're doing and how you can become involved.

QC LNG NEWS

Contents

Stakeholders are a valuable source of information about the project area.

Draft terms of reference

The Queensland Government, in consultation with the Australian Government, sets out specific matters – referred to as draft terms of reference – to be studied as part of the environmental impact statement.

The draft terms of reference are advertised nationally and outline what the environmental studies will assess and how they are to be undertaken.

Queensland Curtis LNG's draft terms of reference require detailed assessment of existing conditions and potential impacts or benefits of the project relating to:

- Cultural heritage, including indigenous and historic heritage in the study area
- Social and economic conditions
- Ecological habitats and flora and fauna
- Health and safety
- Topography, geology and soils
- Land use
- Infrastructure
- Climate, greenhouse gases and carbon offsets
- Waste management
- Transport and traffic issues
- Workforce requirements
- Housing requirements
- Water resources
- Air quality
- Noise and vibration
- Hazards and risks
- Cumulative impacts

When the Queensland Government advises that the full draft terms of reference are available they may be viewed at:

www.dip.qld.gov.au/projects/energy/gas/curtis-lng-project.html

Stakeholders are a valuable source of information about the project area and we encourage you to comment by making a submission on the draft terms of reference.

Making a submission helps ensure that all relevant issues are addressed by the environmental impact statement.

The terms of reference will be finalised after public comment has been considered by the Queensland Government.

The final terms of reference will then be displayed on the Queensland Department of Infrastructure and Planning's website and provided to Queensland Curtis LNG for guidance.

How to provide feedback

We encourage you to have a say. Submissions on the draft terms of reference should be made in writing directly to the Queensland Government via:

Mr Doug Carey
Project Manager - Queensland Curtis LNG Project (BG-QGC)
Department of Infrastructure and Planning
Significant Projects Coordination
PO Box 15009
City East QLD 4002
Ph: +61 7 3234 0518
Fax +61 7 3225 8282
Email: doug.carey@dip.qld.gov.au

Submissions should be typed or legibly printed, and signed by each person making the submission. They should set out:

- The names and addresses of each person making the submission
- Facts or grounds relied on in making your submission (the reasons behind your submission)
- What you recommend should be changed or added to the terms of reference.

Submissions must be lodged by the date posted on the www.dip.qld.gov.au and www.qclng.com.au websites.

Queensland Curtis LNG Project news

Gladstone office

Queensland Curtis LNG will open a project office and information centre in Gladstone in late 2008.

The centre, in Goondoon Street, will provide information, displays and other educational resources about the project in particular and LNG in general.

Our Gladstone Manager, Rosalyn Mann, will be on hand to answer questions and discuss opportunities for companies and individuals to become involved in the project.

Bechtel appointed

In July 2008, Bechtel Oil, Gas and Chemicals Inc was appointed the project contractor for the proposed LNG plant.

Bechtel, one of the world's leading LNG contractors, has built about one-third of all LNG production capacity worldwide.

Under the agreement with Bechtel, front-end engineering design of the plant is to begin immediately.

Bechtel has had a long association with Gladstone and with BG Group around the world.

BG names LNG president

In August 2008, BG Group, one of the partners in Queensland Curtis LNG, appointed Les Guthrie as its President, LNG, to manage the company's interests in the project.

Les Guthrie

Les will oversee planning, environmental assessment, design and construction of the proposed LNG plant and will be responsible for its ongoing operations on behalf of BG Australia and Queensland Gas Company.

Les, 54, has significant worldwide experience in project management and was previously BG Group's General Manager, Projects, based in the United Kingdom.

Born in Scotland, he moved to Australia 27 years ago.

Commonwealth approval

Certain actions involved in the project require approval by the Australian Government under its key piece of environmental legislation, the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC).

Under the Act, approval from the Federal Minister for the Environment, Heritage and the Arts is needed for any action likely to have an impact on matters of national environmental significance.

To determine whether approval is required, a "referral" is submitted to the Environment Minister for consideration.

Queensland Curtis LNG lodged its referrals, including descriptions of the project and its components, in August 2008.

These are available at: www.environment.gov.au/epbc

In September 2008 the Federal Minister for the Environment determined that the nine aspects of the project referred by Queensland Curtis LNG were "controlled actions", requiring assessment and approval by the Minister before they can proceed.

These actions relate to gas field development, the pipeline network, onshore facilities, shipping activities and other infrastructure such as roads.

What we're doing

When the Queensland Curtis LNG Project was announced in February 2008 the groundwork for consultation and investigative studies began.

You may have noticed Queensland Curtis LNG Project teams in the field in your area.

Their work will guide planning for coal seam gas development, pipeline corridors and design options for the proposed LNG plant on Curtis Island, near Gladstone.

Findings and feedback will contribute to the environmental impact assessment.

Queensland Curtis LNG Project teams have also initiated technical studies looking at existing conditions for matters determined by the draft terms of reference.

The project has received a survey licence from the Queensland Government to conduct field investigations of the pipeline route.

A significant study of the potential impact on Gladstone's air quality is also under way.

The results will be incorporated into project planning to ensure the city's air quality remains well within acceptable health standards.

In conjunction with this, consultation and community engagement has started with government agencies, local councils, the Gladstone Ports Corporation, community organisations and interested individuals.

Consultation with indigenous groups about cultural heritage and Native Title is also beginning.

Project background

Queensland Curtis LNG is an alliance between Queensland Gas Company Limited and BG Group to develop Queensland coal seam gas for Australian and international markets. Key elements of the project involve:

- An expansion of Queensland Gas Company's Surat Basin gas production operations near Chinchilla
- A 380km pipeline to Gladstone on the Central Queensland coast, and
- A liquefied natural gas, or LNG, plant at Curtis Island.

The alliance leverages Queensland Gas Company's extensive expertise in coal seam gas exploration and production with BG Group's experience in LNG plant operation, shipping and marketing natural gas to high-value markets.

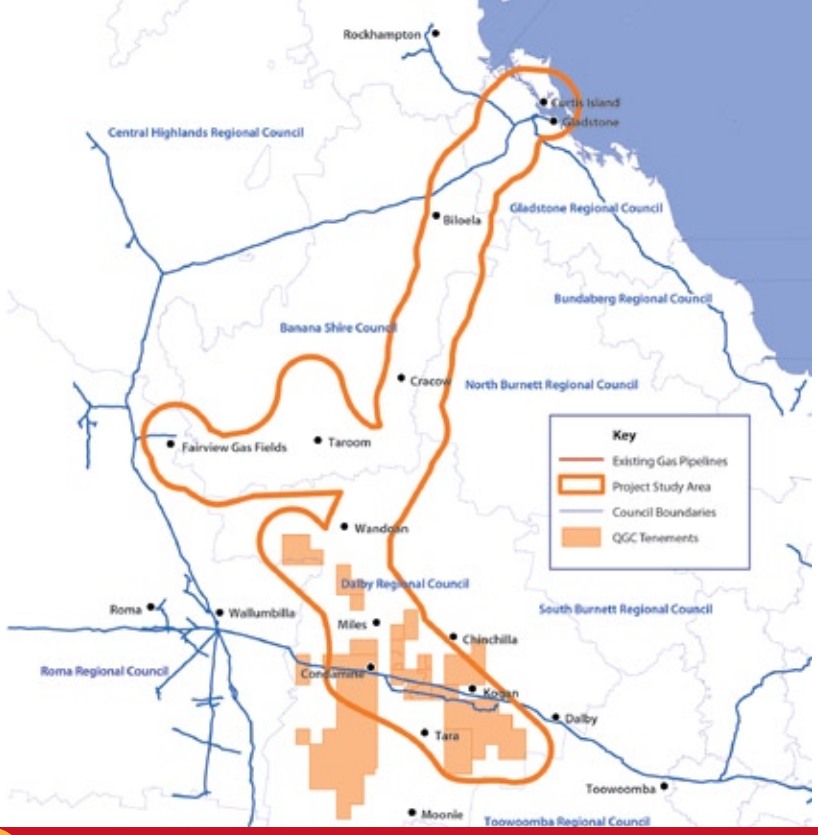
Queensland Gas Company is one of Australia's leading coal seam gas producers and one of Queensland's largest companies. Its world class reserves in the Surat Basin are projected to supply around 20% of the Queensland gas market in 2009.

The company's proved (1P) and proved and probable (2P) reserves were upgraded in mid-September for the second time in 10 weeks, rising 16% and 12% respectively. The upgrades, a boost to the Queensland Curtis LNG Project, provided further proof of Queensland Gas Company's ability to prove up large amounts of gas in the key 1P and 2P categories in a relatively short period.

BG Group is one of the world's leading energy companies, with six production trains of liquefaction capacity in Trinidad and Egypt and regasification terminals on both sides of the Atlantic. The company is the largest international oil company operator of LNG ships.

BG Group has operations in 27 countries on five continents, and Queensland Curtis LNG is one of its priority projects.

At the same time, Queensland Curtis LNG will represent one of Australia's largest capital infrastructure projects, with estimated initial expenditure of $8 billion.



Project study area map

In stage one of the project, the LNG plant will supply 3-4 million tonnes of LNG a year for export markets.

A second stage, the building of a second processing train within the LNG plant, is likely to follow six to 12 months later, with potential beyond that for expansion to 12 million tonnes of LNG a year.

Gladstone will be the first LNG centre in the world to use coal seam gas to supply a major LNG facility.

The project is well on track and pending approvals, construction on the LNG plant is scheduled to begin in early 2010, ahead of first LNG production in late 2013.

Liquefied natural gas explained

Liquefied natural gas, also known as LNG, is natural gas that has been cooled until it becomes a liquid so it can be easily transported and stored.

LNG is odourless, colourless, non-corrosive and non-toxic.

The Queensland Curtis LNG Project will source coal seam gas from underground reservoirs in the Surat Basin and transport it via a buried pipeline to the proposed LNG plant.

There, the gas will be cooled to about -162°C, using the same principles at work in a household refrigerator or air-conditioning unit.

At this temperature, the natural gas liquefies and takes up 1/600th of its original volume. In the liquefaction process impurities, such as carbon dioxide, are removed from the gas before it is cooled.

In this form, it can be transported safely and economically at atmospheric pressure in large vessels. When LNG is returned to ambient temperature, it becomes the same natural gas used to cook meals, warm homes, and power cars, buses and power stations.

Transportation

LNG is transported in specially insulated, double-hull tankers that usually carry about 125,000m^3 to 170,000m^3 of gas, enough energy to power every household in Brisbane for about four-and-a-half weeks.

The LNG remains at -162°C during transit and ships are often powered by the gas they carry.

The global fleet of LNG ships currently comprises around 200 vessels and more than 20 of those are operated by BG Group, a partner in the Queensland Curtis LNG alliance.

*Project calendar**	*Environmental impact statement*	*Community engagement*
Oct to Dec 2008	• Public display of draft terms of reference by Queensland Government • Review of public and agency submissions • Baseline studies	• Community and agency submissions on draft terms of reference • Stakeholder briefings • Information - newsletter and website • Enquiry line
Nov 2008 to Mar 2009	• Technical studies • Consultation • Impact assessment • Mitigation development	• Stakeholder meetings and interviews • Property and land access consultation • Cultural heritage consultation • Native Title negotiations • Consultation with Government agencies
April to May 2009	• EIS report exhibition • Review of public and agency submissions	• Community and agency submissions on EIS
June to July 2009	• EIS supplementary report	• Community partnership consultation • Consultation with Government agencies
Aug to Sept 2009	• Queensland Government review of EIS and supplementary report	
Nov 2009	• Commonwealth Government review of EIS	• Ongoing engagement

*Dates are indicative

Benefits, construction and employment

Queensland Curtis LNG represents a major investment to unlock Queensland's vast reserves of coal seam gas, creating new supply options for at least two decades and helping Australia's gas market to grow.

Key benefits include:

- A significant investment in gas extraction and transportation, offering greater opportunities for gas producers and increased choice for consumers
- Unlocking new supplies of natural gas, a relatively clean and efficient source of energy with about half the carbon dioxide emissions of coal
- The provision of about 3600 jobs during construction and more than 800 jobs when operational
- The generation of substantial royalties and tax revenues for the Queensland and Australian Governments
- Increased demand for goods and services in Surat Basin communities and in Gladstone
- The potential to deliver a new supply of water, a by-product of coal seam gas production, to communities in southern Queensland.

Across its various components, the Queensland Curtis LNG project will provide about 3600 jobs during construction and more than 800 jobs when operational.

Construction of the LNG plant on Curtis Island will account for most of the workforce, requiring around 3000 people at peak plus a further 100-200 full-time personnel to operate the facility.

Construction of the main pipeline to Gladstone will provide employment for approximately 400 people during the peak period, with a further 100-200 people required at various times to construct the interconnecting pipeline network.

As part of the environmental impact assessment, Queensland Curtis LNG will investigate the potential impacts of the workforce on existing communities and how best to manage any impact.

Bechtel Oil, Gas and Chemicals Inc, one of the world's leading LNG engineering contractors, will be responsible for helping co-ordinate labour and supplier requirements.

Interested parties are invited to register their interest in working on the project via the Bechtel website www.bechtel.com/australia or by emailing brisbane.opportunities@bg-group.com.

Community consultation underway

As part of the assessment process, Queensland Curtis LNG has started examining the potential environmental, social and economic impacts of the project. This work began in February 2008 and is anticipated to take 12-18 months in total.

Queensland Curtis LNG believes that understanding the community's concerns and expectations is an important part of these studies.

This will involve thorough consultation and working with the community to develop sustainable and mutually beneficial partnerships.

Project team members will be available throughout the study area to help ensure that all interested people and organisations have their say.

If you would like to hear more about the project, the environmental and socio-economic studies or the consultation process please call or email us, describing your area of interest.

Email: info@qclng.com.au
Toll-free:1800 030 443

Indigenous consultation

Queensland Curtis LNG is beginning consultation with indigenous people throughout the study area.

This will include understanding connections to country, cultural heritage processes, consultation about impacts and Native Title negotiations.

Indigenous people and groups with interests in the study area who would like to find out more about the project are encouraged to call us toll-free on 1800 030 443.

Contact

If you would like more information about the Queensland Curtis LNG Project please contact us at:

Email: info@qclng.com.au
Toll-free number: 1800 030 443
Website: www.qclng.com.au

QUEENSLAND CURTIS LNG
A BG Group business

Fact Sheet

Coal Seam Gas

- Coal seam gas is considered a "cleaner" source of energy
- Requires little treatment before use in homes and industry
- Queensland Curtis LNG to unlock new supplies for domestic and export markets

Natural gas, a mixture of gases made up mostly of methane, is used every day to cook meals, warm homes and fuel buses, cars and power plants.

Apart from methane (which is given the chemical symbol CH_4), other gases that can form part of natural gas include small amounts of ethane (C_2H_6), propane (C_3H_8) and butane (C_4H_{10}).

As early as 2000 years ago, the Chinese piped natural gas into their homes through bamboo pipes to fuel lights.

Today, most natural gas used in Australia comes from onshore fields such as the Cooper Basin, or offshore petroleum fields such as the North West Shelf and Bass Strait. In recent years, coal seam gas has become an important source of natural gas for Queensland.

The Australian Government has estimated the country's possible reserves of coal seam gas are equivalent to more than 400 years' supply based on current demand by eastern Australia.

Queensland Curtis LNG, a BG Group business, represents a major investment in Queensland's coal seam gas industry to unlock new supplies of this cleaner energy for domestic and export markets.

Coal seam gas

Coal seam gas, or CSG, is a natural gas.

It occurs when coal is formed deep underground over millions of years of heating and compressing decomposing plant matter.

Over time, the gas becomes trapped in coal seams by water, typically 300-600 metres under ground.

Coal seam gas continued

When the water is removed, the pressure that has kept the gas in place changes, allowing the gas to flow.

Apart from methane, coal seam gas contains little or no other amounts of hydrocarbon gases such as ethane, propane and butane. Coal seam gas typically has only small amounts of carbon dioxide and nitrogen.

As such, it is considered a "cleaner" gas that requires relatively little treatment before being used in industry and households.

QGC, BG Group's Australian business, is the operator of the Queensland Curtis LNG Project. The company currently produces coal seam gas from the Surat Basin in southern Queensland, one of Australia's largest stores of coal seam gas.

Apart from increasing the availability of natural gas, extracting the coal seam gas serves another useful purpose by making underground mining safer.

If the coal seam gas were not extracted by QGC, it may otherwise be vented to the atmosphere as part of the mining process.

Coal seam gas extraction

Coal seam gas is extracted through wells drilled into coal seams.

When water is pumped out, the coal seam gas is released from the coal.

If the pressure within the seam is high, the gas may flow to the surface unaided. Conversely, the gas may have to be pumped to the surface if the pressure is lower.

When coal seam gas comes to the surface, any water in the gas is separated. The gas is dried and compressed and sent by pipeline to customers.

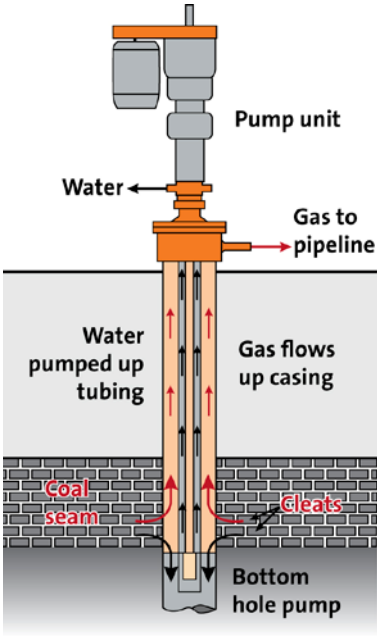
Coal seam gas to LNG to natural gas

The Queensland Curtis LNG Project involves taking coal seam gas produced from the Surat Basin and transporting it via a 380km underground pipeline to Gladstone. From there the gas will be fed into a liquefaction plant where it will be cooled to create liquefied natural gas, otherwise known as LNG.

Gladstone will be the first industrial centre in the world to use coal seam gas to supply a major liquefied natural gas facility.

The coal seam gas feedstock typically contains 98% methane, 1% nitrogen and less than 1% carbon dioxide. Because these small amounts of other gases are more difficult to liquefy and are not able to be burnt when the liquefied natural gas is returned to natural gas, they are removed at the gas plant prior to the liquefaction process.

The liquefaction process reduces the natural gas to 1/600th of its original volume, allowing large quantities to be readily transported by specially-built tankers to markets all over the world.



When it is delivered to these markets it undergoes "regasification", a process which returns the liquefied gas to natural gas. Now it can be used as a fuel source for power generation and domestic consumption, including heating and cooking.

The availability of this clean, low-carbon fuel as an alternative to coal or oil means that considerably less greenhouse gases are generated in the countries in which it is used. In this way, natural gas and LNG are helping to reduce carbon dioxide levels globally.

Contact

If you would like more information about the Queensland Curtis LNG Project and coal seam gas, please contact us at:
info@qclng.com.au or our toll-free number **1800 030 443**

Alternatively, visit our website:
www.qclng.com.au

QUEENSLAND CURTIS LNG
A BG Group business

QUEENSLAND CURTIS LNG
A BG Group business

Fact Sheet

Air Quality

- Natural gas is the cleanest of fossil fuels
- Emissions from the Queensland Curtis LNG Project will be low relative to Australian and international standards
- The plant will not produce any sulphur oxides, soot or benzene, which are harmful emissions
- When approved, the project will monitor emissions to ensure they do not exceed environmentally acceptable standards

We all need clean air.

The Queensland Curtis LNG Project, a BG Group business, is like any industrial process.

The project will involve air emissions as it liquefies natural gas at Curtis Island, Gladstone, for export to world markets.

This fact sheet explains why air quality is important, the nature of emissions expected from the plant and how the project intends to ensure it does not contribute to any degradation of air quality in Gladstone.

Air quality in Gladstone

Gladstone has grown rapidly in the past few decades and air quality has emerged as an important community concern.

Originally the focus was on dust, particularly coal dust emissions from coal handling facilities at the Port of Gladstone.

As new industries emerged, the community has also become concerned about emissions from minerals processing and chemical manufacturing.

These emissions include sulphur dioxide, oxides of nitrogen and airborne particles known as particulate matter. Also of concern are polyaromatic hydrocarbons such as benzene, toluene, ethylbenzene and xylene, which are collectively referred to as BTEX and in large doses are known to cause cancer.

The "air shed"

To help manage emissions around industrial centres, authorities establish "air sheds", or imaginary atmospheric envelopes over specific areas.

Mathematical models are used to predict cumulative concentrations of emissions, helping to set limits on the volume and type of emissions into the air shed.

Air monitoring stations around the air shed help verify the models and ensure that set standards or limits are not exceeded.

These limits are based on international, national and state standards. In Queensland, the Environmental Protection Agency sets guidelines or standards, issues licences, and monitors industrial emissions to protect people, animals and the environment.

The Queensland EPA is involved in a two-year project of detailed monitoring of the Gladstone air shed to incorporate a greater range of emissions. The information will help to manage air quality around Gladstone.

Queensland Curtis LNG is committed to a significant air shed study as part of its approval process under Queensland and Australian Government legislation.

When approved, the project will be licensed and will monitor emissions to ensure they do not exceed environmentally acceptable standards.

Emissions from the liquefaction plant

Emissions from the proposed liquefaction plant at Curtis Island will be limited to only a few compounds and the amounts of these will be low relative to Australian and international emissions standards.

This is largely due to the nature of the gas being supplied to the plant, which contains only small amounts of unusable nitrogen and carbon dioxide.

Typically the feed gas will comprise 98% methane, 1% nitrogen and 1% carbon dioxide. The nitrogen and carbon dioxide will be removed and vented to the atmosphere.

The principal emissions from the proposed liquefaction plant will be carbon dioxide and oxides of nitrogen from the gas turbines which drive the refrigeration compressors within the plant and provide the electricity for the liquefaction process.

These "aero-derivative" turbines are very fuel efficient and are designed to produce low emissions from the combustion of gas. They are fuelled by a portion of the feed gas.

Gas turbine emissions include low levels of oxides of nitrogen, carbon monoxide and carbon dioxide. These are sometimes expressed by their chemical symbols NO_x, CO and CO_2.

These gases are encountered every day, most commonly as car exhaust fumes. When NO_x and organic compounds such as methane combine in the presence of sunlight, they can create visible smog.

Results from preliminary air quality investigations indicate that the current background levels of nitrogen dioxide in the North China Bay area of Curtis Island, in the vicinity of the proposed liquefaction plant, are 40 micrograms per cubic metre.

The total amount of nitrogen dioxide released from the liquefaction process will be fed into a detailed model to analyse the dispersion of the gas and its contribution to the Gladstone air shed.

Initial modeling suggests that the addition of nitrogen dioxide emissions from the liquefaction plant will have a negligible cumulative impact on existing levels of nitrogen dioxide, and air quality overall.

Emissions from the proposed liquefaction plant at Curtis Island will be low relative to Australian and international emissions standards.

For example, the maximum one-hour average concentration of nitrogen dioxide in the North China Bay area of Curtis Island, taking into account Queensland Curtis LNG's plant plus existing and approved industries including other planned liquefaction facilities, is predicted to be 40 micrograms per cubic metre.

This is in line with current background levels and is well below the National Environment Protection Measure standard of 246 micrograms per cubic metre.

Importantly, because there is no sulphur or more complex hydrocarbons in the natural gas feeding into the plant, there will be no emissions of combustion-related products such as sulphur oxides (SO_x) and particulate matter (soot).

The plant will also not produce polyaromatic hydrocarbons such as benzene, toluene, ethylbenzene or xylene (BTEX), which are of concern in air sheds as they are known carcinogens.

In addition, there will be no "fugitive" emissions from the cooling system: industrial gases used in the liquefaction cooling system are contained in a "closed-loop" process and are re-circulated, just as they are in a household refrigerator.

On occasions liquefaction plants may be seen to emit puffs of dark smoke. These can occur when plants are being commissioned or for short periods when other fuel sources such as diesel are used to power the turbines instead of gas.

Measuring emissions

In Queensland, air emissions are measured by standalone stations containing around 90 instruments for electronically recording and storing information on the weather and air quality.

Authorities around the world set limits on safe exposure levels, usually based on World Health Organisation and other local and national criteria.

The Queensland environmental protection policy for air has a goal of 0.16 parts per million (ppm) of NO_x for one hour of exposure to protect sensitive people such as children and asthmatics.

Because of the liquefaction plant's low NO_x emissions, it is predicted that it will have a negligible impact on air quality.

However, it is also important to assess the cumulative impact on the local air shed of all emissions in the area.

Results from a Queensland Curtis LNG study on air quality will be incorporated into planning to ensure Gladstone's air quality remains well within acceptable health standards.

Operationally, Queensland Curtis LNG will ensure NO_x emissions are kept to a minimum by using specially-designed low-NO_x burners in the plant.

Greenhouse gas emissions from the liquefaction plant

Carbon dioxide (CO_2), a greenhouse gas, is produced in making liquefied natural gas.

Carbon dioxide emissions will come from two principal sources. The first is the carbon dioxide removed from the feed gas for the plant, which is vented to the atmosphere. As the feed gas is composed of about 1% carbon dioxide, a relatively small volume will be released.

More significant carbon dioxide emissions will come from the combustion of feed gas in the gas turbines.

These will be monitored and publicly reported under recent Australian energy and greenhouse gas reporting legislation. We estimate that annual carbon dioxide emissions will be about 1 million tonnes for each processing unit, or production "train".

Queensland Curtis LNG is investigating ways of offsetting carbon dioxide emissions from the project through programs such as carbon trading and forestation.

However, natural gas is the cleanest of all fossil fuels. It emits 22% less carbon dioxide than oil and 40% less than coal to produce the same amount of energy.

Exports of this cleaner low-carbon fuel, in the form of liquefied natural gas, to those countries where it is used as an alternative to coal or oil, means that considerably less greenhouse gases are generated in these countries than would otherwise be the case.

This helps to reduce global emissions and overall carbon dioxide levels.

For these reasons, many people view natural gas as the world's transition fuel as we move away from hydrocarbons to cleaner energy sources.

QUEENSLAND CURTIS LNG
A BG Group business

Contact

If you would like more information about the Queensland Curtis LNG Project and air quality please contact us at:
info@qclng.com.au or our toll-free number **1800 030 443**

Alternatively, visit our website: **www.qclng.com.au**

QUEENSLAND CURTIS LNG
A BG Group business

Fact Sheet

Environmental Impact Assessment

- Impact assessment is designed to ensure projects are environmentally and socially acceptable
- Project assessed under Queensland and Australian Government legislation
- Actual impacts measured against those predicted for life of the project
- Strict penalties apply to project proponents who make false declarations

Development should be good for people and the environment.

A key business principle of Queensland Curtis LNG is that communities benefit from our presence. We believe that any development must add to the quality of our lives and protect the environment on which our lives depend.

This fact sheet explains why rigorous environmental impact assessment is important, how it applies to the Queensland Curtis LNG Project and how people with an interest in the project can become involved in the process.

Why undertake environmental impact assessment?

Environmental impact assessment is designed to ensure that developments such as the Queensland Curtis LNG Project are environmentally and socially acceptable.

Our project, to develop Queensland coal seam gas for Australian and international markets, spans a large area from around Chinchilla and Condamine in southern Queensland to Gladstone and Curtis Island on the state's central coast.

The core components include development of the Surat Basin gas fields, a 380km underground pipeline from the gas fields to Gladstone and a liquefaction plant on Curtis Island.

Why undertake environmental impact assessment? continued

The project will also involve further development of a dedicated liquefied natural gas shipping channel in Gladstone Harbour.

This component may be done by another party and subject to a separate approvals process.

In July 2008 the Queensland Government declared the Queensland Curtis LNG Project "significant", triggering assessment under Queensland and Australian Government environment legislation.

The assessment is designed to help law makers and regulators decide whether the project is environmentally and socially acceptable. The process also helps to identify people who have a key interest in the project and the issues that concern them.

Not only that, assessment provides a process for the systematic study of environmental and social impacts so the project may be designed to avoid or minimise these impacts.

What's involved?

The first step in Queensland Curtis LNG's environmental and social impact assessment is explaining what we intend to build, the likely impact we will have and how we intend to manage that impact.

We are engaging as many people as possible who have an interest in the project to understand their interest and concerns.

In Queensland, the environmental impact assessment process is governed by the *State Development and Public Works Organisation Act 1971*.

Broadly, it involves establishing and then critically analysing the potential environmental, social and economic impact of a development proposal.

This begins with an initial advice statement, which presents basic details about the project and is provided to the Queensland Coordinator-General.

Extensive public engagement and studies follow, culminating in a formal report known as an environmental impact statement, or EIS, which is reviewed by the Coordinator-General.

An environmental impact statement typically takes 12 to 18 months to prepare. In the case of Queensland Curtis LNG, initial studies began when the project was announced in early 2008.

In addition, the Australian Government has identified nine specific issues or actions of national environmental significance that require assessment by the Queensland Curtis LNG Project.

The Australian Minister for the Environment, Heritage and the Arts must approve these actions before the project can proceed.

When the project is approved by the Queensland and Australian Governments, its actual impacts are measured against, and compared to, those predicted in the environmental impact statement.

Integrity is maintained throughout the process by regular public reviews and assessment by third-party experts.

Project proponents who knowingly make false declarations in their environmental impact statements may be fined or jailed.

Terms of reference

When a project is declared "significant" by the Queensland Government, an environmental impact assessment is required.

Project proponents explain the project in detail and outline its potential environmental, social and economic impact and how they intend to manage the impact.

To help guide the Queensland Curtis LNG Project in its assessment, the Queensland and Australian Governments set out specific matters to be studied. These are known as terms of reference.

Environmental impact assessment involves explaining what we propose to build, the likely impact we will have and how we intend to manage that impact.

Terms of reference are advertised nationally and outline what the environmental studies will assess.

The Queensland Curtis LNG Project's terms of reference require detailed assessment of matters including:

- Cultural heritage, including indigenous and historic heritage in the study area
- Social and economic conditions
- Ecological habitats and flora and fauna
- Health and safety
- Topography, geology and soils
- Land use
- Infrastructure
- Climate and greenhouse gases
- Waste management
- Transport and traffic issues
- Workforce requirements

March 2009

QUEENSLAND CURTIS LNG
A BG Group business

QCLNG NEWS

Queensland Curtis LNG ... developing Queensland's energy potential

Queensland Curtis LNG represents a major investment in Queensland's coal seam gas industry to unlock new supplies of cleaner energy for domestic and export markets.

A priority project of QGC, a BG Group business, Queensland Curtis LNG involves transporting coal seam gas from the Surat Basin via a 380km buried pipeline to Gladstone, where it will be turned into liquefied natural gas at a plant on Curtis Island.

Welcome

Welcome to the March edition of the Queensland Curtis LNG newsletter.

Much has happened since our last update in October 2008. As you'll read, ownership of Queensland Curtis LNG was simplified when QGC, previously an alliance partner in the project, became the Australian business of BG Group.

This has established a streamlined, single-company structure and created greater certainty for Queensland Curtis LNG by having a single project operator, QGC.

Shortly after this transaction was finalised, QGC appointed a new Managing Director, Catherine Tanna. A familiar name to Gladstone, Ms Tanna joins the company from March.

Operationally, the project is well on track to produce the first liquefied natural gas from the proposed Curtis Island facility towards the end of 2013.

QGC has focused on the environmental approvals process and consulting stakeholders throughout the project area, from around Condamine and Chinchilla in southern Queensland to Gladstone and Curtis Island on the central coast.

The excellent co-operation of stakeholders has allowed us to make good progress towards completing our major milestone document, the environmental impact statement, which we expect to lodge with the Queensland Government for public viewing by the middle of 2009.

This statement, sometimes referred to as an EIS, will set out in detail what we propose to build, the likely impact and how we intend to manage that impact.

Our next newsletter will include an overview of the early findings and how you can participate in a review of the EIS.

Community consultation will continue to have an important role in our assessment process as we develop a project that is environmentally and socially acceptable.

For now, please enjoy our latest update. From our award winning Drama At The Gasfields to the opening of our Gladstone office, this newsletter contains something of interest for all stakeholders in the Queensland Curtis LNG Project.

QCLNG NEWS

Contents

- Housing requirements
- Water resources
- Air quality
- Hazards and risks
- Cumulative impacts

The environmental impact statement

Third-party experts including engineers, environmental scientists, anthropologists, archaeologists, economists and social planners help the Queensland Curtis LNG Project with studies outlined in the terms of reference.

We are compiling extensive studies to determine "baseline" or existing environmental, social and economic conditions and the project's likely or potential impact on them.

The findings are used in the environmental impact statement, which is submitted to the Queensland Coordinator-General.

The statement will describe how the project intends to avoid or manage its impact, and maximise benefits for Queensland and Australia.

The document is made available for public review and submissions may be lodged with the Coordinator-General.

The Queensland Curtis LNG Project may then prepare a supplementary environmental impact statement to address outstanding concerns.

When completed, the environmental impact statement will help Queensland and Australian Government law makers and regulators to make informed decisions about whether the project is environmentally and socially acceptable.

An open, accountable process

Preparation of the environmental impact statement is overseen by the project proponent, a common arrangement internationally and one designed to minimise the burden on the public purse.

Studies are performed by third-party experts, hired by the project proponent.

The work is subject to regular public reviews and the environmental impact statement must stand rigorous scrutiny by all stakeholders, including communities and the Queensland and Australian Governments.

An open, accountable process continued

When a project is formally approved by government, it continues to be monitored both by the proponent and the Environment Protection Agency throughout its life for its environmental and social performance.

If the Queensland Curtis LNG Project's performance diverges from that predicted in the environmental impact statement, we will be required to take corrective action, or face penalties including fines and jail.

You have the right to appeal a government's decision on an environmental impact assessment.

Other regulatory requirements

Some of the project's activities require approval by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999.*

Under the act, approval by the Australian Minister for the Environment, Heritage and the Arts is needed for any action likely to have an impact on matters of national environmental significance.

To determine whether approval is required, a "referral" form is submitted to the minister for consideration.

The Queensland Curtis LNG Project lodged its referrals, including descriptions of the project and its components, in August 2008.

They covered nine areas of national environmental significance.

In September 2008, the minister determined that these nine aspects of the project were "controlled actions" requiring assessment and approval by the minister before they could proceed.

These actions relate to the gas field development, pipeline network, onshore facilities, shipping and other infrastructure and activities such as roads and dredging.

QUEENSLAND CURTIS LNG
A BG Group business

The Queensland Curtis LNG Project's referrals are available at www.environment.gov.au/epbc/

Operating permits for gas production, pipelines and gas plants are also required after the environmental impact statement is approved.

How to get involved

People with an interest in the project are a valuable source of information.

We encourage you to comment or give us feedback on the project and the environmental impact assessment process.

This will help us to ensure that we understand your concerns and issues as we develop a project that is good for people and the environment and strive to maximise project benefits for Queensland and Australia.

For information on how to provide feedback, and to keep up to date on developments in the Queensland Curtis LNG Project, please visit our website **www.qclng.com.au** or the Queensland Government website **www.dip.qld.gov.au**

Contact

If you would like more information about the Queensland Curtis LNG Project or the environmental impact assessment process, please contact us at:
info@qclng.com.au or our toll-free number **1800 030 443**

Alternatively, visit our website: **www.qclng.com.au**

QUEENSLAND CURTIS LNG
A BG Group business

Fact Sheet

A plant operator checks machinery at QGC's Berwyndale South gas fields

Working on the project

A core business principle of QGC, BG Group's Australian business and the operator of the Queensland Curtis LNG Project, is that communities must benefit from our presence.

Consistent with that approach, the company is committed to ensuring that local industry is provided with full, fair and reasonable opportunity to tender for work on the project.

The project

The main components of the Queensland Curtis LNG Project involve:

- Expanding QGC's coal seam gas production in the Surat Basin of southern Queensland
- A 380km buried natural gas pipeline from near Miles to Gladstone, and
- A liquefaction plant at Curtis Island, near Gladstone.

The project also involves development of a dedicated shipping channel in Gladstone Harbour.

Among its many benefits, Queensland Curtis LNG will provide more than 3,000 construction jobs, 800 permanent positions and increased demand for goods and services throughout the Surat Basin, Gladstone, Queensland and Australia.

Bechtel Oil, Gas & Chemicals Inc has been appointed project contractor for the liquefaction plant and will be responsible for coordinating labour and supplier requirements.

Across the project, Industry Capability Network (ICN) Queensland is assisting QGC by helping to identify Queensland and Australian companies that can supply goods and services to the standards required.

ICN's Project Gateway website will be used to advertise contracts, supply opportunities and other work. Project Gateway will be activated once work packages have been prepared, beginning towards the end of 2009.

Suppliers may contact ICN Queensland on +61 (7) 3364 0678 or view their website www.icnqld.org.au

Suppliers - liquefaction

Companies and suppliers interested in working on the liquefaction plant component of the Queensland Curtis LNG Project are invited to register via the Bechtel supplier and contractor website http://supplier.bechtel.com/

They may monitor the project via the main Bechtel website www.bechtel.com/australia or www.qclng.com.au

Suppliers – gas fields and pipeline

Companies interested in participating in the gas fields and pipeline component of the project can request a pre-qualification check-list directly from QGC via +61 (7) 3020 9401.

Employment

QGC is increasing its activity to deliver the Queensland Curtis LNG Project and meet domestic and international demand for coal seam gas and liquefied natural gas. QGC will recruit many people over coming months and years.

Available positions include, but are not limited to:

- Geologists
- Petroleum engineers
- Reservoir engineers
- Field engineers
- Production engineers
- Field safety and environmental roles

Roles with QGC will be advertised via the QGC website www.qgc.com.au and the BG Group website www.bg-group.com/careers

Individuals interested in working on the liquefaction component of the project should also regularly monitor the Bechtel website, www.bechtel.com/australia, for opportunities.

Contact

If you would like more information about the Queensland Curtis LNG Project, please contact us at:
info@qclng.com.au or our
toll-free number **1800 030 443**

Alternatively, visit our website: **www.qclng.com.au**

QUEENSLAND CURTIS LNG
A BG Group business

QUEENSLAND CURTIS LNG
A BG Group business

Fact Sheet

Shipping

- Liquefied natural gas ships hold one of the shipping industry's best safety records
- Queensland Curtis LNG shipping will have minimal, if any, impact on Gladstone Harbour traffic
- There has never been a major loss of cargo by a liquefied natural gas ship

The Queensland Curtis LNG Project involves exporting liquefied natural gas, or LNG, from a plant on Curtis Island, near Gladstone, in specially designed ships.

Liquefied natural gas ships hold one of the best safety records in the shipping industry, having completed more than 80,000 voyages without a major accident or significant loss of cargo.

The ships will share Gladstone Harbour with existing marine traffic including bulk coal carriers, LPG ships and recreational craft.

This fact sheet explains how liquefied natural gas shipping will operate and outlines the measures and procedures that ensure continuing and safe access to the harbour for all users.

The project

Queensland Curtis LNG is a priority project of QGC, BG Group's Australian business. It represents a major investment in Queensland's coal seam gas industry to unlock new supplies of cleaner energy for domestic and export markets.

The project involves expanding coal seam gas production in the Surat Basin in southern Queensland and a 380km buried gas pipeline from near Miles to Gladstone where the coal seam gas will become liquefied natural gas at a plant on Curtis Island.

A key part of the project includes developing a dedicated liquefied natural gas shipping channel inside Gladstone Harbour to Curtis Island.

The project continued

The project is seeking approval for up to 12 million tonnes of liquefied natural gas a year with first gas production due in late 2013.

At maximum production, Gladstone can expect about two to three liquefied natural gas ships a week.

In its initial stage, the project will comprise two processing units, or "trains", which will produce 7.4 million tonnes of liquefied natural gas a year.

LNG ships

Specially designed ships can transport natural gas, in the form of liquefied natural gas, over long distances.

The liquefied natural gas is stored near atmospheric pressure on the ship at about -162°C in tanks that act as a giant thermos.

A typical liquefied natural gas ship is around 300m long, 45m wide and has a water draft of 12m.

The ships have a crew of about 30 and carry between 138,000m³ and 170,000m³ of gas, or enough energy to power every household in metropolitan Brisbane for about two-and-a-half weeks.

Every aspect of these ships is strictly regulated, from design and construction through to daily operations.

The ships are built with double hulls and primary and secondary liquefied natural gas containment systems.

Sophisticated safety systems include gas and low temperature monitoring, heat and fire detection, cargo-related emergency shutdowns and nitrogen and inert gas pumping.

Other standard safety features include global positioning equipment, global maritime distress systems and ship-to-shore communications.

These ships can operate on marine diesel or they can draw on gas from the cargo they carry.

QGC - A BG Group business

Queensland Curtis LNG is a priority project for QGC, BG Group's Australian business.

BG Group is one of the world's leading energy companies, with extensive experience in delivering natural gas to markets around the world.

The company's involvement in liquefied natural gas shipping dates back to 1959 when a predecessor to BG Group, the British Gas Council, was involved in the inaugural trans-Atlantic shipment of liquefied natural gas.

Today, BG Group has operations in 27 countries, including major liquefaction plants in Egypt and Trinidad as well as regasification terminals either under construction or in operation on both sides of the Atlantic.

The company is one of the world's largest independent operators of liquefied natural gas ships.

BG Group has a core fleet of nine ships and has the ability to charter additional vessels as required, which can increase the fleet size to more than 20.

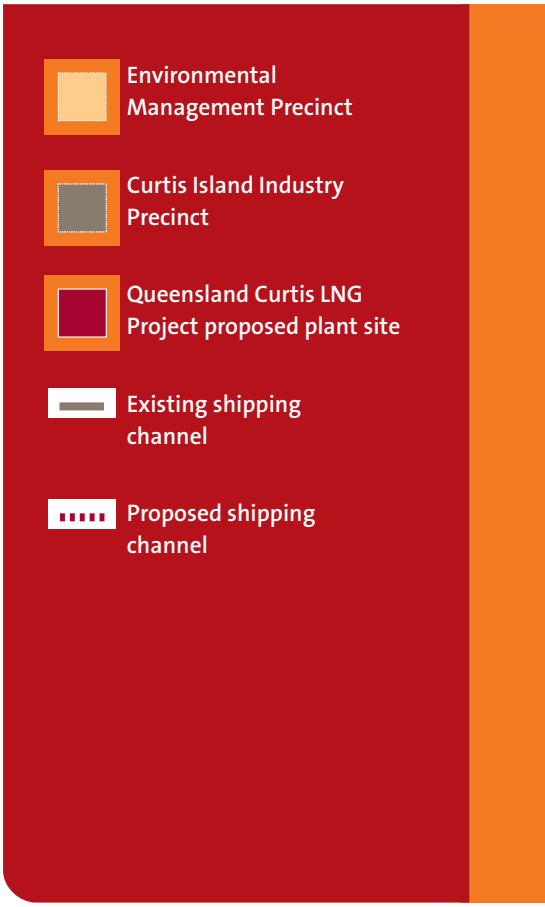
Gladstone Harbour

The world-class, deep-water Port of Gladstone is Queensland's largest multi-cargo port and the fifth-largest in Australia.

The port has a vital role in the state and national economies, handling imports and exports of raw and value-added materials from the central Queensland region and finished products from industries in Gladstone.

Major imports and exports include coal, bauxite, LPG, alumina, cement, sorghum and wheat.

Gladstone Harbour is also important for many others users including ferry services, charters and recreational fishing and sailing.



Traffic and impacts

Queensland Curtis LNG will work with the Gladstone Ports Corporation, which coordinates shipping within the harbour, to minimise any impact from liquefied natural gas shipping on other commercial and recreational vessels.

Traffic is directed by the Harbour Master, similar to the way air traffic control operates at airports.

When a ship arrives, it is joined by a qualified local, licensed pilot who assists the ship's captain to navigate through the harbour.

To eliminate the risk of collision with other vessels and to prevent smaller craft from impeding a liquefied natural gas ship, moving safety zones are placed around the ships when they enter a harbour.

Safety and security

Incidents involving LNG ships are rare.

Globally, LNG ships have completed 80,000 voyages, including more than 2,600 from Australia, without a major accident or loss of cargo.

The liquefied natural gas shipping industry's enviable reputation for safety, earned over almost 50 years of commercial operations, is the product of continuous improvement of technology, safety equipment, comprehensive safety procedures, training and equipment maintenance.

An average fully laden liquefied natural gas ship contains a similar amount of energy as the Cape Size bulk coal carriers that trade in and out of Gladstone Harbour.

But although liquefied natural gas vapours may burn when released to the atmosphere, they do not release energy quickly enough to create the overpressures, or force, associated with explosions.

Like on-shore liquefied natural gas facilities, the ships are operated according to strict procedures and designed with multiple layers of protection, including double hulls, secondary containment systems and emergency-related shutdown systems.

The gas transfer system between the ship and the storage tank is designed to prevent leaks and to safely contain them, in the unlikely event that they occur.

Alarms and monitoring systems ensure that all cargo-related safety systems are properly functioning.

While the hazards faced by liquefied natural gas ships are the same as those present throughout the shipping industry, accidental spillages are rare and no liquefied natural gas ship has ever suffered a major loss of cargo.

QUEENSLAND CURTIS LNG
A BG Group business

Contact

If you would like more information about the Queensland Curtis LNG Project and liquefied natural gas shipping, please contact us at: **info@qclng.com.au** or our toll-free number **1800 030 443**

Alternatively, visit our website: **www.qclng.com.au**

QUEENSLAND CURTIS LNG
A BG Group business

Fact Sheet

Safety

- The liquefied natural gas industry has an enviable safety record earned over almost half a century
- The risks involved in handling liquefied natural gas are well understood and managed by multiple layers of protection
- Modern liquefied natural gas storage tanks have never suffered a crack failure
- Liquefied natural gas ships have completed more than 80,000 voyages, all without a major incident

We all expect to be kept safe and to be protected from risk.

The production of liquefied natural gas, or LNG, involves people and industrial processes that must be managed safely.

The Queensland Curtis LNG Project, a BG Group business, will closely and carefully manage these processes because we believe everybody has a right to go home safely every day.

This fact sheet explains why safety in the liquefied natural gas industry is important, the key risks and hazards and how the project intends to manage them safely.

Approach

The liquefied natural gas industry's approach to safety is heavily biased towards preventing an incident and, then, should one occur, to effectively mitigating the consequences.

In all liquefaction plants, safety barriers apply to people, equipment, systems and processes.

These range from safety briefings for visitors and staff when they enter a facility to sophisticated sensors throughout the plant that are monitored by computer in the main control room.

Record

The liquefied natural gas industry has earned an enviable safety record over more than 45 years of commercial operation.

Australian operators in particular have an exemplary history, safely completing more than 2600 shipments to customers around the world.

A combination of factors is behind this, including a thorough understanding of the risks associated with liquefied natural gas, extensive training for staff, safety systems and strict adherence to proven standards, codes and regulations.

Liquefied natural gas

Liquefied natural gas is simply natural gas that has been cooled to -162°C, at which point it becomes a liquid at low pressures.

The process reduces the gas to about 1/600th of its original volume – about the equivalent of shrinking a 30cm-diameter beach ball to the size of a ping pong ball.

In this form the natural gas becomes easier to store and transport in large quantities over long distances.

When the liquefied natural gas is warmed and returned to ambient temperature, it becomes the same gas we use to cook meals, warm homes and power cars, buses and power stations.

Liquefied natural gas is odourless, colourless, non-corrosive and non-toxic. It is safe when handled properly.

The Commonwealth Scientific and Industrial Research Organisation, commonly referred to as the CSIRO, has shown that liquefied natural gas poses less of a potential hazard than many commonly used fuels.

For example, liquefied natural gas is harder to ignite than diesel.

When liquefied natural gas mixes with water or comes in contact with land, it warms to form a white vapour cloud that dissipates in air, leaving no lasting residue.

Although liquefied natural gas contains a large amount of energy, that energy cannot be released rapidly enough to cause the overpressures associated with an explosion.

The extremely low temperature of liquefied natural gas and the potential for vapours to ignite in the presence of a spark are the key risks to be managed.

After almost half a century of safe operations these risks are well understood and managed by multiple layers of protection.

Liquefied natural gas production

The design, location, layout, materials, equipment fabrication, construction, staff training and day-to-day operation of liquefaction plants are set out under strict national and international standards.

Buffer zones separate plants and public areas. Plant workers receive specialised training and are well drilled in contingency planning in the unlikely event of an incident.

Sophisticated sensors throughout the plant can trigger an emergency shut down when an unsafe condition is detected.

Security at liquefaction plants is a priority and is maintained through controlled access, safety zones, protected safe areas and constant monitoring.

Strict national and international standards apply to all aspects of the liquefaction process.

Storage and loading

Liquefied natural gas is stored at low pressure in special double wall tanks that have an inner primary container fabricated from cryogenic steel and an outer secondary concrete container with pre-stressed concrete walls and a heavily reinforced concrete base and domed roof.

The tanks are designed to resist extreme events including earthquakes, blasts, fires and other impacts.

Insulation surrounds the inner container, above, below and around its sides. The space between the inner and outer walls contains insulation about 100cm thick.

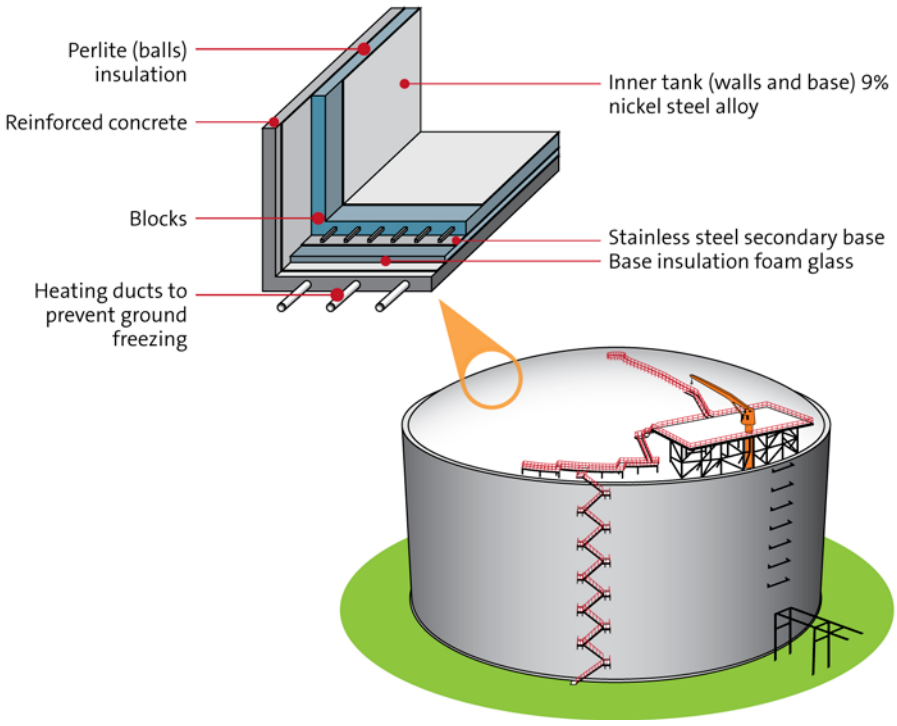
In the unlikely event of a failure of the inner steel wall, the outer post-tensioned concrete wall will retain the liquefied natural gas safely within the tank.

BG Group's Elba Island regasification plant in Georgia, U.S.

Modern onshore liquefied natural gas storage tanks are made with 9% nickel-steel alloys and there has never been a crack failure in their 45-year history.

Storage and loading facilities are designed to contain leaks or spills and have fire protection systems, multiple leak and fire detectors, alarms and automatic and manual shut-down systems.

The transfer system between the ship and the storage tank cannot be operated unless all cargo-related safety systems are properly functioning.



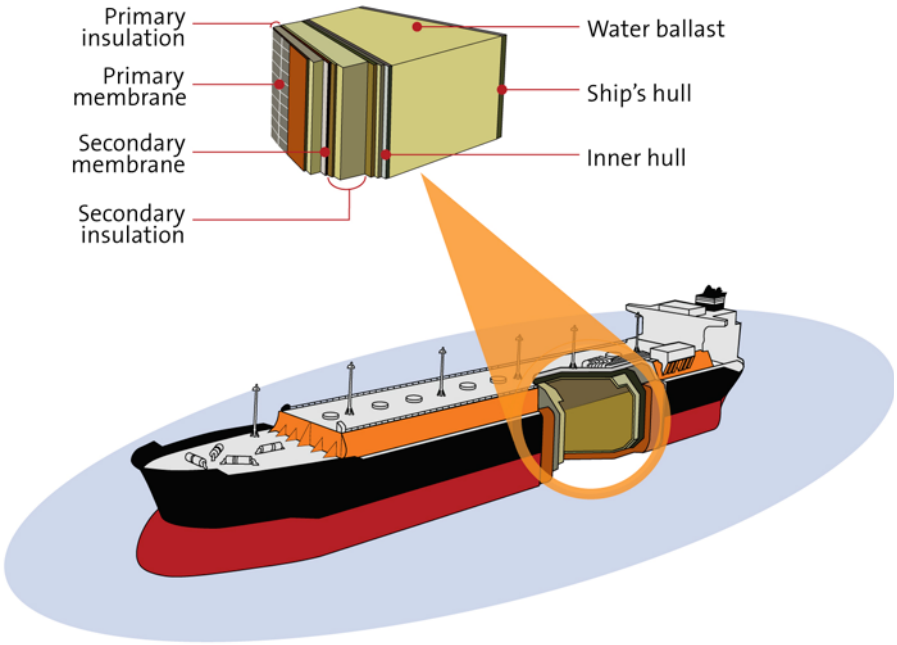
Shipping

The special ships that transport liquefied natural gas hold one of the best safety records in the shipping industry, having completed more than 80,000 voyages without a major accident or significant loss of cargo.

The ships are designed with double hulls and primary and secondary liquefied natural gas containment systems.

Liquefied natural gas ships have safety systems covering gas and low temperature, heat and fire detection, cargo-related emergency shutdowns, and nitrogen and inert gas purging.

They have global positioning equipment, global maritime distress systems, and sophisticated ship-to-shore communications.



Contact

If you would like more information about the Queensland Curtis LNG Project and liquefied natural gas safety, please contact us at: **info@qclng.com.au** or our toll-free number **1800 030 443**

Alternatively, visit our website: **www.qclng.com.au**

QUEENSLAND CURTIS LNG
A BG Group business

QUEENSLAND CURTIS LNG
A BG Group business

Fact Sheet

The Project

- Major investment in Queensland's coal seam gas industry
- To help address climate change by unlocking supplies of natural gas
- New industry for Gladstone to complement existing resource development
- Benefits include provision of 3,000-4,000 construction jobs and 800 permanent positions, significant royalties and tax revenue

Queensland Curtis LNG represents a major investment in Queensland's coal seam gas industry to unlock new supplies of cleaner energy for domestic and export markets.

Operated by QGC, BG Group's Australian business, the project involves transporting coal seam gas via a 380km buried pipeline from near Miles in southern Queensland to Gladstone. The gas will become liquefied natural gas at a plant on Curtis Island.

One of Australia's largest capital infrastructure projects, Queensland Curtis LNG will generate significant economic benefits for Queensland and Australia.

The project will involve dozens of communities, hundreds of businesses and thousands of people drawn from throughout the state, the rest of Australia and internationally.

Importantly, Queensland Curtis LNG will also help to address climate change by allowing natural gas, which has the lowest carbon emissions of all fossil fuels, to be transported economically around the world.

The Queensland Curtis LNG Project

Queensland Curtis LNG is a major, integrated project to develop Queensland's coal seam gas resources for domestic and export markets.

The main components of the proposal involve:

- Expanding QGC's coal seam gas production in the Surat Basin in southern Queensland
- A 380km buried natural gas pipeline from near Miles to Gladstone, and
- A liquefaction plant at Curtis Island near Gladstone.

The project also involves development of a dedicated shipping channel in Gladstone Harbour.

The first stage is expected to produce 7.4 million tonnes of liquefied natural gas a year from two processing units, referred to as "trains", on Curtis Island. Ultimately, QGC is seeking approval for production of up to 12 million tonnes a year.

At maximum production Gladstone can expect two to three LNG ships a week.

The proposed liquefaction plant will occupy less than 1% of Curtis Island and will be separated from public areas by an environmental protection zone.

Construction is scheduled to begin in 2010, with first production due in late 2013.

QGC – A BG Group business

Queensland Curtis LNG is a priority project for QGC, the Australian business of BG Group.

The project matches QGC's extensive coal seam gas expertise with BG Group's international experience in liquefied natural gas.

QGC is one of Australia's leading coal seam gas producers, with world-class reserves projected to supply about 20% of the Queensland domestic gas market in 2009.

BG Group plc is a UK-listed energy business with activities on five continents and interests in 27 countries.

BG Group has wide experience in liquefied natural gas plant operation, shipping and marketing.

The company's international liquefied natural gas business includes major liquefaction plants in Trinidad and Egypt and regasification terminals either operational or under construction on both sides of the Atlantic.

In 2008, BG Group managed total liquefied natural gas volumes of about 13 million tonnes. This compares to Australia's total output of liquefied natural gas in 2008 of about 15 million tonnes.

BG Group is one of the world's largest independent operators of liquefied natural gas ships.

Liquefied natural gas

Natural gas, the cleanest of all fossil fuels, is a mixture of gases made up mostly of methane.

Coal seam gas, the feed stock for the Queensland Curtis LNG Project, is considered a "clean" natural gas in that it requires little treatment before it can be used in homes and industry.

Liquefied natural gas, or LNG, is natural gas that has been cooled to -162°C until it becomes a liquid where it takes up 1/600th of its original gaseous volume.

By liquefying natural gas, it is easier, safer and more economical to store and transport the fuel over great distances.

Liquefied natural gas is colourless, odourless, non-corrosive and non-toxic.

The project represents a major investment to unlock Queensland's reserves of coal seam gas, creating new energy supply options.

Approvals

In July 2008, Queensland Curtis LNG was declared a "significant" project, triggering environmental assessment under Queensland and Australian Government legislation.

This involves the preparation of an environmental impact statement, sometimes referred to as an EIS, that explains what we intend to build, the likely impact we will have and how we intend to manage that impact.

The entire process is expected to take 12-18 months.

Studies for the environmental impact statement began when the project was announced in February 2008.

Public involvement

People with an interest in the project are a valuable source of information about the project area.

We encourage you to comment or provide feedback on the project and the environmental impact assessment process.

This will help to ensure that we understand concerns and issues as we develop a project that is good for people and the environment.

It will also help us as we strive to maximise project benefits for Queensland and Australia.

For information on how to provide feedback, and to keep up with developments on the Queensland Curtis LNG Project, please visit our website **www.qclng.com.au** or the Queensland Government website **www.dip.qld.gov.au.**

Contact

If you would like more information about the Queensland Curtis LNG Project, please contact us at: **info@qclng.com.au** or our toll-free number **1800 030 443**

Alternatively, visit our website: **www.qclng.com.au**

QUEENSLAND CURTIS LNG
A BG Group business

QUEENSLAND CURTIS LNG
A BG Group business

Fact Sheet

Pipeline

When completed, the pipeline will have minimal impact on land use.

- A 380km underground pipeline will transport gas to Gladstone
- Once completed, the pipeline will have minimal impact on existing land use
- The pipeline will be constructed to strict world-recognised standards

The Queensland Curtis LNG Project involves transporting coal seam gas several hundred kilometres through an underground pipeline from the Surat Basin to Gladstone. There, it will be turned into liquefied natural gas, or LNG, for export markets.

The pipeline route to Gladstone is likely to pass mostly through freehold properties, as well as some leasehold and Crown land.

Queensland Curtis LNG, a BG Group business, is working to explain to people who have an interest in the land how they may be affected.

This fact sheet outlines the proposed pipeline route, how construction is likely to affect stakeholders and how Queensland Curtis LNG proposes to minimise impacts.

Pipeline route

Queensland Curtis LNG, one of the largest capital projects underway in Australia, includes gas field development, pipeline network and a liquefaction plant.

In its first stage, the Queensland Curtis LNG plant at Gladstone will have two processing units, or “trains”, with total production capacity of 7.4 million tonnes of liquefied natural gas a year.

The main pipeline will link the gas fields to the plant.

Once the pipeline is buried, the site is tidied and topsoil is re-spread.

The only visible signs of a pipeline will be marker posts.

Pipline route continued

The pipeline will start near Miles in the Surat Basin of southern Queensland, transporting coal seam gas underground for about 380km to the north east of Gladstone. From there the pipeline will take the gas to Curtis Island, where it will be processed into liquefied natural gas.

The project will also involve laying more than 400km of lateral pipelines to connect gas fields and production facilities to the main pipeline.

Related infrastructure such as compressor stations, marker posts and metering will support the pipelines.

Potential pipeline routes to be studied were selected on the basis of minimising the overall impact of any development and avoiding where possible environmentally sensitive areas, culturally significant areas and mining leases.

The final routes of the pipelines will depend on consultation and negotiation with those who have an interest in the land and the results of extensive field surveys of geology, topography, ecology and cultural heritage values.

Impacts

The most obvious impact from construction of the main pipeline and supporting network will involve clearing a path along the route, known as a right of way, typically between 30m and 60m wide.

Construction of the pipeline network is expected to take 12 to 18 months and employ as many as 400 people at a time.

Typically, the sequence of works is:

- Vegetation is cleared along an approved construction corridor
- The pipe is delivered
- A trench is dug and pipe is laid in the trench
- The pipe is buried
- The cleared area is rehabilitated
- The pipeline is tested and commissioned.

After the site is tidied and topsoil is re-spread, the only visible signs of a pipeline will be marker posts as required under Australian gas and petroleum industry standards.

Questions and Answers

Q: How much land will the pipeline take up?

A: During construction, a corridor usually about 30m to 40m wide, is required. Sections up to 60m wide will be needed at regular intervals for soil storage, particularly near watercourses, and for truck turnaround bays. These will be agreed with those who have an interest in the land.

Q: How long will construction take?

A: Pipelines are built using small crews known as "spreads". Each spread progresses at about 500m to 3km a day, depending on terrain. Progress may be slower if the ground is heavily wooded or rocky. The arrival dates of crews at each site are often staggered to enable crews to work safely and efficiently. Typically it would take about 12 weeks for all crews to complete their tasks in an area.

Q: How can land be used after pipeline construction?

A: Queensland Curtis LNG will seek only an easement over the land, giving the project a continuing but limited interest in, or right to, the area. This is common for assets such as water mains, drains and pipelines. Under this arrangement, ownership remains with the landowner but Queensland Curtis LNG will have some say in future activities. For example, there may be restrictions preventing building over pipelines or limiting tree height. There may also be limits on activities that require digging or ploughing to depths greater than 300mm. All other activities such as grazing and general agriculture can proceed as normal when construction is complete.

Q: What if current or planned agricultural practices require digging or ploughing to greater than 300mm?

A: In this case the pipeline will be buried to a greater depth to allow existing practices to continue. This would be negotiated with the landowner during the easement acquisition process.

Q: How are people compensated for the easement and for any loss of productivity during construction?

A: Queensland Curtis LNG land access officers will contact all those with an interest in the land who are potentially affected. They will discuss the project needs and negotiate appropriate routes, easement and construction compensation. A third-party independent valuation firm will be available to evaluate compensation offers.

Q: How long with the pipeline last?

A: The pipeline will have a design life of about 40 years. With proper maintenance it would be expected to operate even longer.

Q: What materials are used in the construction of pipelines?

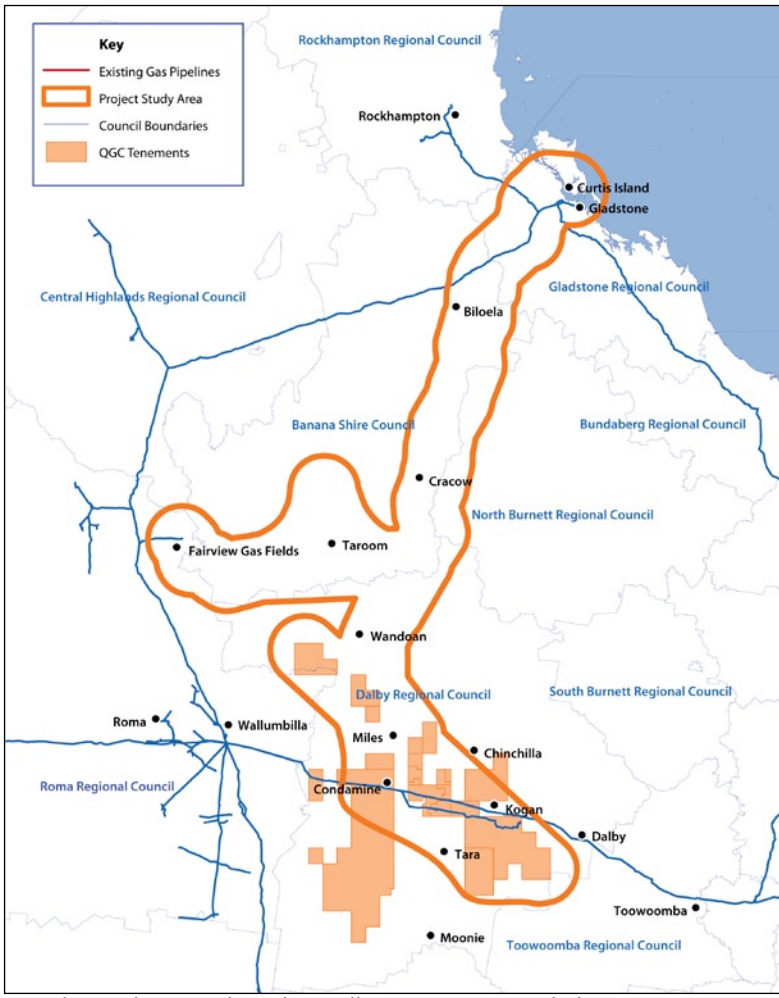
A: Pipelines are made from high-grade steel, impact tested to meet stringent standards. Heavy-wall pipe is used in places where there are perceived risks from things such as water or rail crossings. High-grade coatings are also used to prevent corrosion.

Q: What should we expect during construction?

A:
- An increase in traffic
- Changes to speed limits close to construction activities
- Construction activity in stages over about four months
- Moving equipment and machinery

Q: How is the land rehabilitated after the pipeline has been laid?

A: Work areas are rehabilitated to allow the original land use to resume, be it grazing or agriculture. Where appropriate, the work areas are re-seeded following re-spreading of topsoil and the installation of erosion control measures.



A 380km underground pipeline will transport gas to Gladstone.

Questions and Answers continued

Q: What other safety measures are in place?

A: Pipelines are constructed under Australian Standard AS2885. Under this world-recognised standard:

- Pipelines must be buried to depths greater than those likely to be reached by common land use. For example, in areas of deep ripping cultivation, the pipeline is buried below 1200mm.
- Warning marker tape is buried above the pipe to ward off accidental damage while, above ground, marker posts are placed within sight of each other the entire length of the pipeline.
- Emergency shutdown systems are required, with electronically controlled closure valves placed in strategic positions throughout the pipeline.
- Emergency crews will be trained to respond in the unlikely event of an incident and work closely with the local emergency services.

Before filling with gas, the pipeline is pressure tested with water to ensure it does not leak and is capable of operating at its design pressure.

Q: What else is done to maintain pipelines and keep them safe?

A: The condition and integrity of pipelines is constantly monitored. Above ground, regular air and land patrols ensure no unauthorised activities, such as deep digging, take place in the pipeline easement. Landowners and other users of land above the pipeline receive education and information about their responsibilities.

Below ground, the pipeline is remotely monitored for pressure, temperature and external cathodic protection, a technique used to control the corrosion of metals and coatings. Valves along the pipeline can be operated remotely at any time to ensure integrity and safety. Routine maintenance and inspections ensure the pipeline is operated safely.

Q: What environmental assessment is being done?

A: Queensland Curtis LNG has been granted "significant project" status under the State Development and Public Works Organisation Act 1971 (Qld) and has been declared a controlled action under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999. An environmental impact statement is being prepared to satisfy legislative requirements and will cover any potential land, water, air, noise and visual impacts.

Q: How will the pipeline transport gas from the mainland to Curtis Island?

A: Various options are being considered but the preference is to run the pipeline underneath the seabed, where it will not obstruct shipping.

Pipeline Facts and Figures

Length:

- Township of Miles to Curtis Island – about 380km
- Possible connection lateral from Fairview – about 140km

Diametre:

- Mainline diametre 91.4cm-106cm, depending on final project configuration
- Collection lateral 40.6cm-60cm, depending on final project configuration

Depth of Cover:

- Minimum cover of 750mm
- Average cover in cropping land of 900mm
- Cover under roads, creeks and railways of a minimum 1200-1500mm

Contact

If you would like more information about the Queensland Curtis LNG Project and the pipeline please contact us at: **info@qclng.com.au** or our toll-free number **1800 030 443**

Alternatively, visit our website: **www.qclng.com.au**

QUEENSLAND CURTIS LNG
A BG Group business

Consultation update

An essential element of the Queensland Curtis LNG Project is listening to communities and taking account of their interests. Our environmental and social impact assessment process involves thorough consultation and working with the community to develop sustainable and mutually beneficial partnerships.

To date more than 300 people have registered their interest in the Queensland Curtis LNG Project and we have conducted more than 135 face-to-face meetings with individuals and organisations.

We're extremely grateful for the feedback, which has been helpful and encouraging.

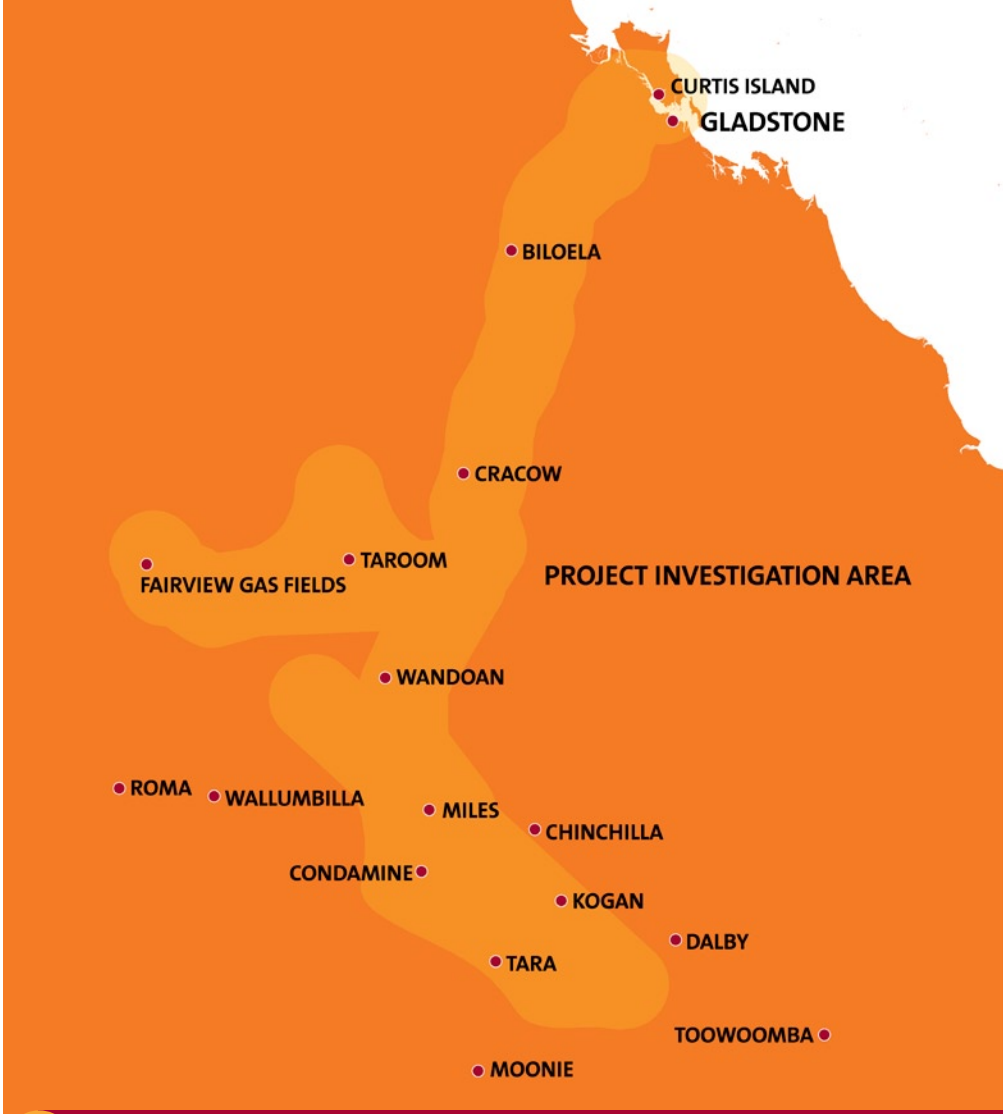
In general, people are keen to see the community and industry develop in harmony. We have received several suggestions for how QGC can become further involved in the communities in which we operate, from the Surat Basin to Gladstone, and these are being considered.

Common themes raised during the consultation process include employment prospects, opportunities for suppliers, industry safety, shipping in Gladstone harbour, housing affordability, demands on road infrastructure, environmental values and water management.

We intend to address these and other topics of interest in coming months through our environmental impact statement, personally or via our fact sheets, website or our toll-free inquiry line.

We value your feedback and welcome interest in the project. Whether you're an individual or are part of a community organisation, please contact us if you would like our project experts to explain any aspect of the development.

- 1800 030 443 (toll free)
- or email info@qclng.com.au



Project investigation area map

Working on the project

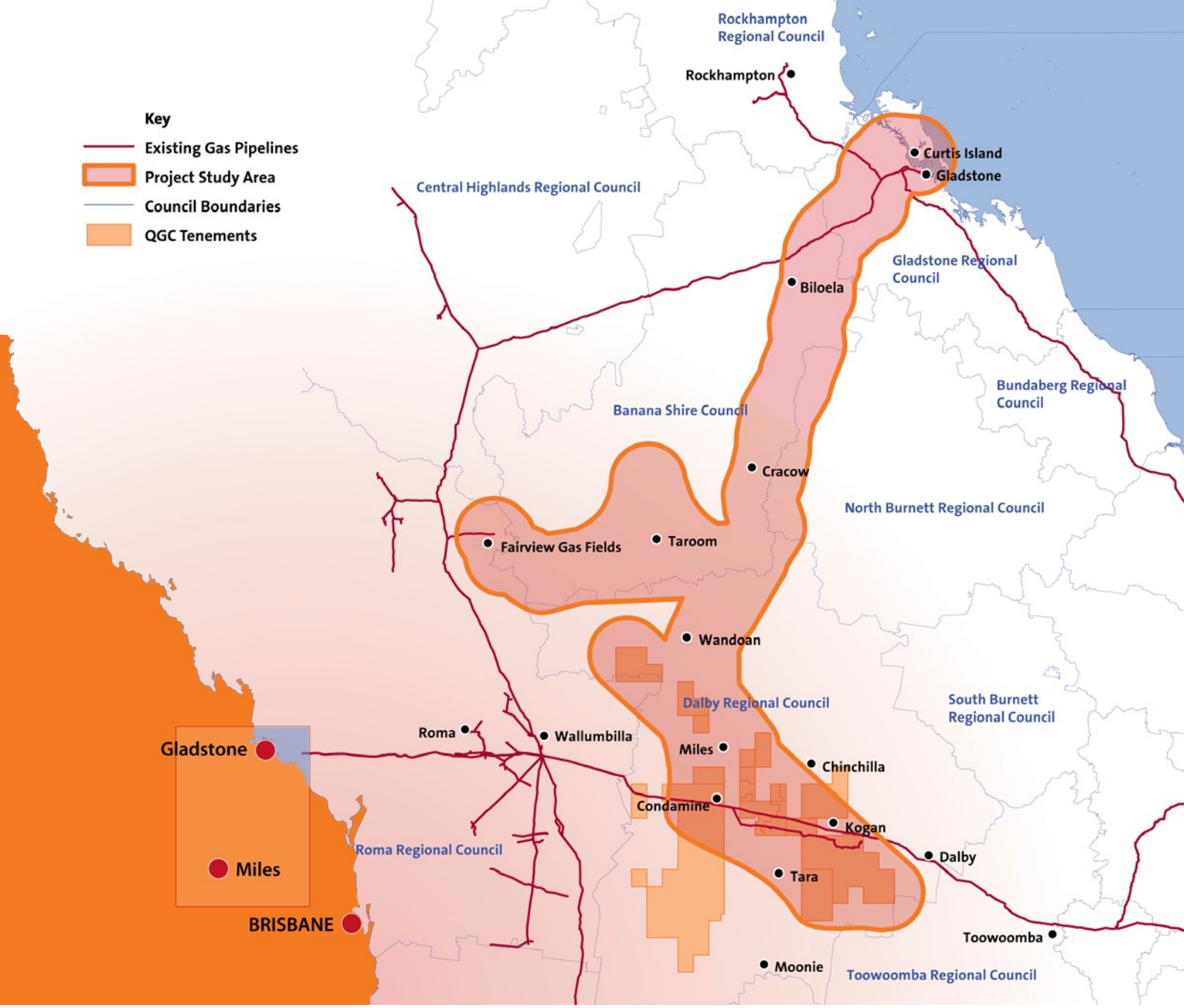
A core business principle of QGC, the operator of the Queensland Curtis LNG Project, is that communities must benefit from our presence.

Consistent with that approach, the company is committed to ensuring that local industry is provided with full, fair, and reasonable opportunity to tender for work on the Queensland Curtis LNG Project.

Bechtel Oil, Gas & Chemicals Inc, one of the world's leading liquefied natural gas contractors, has been appointed project contractor for the liquefaction plant, responsible for co-ordinating labour and supplier requirements.

Across the project, Industry Capability Network (ICN) Queensland is assisting QGC by helping to identify Queensland and Australian companies that can supply goods and services to the standards required.

Continued page 6.



When completed, the environmental impact statement will help Queensland and Australian Government law makers and regulators to make informed decisions about whether the project is environmentally and socially acceptable.

An objective of the environmental impact statement is to identify how best to maximise the benefits of the project for Queensland and Australia.

Benefits

Queensland Curtis LNG represents a major investment to unlock Queensland's reserves of coal seam gas, creating new energy supply options and helping Australia's gas market to grow.

The project will introduce a new industry for Gladstone to complement its position as one of Australia's leading industrial centres for coal, alumina and cement production.

Benefits from the project include:

- Large-scale investment in gas extraction and transportation, creating more opportunities for local gas producers and increasing choice for consumers
- The provision of 3,000 - 4,000 construction jobs at peak across the gas fields, pipeline and liquefaction plant components as well as about 800 permanent positions during operations
- Increased demand for goods and services in Surat Basin communities and in Gladstone, and
- Substantial royalties and tax revenues for the Queensland and Australian Governments.

Also, natural gas is regarded as the world's transition fuel as we move away from hydrocarbons to cleaner energy sources.

Queensland Curtis LNG will release new supplies of natural gas, which emits 22% less carbon dioxide than oil and 40% less than coal for the same energy.

These qualities give natural gas an important role to play in helping address climate change.

The liquefaction process allows natural gas to be economically transported around the world.

QUEENSLAND CURTIS LNG
A BG Group business

Fact Sheet

Methane Nile Eagle

The Methane Nile Eagle is one of nine vessels in BG Group's core liquefied natural gas fleet.

Constructed in 2007, the vessel is among the company's largest with a maximum carrying capacity of 145,597m³ of liquefied natural gas. That's enough energy to power every household in metropolitan Brisbane for about two-and-a-half weeks.

The Methane Nile Eagle is a relatively "green" vessel. It carries a "Green Passport" issued by Lloyd's Register, based on the materials used in the ship's structure, systems and equipment

Its 29,000 kW horsepower engines are driven by a portion of the liquefied natural gas cargo, rather than the heavy fuel oil used by much of the world's merchant marine fleet.

Using gas means significantly fewer emissions of combustion-related products such as carbon dioxide, oxides of nitrogen and sulphur oxides. It is like the difference between emissions from a gas-powered bus and a standard diesel bus, but on a much larger scale.

To further protect the environment, the vessel is certified as free from asbestos and tin-based paints. It also has a waste oil incinerator and garbage compactor. Garbage is segregated, recycled and discharged ashore.

Liquefied natural gas carriers such as the Methane Nile Eagle are among the safest vessels in the maritime industry. Since liquefied natural gas was first shipped in 1959, these vessels have completed 80,000 voyages, including more than 2,600 from Australia, without a major accident or loss of cargo.

As with all liquefied natural gas vessels, the Methane Nile Eagle is designed and operated according to proven and strict international procedures. Crew receive extensive training while the vessel features multiple layers of protection including a double hull, secondary containment system and emergency shutdown systems.

Technical specifications

Flag: Bermuda

Port of registration: Hamilton

Place of building: Samsung Heavy Industries Limited, Geoje, Korea (2007)

Deadweight at design draft: 72,954.8 metric tonnes

Dimensions
Length: 283m

Length between perpendiculars: 270m

Breadth, moulded: 43.40m

Depth to upper deck, moulded: 26m

Design draft: 11.4m

Scantling draft (maximum structural draft): 12.4m

Air draft maximum: 50m above baseline with radar mast in lowered position and approximately 56m with radar mast in raised position

Propulsion
Main propulsion: Steam turbine

Make: Kawasaki Heavy Industries Limited

Type: Reversible geared, cross compound, steam driven

Horsepower at Maximum Continuous Rating (MCR): 29,052 kW @ 90 RPM

Horsepower at Nominal Continuous Rating (NCR): 26,147 kW @ 86.9 RPM

Guaranteed speed: 20.2 knots at a draft of 11.4m and at main steam turbine output of 22,734 kW

Cargo containment
Guaranteed LNG cargo carrying capacity: 142,950m³ at maximum allowable cargo tank fill ratio of 98.5%

Guaranteed fuel consumption: 182.2 metric tonnes per day at NCR

Guaranteed boil-off rate: 0.15 per cent by volume per laden day

Cargo containment system type: Gaztransport & Technigaz (MARK III) membrane

Total cargo capacity at 100% full: 145,597m³

Fast facts

- At a maximum operational speed of 20.2 knots, the Methane Nile Eagle could circumnavigate the world at the equator in 44.5 days
- The Methane Nile Eagle was constructed using more than 22,000 tonnes of steel, the same weight as 123 jumbo jets (747-400)
- Each cargo tank is made up of more than 15,000 major individual pieces
- BG Group places the word "Methane" before the names of its ships to denote the vessels that it owns. This draws on the history of the industry as "Methane" was also applied to the names of the first LNG vessels almost half a century ago

Contact

If you would like more information about the Queensland Curtis LNG Project and the Methane Nile Eagle, please contact us at: **info@qclng.com.au** or our toll-free number **1800 030 443**

Alternatively, visit our website: **www.qclng.com.au**

QUEENSLAND CURTIS LNG
A BG Group business

QUEENSLAND CURTIS LNG
A BG Group business

Fact Sheet

Liquefied Natural Gas

- Liquefied natural gas is natural gas that has been cooled to a liquid
- Natural gas has the lowest carbon emissions of all fossil fuels
- Gas is considered the fuel of choice as the world makes the transition to renewable energy
- Liquefaction technology makes it possible to transport gas economically around the world

Liquefied natural gas, or LNG, is natural gas that has been cooled until it becomes a liquid, making it easier to safely store and transport over great distances.

While natural gas was first liquefied in the 19th century , it is in the past few decades that the technology has transformed international gas markets.

Today liquefied natural gas is in great demand worldwide as a cleaner supply of energy and is forecast to account for 14% of total gas consumption by 2015.

BG Group's Australian business, QGC, is leading the development of a new liquefied natural gas industrial precinct on the east coast of Australia, near Gladstone.

The company's Queensland Curtis LNG Project initially involves a plant on Curtis Island with two processing units, or "trains", with combined production capacity of 7.4 million tonnes of liquefied natural gas a year.

Approval is being sought for annual production of 12 million tonnes, enough energy to power every household in metropolitan Brisbane for 15 years.

Gas properties

Natural gas is a colourless and odourless mixture of gases made up mostly of methane.

It has the lowest carbon emissions of all fossil fuels and is regarded as the world's transition fuel as we move away from hydrocarbons to cleaner energy sources.

Liquefied natural gas is merely natural gas that has been cooled to about -162°C using the same principles that work in household refrigerators and air-conditioning units.

At such low temperature the gas becomes a liquid, taking up about 1/600th of its original volume: that's about the equivalent of reducing a 30cm-diametre beach ball to a ping pong ball. This makes the gas easier to store and transport.

Liquefied natural gas processing units are referred to as "trains". Liquefied natural gas produced by these trains is stored at low pressures, slightly above ambient pressure, in tanks made from materials such as nickel-steel alloys and pre-stressed concrete.

When liquefied natural gas is returned to ambient temperature, it becomes the same natural gas used every day to cook meals, warm homes and fuel buses, cars and power plants.

Liquefied natural gas is colourless, odourless, non-corrosive and non-toxic.

History

Natural gas was first liquefied in the 19th century, with the first liquefaction plant constructed in the United States in 1912.

The inaugural trans-Atlantic shipment of liquefied natural gas occurred in 1959, between Louisiana in the United States and Canvey Island in the United Kingdom.

The British Gas Council, one of those involved in the historic trans-Atlantic shipment, was a forerunner to BG Group.

Today, BG Group is one of the world's leading energy companies, managing total liquefied natural gas volumes of about 13 million tonnes in 2008.

Australia began exporting liquefied natural gas from the North West Shelf Project in 1989 and in 2007-08 had total liquefied natural gas exports of about 15 million tonnes.

LNG technology allows natural gas to be more easily and efficiently transported over great distances in specially-designed ships.

LNG ships have completed more than 80,000 voyages without a major incident.

Benefits

Liquefaction technology is proven, safe and efficient.

Natural gas emits 22% less carbon dioxide than oil and 40% less than coal in producing the same amount of energy.

These qualities give natural gas an important role in helping address climate change.

Also, gas is the most energy efficient fossil fuel – it offers important energy saving benefits when it is used instead of oil or coal.

Markets

Liquefied natural gas is transported in specially insulated, double-hull ships that usually carry about 138,000m³ to 170,000m³ of gas.

That's enough energy to power every household in Brisbane, a city of about 1 million people, for about four-and-a-half weeks, or the entire Brisbane metropolitan area for two-and-a-half weeks.

When it reaches market, the liquefied natural gas is unloaded and stored until it is needed, when it is warmed and converted back to a gas.

The natural gas is then sent through pipelines for distribution to businesses and homeowners.

The global trade in liquefied natural gas increased 7.6% to 171 million tonnes in 2007.

World liquefied natural gas demand is forecast to rise to 400 million tonnes a year, the equivalent of 14% of total gas consumption, by 2015.

Major exporters of liquefied natural gas include the Middle East, Indonesia, Australia, Algeria, Egypt, Trinidad and Tobago, Nigeria, Equatorial Guinea and Malaysia.

At the beginning of 2009 there were 19 nations importing liquefied natural gas with the leading buyers including Japan, South Korea, China, Spain, the United States, Taiwan and India.

Since liquefied natural gas was first shipped commercially in 1959, operators have completed more than 80,000 voyages, including more than 2600 cargoes from Australia, without a major incident.

Safety and security

The liquefied natural gas industry has earned an enviable reputation for safety in half a century of commercial operations.

This record is the product of continuous improvement of technology, safety equipment, comprehensive safety procedures, training and equipment maintenance.

Liquefied natural gas is stored at near atmospheric pressure, unlike the gas we use in cylinders for our barbeques or motor vehicles, which is kept at high pressure.

In the unlikely event that liquefied natural gas is released, it can ignite under limited conditions. For this reason, the liquefied natural gas industry goes to extreme lengths to prevent sparks and naked flames in liquefied natural gas plants.

Liquefied natural gas vapours can only burn in a narrow concentration between 5% and 15% natural gas in the air.

This means that at a concentration of less than 5% natural gas in the air, the vapours are too diluted to burn. At greater than 15% natural gas in the air there is not enough oxygen to burn.

Australia's Commonwealth Scientific and Industrial Research Organisation, the CSIRO, has shown that liquefied natural gas poses less of a potential hazard than many commonly used fuels.

For example, liquefied natural gas is harder to ignite than diesel.

And although liquefied natural gas vapours may burn when released to the atmosphere, they do not release energy quickly enough to create the overpressures, or force, associated with explosions.

When liquefied natural gas mixes with water or comes in contact with land, it warms to form a white vapour cloud that dissipates in air, leaving no lasting residue.

Contact

If you would like more information about the Queensland Curtis LNG Project and liquefied natural gas, please contact us at:
info@qclng.com.au or our toll-free number **1800 030 443**

Alternatively, visit our website:
www.qclng.com.au

QUEENSLAND CURTIS LNG
A BG Group business