Our project commitments

AUSTRALIA PACIFIC LNG

Australia Pacific LNG has made a range of social and environmental commitments across each component of the project comprising gas fields, gas pipeline and LNG facility. Our commitments are summarised here.

origin ConocoPhillips

APLNG is a CSG to LNG Joint Venture between Origin and ConocoPhillips.

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1 - Gas fields - commitments

Stakeholder engagement

Australia Pacific LNG will:

- Continue consultation and engagement programs with stakeholders to ensure their views are understood and considered throughout the life of the Project
- Continue to participate with government in local and regional planning processes and provide timely information about the Project to inform discussion and decision making
- Continue to work to mitigate project impacts on local landowners throughout the project life by:
  - Engaging with each landowner within the project area prior to any project activity on their land
  - Where possible, working towards mutually beneficial outcomes
  - Assigning a dedicated liaison officer to each landowner in the project area
  - Locating and scheduling project activities to reduce impacts on landowner activities.

Climate

In order to manage potential impacts of climate and climate change associated with the gas fields (and associated infrastructure), Australia Pacific LNG will:

- Incorporate adaptive management approach to climate change throughout the life of the Project
- Incorporate the agreed preferred climate change strategies which resulted from the risk assessment into the design process
- Co-operate with government, other industry and other sectors to address adaptation to climate change.

Geology and soils

Australia Pacific LNG commits to the following for the construction, operation, and decommissioning of the Project within the gas fields:

- Avoid areas of severe erosion potential where practicable
- Minimise erosion risk by refining construction techniques, and erosion and sediment control methods
- Creek rehabilitation will be consistent with surrounding environment and contours of the channel at the time of construction
- Point discharges will be directed to stable waterways and/or drainage lines with appropriate engineering controls, such as scour protection and flow velocity limits
- Develop and implement procedures and monitoring programs to identify, investigate and conduct necessary remedial works for potential site contamination to retain environmental values.

Land use and planning

To minimise adverse impacts to existing or future land uses from its activities in the gas fields' development areas, Australia Pacific LNG will:

- Minimise the loss of good quality agricultural land
- Undertake ongoing assessments and update good quality agricultural land mapping so potential impacts can be mitigated

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- Participate in pro-active weed management and will work with regional councils to construct weed wash down facilities near Miles to support gas field construction and operations
- Prepare and implement property-specific plans to manage project activities around the landholder business and residences to minimise impacts
- Implement the adaptive associated water management plan, which includes the opportunity for impacted landholders to beneficially use water.

Landscape and visual amenity

To manage the potential visual impacts associated with the construction and operation of the gas fields, Australia Pacific LNG will, where practicable:

- Complete a detailed analysis of the visual catchment of each gas processing facility located within 1,000m, each water treatment facility within 400m, and each gas well within 300m from the nearest sensitive receptors, and where required, implement (in consultation with the land holder) strategies to screen or integrate the gas processing facility, water treatment facility or gas well into the landscape
- Undertake a detailed analysis of the visual catchment of each accommodation facility to establish if there are any sensitive receptors within 800m of the facility. Where needed, establish and implement vegetation planting strategies to screen or integrate the accommodation facility into the landscape
- Consider colours of infrastructure to minimise the contrast with the surrounding landscape
- Remove surface infrastructure, where no longer required, during decommissioning and rehabilitate to a condition as close to its original state as possible.

Terrestrial ecology

Australia Pacific LNG commits to utilising sensitivity mapping and landscape management guidelines to plan the location of infrastructure, taking into account the landscape biodiversity values with the aim of minimising habitat fragmentation.

Australia Pacific LNG will limit clearing in areas of high biodiversity value, particularly for:

- Category 1 areas – these areas will be avoided and protected with 'no go' zones and a buffer area established in accordance with the approved habitat management guidelines
- Categories 2 and 3 areas –, unless otherwise approved, all activity on undisturbed land in these areas will follow the approved habitat management guidelines, infrastructure will be positioned along existing disturbed areas, and active rehabilitation will be implemented.

Australia Pacific LNG will establish a vegetation offset program that includes:

- Developing offsets for each hectare of conservation significant vegetation removed for the Project
- Considering ecological values at a regional scale when identifying locations for compensatory offset
- Targeting offsets to enhance biodiversity corridors where practical
- Using a third party provider to manage delivery of the regional program, supplemented with contributions to an administered fund
- Developing and providing offsets to respond to a disturbance inventory.

Australia Pacific LNG will engage with government and the community to develop sustainable regional land use strategies that combine the interests of gas production, agriculture and biodiversity values.

Australia Pacific LNG will undertake the following weed management measures:

- Develop weed management guidelines to minimise the spread of weeds throughout the study area and eradicate and control new weed infestations
- Work with regional councils in weed control
- Construct weed wash down facilities near Miles to support gas field construction and operations.

Aquatic ecology

To manage the potential impacts on water quality, aquatic ecology and habitat and fluvial geomorphology associated with the construction, operation and decommissioning of the proposed gas field infrastructure, Australia Pacific LNG will:

- Develop and implement water quality, aquatic ecology and geomorphology monitoring programs for treated water discharge
- Locate discharge points within geomorphologically stable reaches of watercourses
- Design and implement erosion and sediment control devices according to regulatory requirements (Queensland 'Guidelines for Erosion and Sediment Control)
- Develop and implement mosquito monitoring and mitigation in accordance with the Mosquito Management Code of Practice for Queensland, for ponded waters associated with petroleum development.
- Design discharges to watercourses to mimic the variability of natural flows to the best extent practicable, and meet regulatory requirements (recognising the practicalities and timing of establishing beneficial use)
- Design watercourse crossings to not impede flow and therefore the passage of organisms.

Groundwater

Australia Pacific LNG makes the following ongoing commitments as part of its groundwater mitigation and management strategy:

- Continue to assess impacts from associated water extractions over the life of the Project
- Collaborate with the Queensland Government in support of its Blueprint for Queensland's LNG Industry (2009), and other CSG operators in the region, to develop an agreed approach to regional groundwater monitoring and cumulative effects groundwater modelling
- Work with government to develop a publically accessible database which will contain easily interpreted groundwater level and quality monitoring data
- Manage and implement appropriate (early intervention) strategies to minimise adverse impacts as a consequence of its proposed CSG activities
- Comply with the 'make good' provisions where required under the Petroleum and Gas (Production and Safety) Act 2004 and consult with stakeholders on strategies to 'make good'
- Involve community groups in the implementation of the ongoing groundwater monitoring program

- As part of the ongoing monitoring program, conduct further evaluations of the potential for gas migration during CSG production and, where necessary, develop appropriate monitoring and control measures to mitigate any residual risks
- Employ CSG well and infrastructure designs and construction methods, in accordance with relevant legislation and standards agreed in consultation with government, which minimise the potential for impacts to the local and regional groundwater regime
- Actively investigate alternative water management strategies including aquifer injection
- Participate in studies into the long-term sustainable water supply options for the region and support programs for water conservation within the region.

Surface water

To manage potential impacts of tenement flooding, Australia Pacific LNG will:

- Avoid placement of major infrastructure in existing flood extents where practicable
- Avoid placement of project infrastructure over tributaries and flow paths where practicable
- Incorporate appropriate design measures where infrastructure is located within flood extents (such as wellhead facilities).

To manage potential impacts to water quality, Australia Pacific LNG will install and maintain stormwater mitigation devices to reduce the potential impacts of storm events on the facilities and receiving environment.

To manage potential impacts of treated water discharge to stream flow, Australia Pacific LNG will:

- Discharge in a manner that meets environmental flow objectives and mimics pre-development stream flows where practicable (recognising the practicalities and timing of establishing beneficial use)
- Design discharge infrastructure such that localised velocity and scour is minimised and appropriate mixing of discharge is achieved
- Conduct ongoing monitoring for water quality at selected locations of the gas fields where significant project activity is undertaken during operations.

To manage potential impacts of hydro-test water, Australia Pacific LNG will:

- Test the quality of the hydro-test water prior to release
- Discharge hydro-test water in compliance with all regulatory requirements and consult landholders about opportunities for reuse.

To manage potential impacts of dam failure, Australia Pacific LNG will:

- Design project surface water storage systems to appropriate standards, and relevant conditions and to minimise the potential for impact on residences
- Incorporate appropriate mitigation measures if there is potential risk to property.

Associated water management

Australia Pacific LNG is committed to collaborating with the Queensland Government in support of its Blueprint for Queensland's LNG Industry (2009), and other CSG operators in the region, to develop an agreed approach to regional groundwater monitoring and cumulative effects groundwater modelling.

As part of the ongoing monitoring program, Australia Pacific LNG will conduct further evaluations of the potential for impacts from agricultural and stream discharge and, where necessary, develop appropriate monitoring and control measures to mitigate any residual risks.

When implementing re-use management options, such as agricultural, Australia Pacific LNG will adopt sustainable land management practices, including appropriate irrigation techniques and stormwater and erosion control measures.

Australia Pacific LNG will:

- Treat water to the appropriate quality for disposal or re-use option
- Discharge treated water in a manner that meets environmental flow objectives and mimics pre-development stream flows where practicable (recognising the practicalities and timing of establishing beneficial use)
- Minimise the number and size of ponds and line all associated water and brine ponds
- Optimise commercial and beneficial water use through an adaptive approach including:
  - Water which can be reliably supplied long term will be contracted to commercial customers
  - Investigate opportunities for water to be managed in conjunction with other producers including water aggregation
- Consider the use of associated water (either treated or untreated) to meet the forecast water requirements of the Project during field development and operation
- Continue to work with the Western Downs Regional Council to study options to make water available to Miles and the towns near the gas field development
- Participate in studies into the long-term sustainable water supply options for the region and support programs for water conservation within the region
- Offer impacted landholders, near to its water pipeline network, the opportunity to access water on commercial terms or as a compensation offset, subject to availability and relevant approvals
- Actively investigate alternative water management technologies including aquifer injection
- Actively investigate improved water management technologies to address beneficial use of brine.

Air quality

To manage the potential impacts of air emissions associated with the construction, operation and decommissioning of the gas fields and to meet air quality objectives, Australia Pacific LNG will:

- Conduct further investigations into technologies or options as part of development at Condabri and/or an expansion of the Talinga facilities and implement accordingly to meet air quality criteria
- Minimise dust emissions through the implementation of measures incorporated in environmental management plans that include, as far as practicable, minimising the area and duration of land disturbance activities, scheduling such activities to avoid adverse weather conditions, suppressing dust, and rehabilitating disturbed areas as soon as practicable
- Use lean-burn gas-fired engines (lower oxides of nitrogen) wherever practicable
- Develop and implement an air emission monitoring program for nitrogen dioxide, including installation of stack emission testing equipment in gas processing facilities
- Investigate alternative low emission technologies as appropriate, including electric drive motors.

Greenhouse gases

Australia Pacific LNG will:

- Develop ongoing processes for minimising energy consumption and greenhouse gas (GHG) emissions within the Project, by:
  - Investigating the use of solar and electric drives for production equipment
  - Improving the energy efficiency of gas compression through better technology
  - Minimising operational coal seam gas flaring and venting
- Develop a biodiversity offset strategy, which will take into account GHG offsets
- Measure and report GHG emissions in compliance with National Greenhouse and Energy Reporting System
- Work with government on developing measures to address GHG emissions.

Noise and vibration

In order to manage potential impacts of airborne noise and ground vibration during gas well-development and plant and other infrastructure construction, Australia Pacific LNG will:

- Identify noise management measures for out-of-hours (6.30pm to 6.30am) construction activities within 2km of dwellings, if required, in consultation with potentially affected residents
- Develop and implement construction noise and vibration management measures on a case by case basis for potentially affected residents, as appropriate
- Orientate wellhead flare lines away from the nearest sensitive receptors, wherever possible
- Schedule and identify noise management measures for cavitation activities in consultation with potentially affected residents
- Locate gas and water pipelines at appropriate distances from sensitive dwellings, commercial premises or cultural heritage listed structures to minimise the risk of harm from ground vibration associated with construction activities
- Design blasting to comply with the relevant criteria
- Identify suitable routes and times of travel prior to well development and plant construction to reduce disturbances to residents and traffic conditions
- Encourage deliveries to construction sites during normal operating hours where practicable
- Locate accommodation facilities at appropriate distances from sensitive receptors.

Australia Pacific LNG will address the planning noise level for residences or otherwise reach agreements with affected landowners to manage potential impacts of airborne noise during normal operations by:

- Planning gas well and gas processing facility locations and designing noise mitigation treatments for all plant to achieve compliance with the planning noise level for all operating equipment at noise sensitive receptors
- Designing the orientation of gas processing facilities and constructing noise attenuation walls to minimise directional noise emissions to nearest sensitive receptors, as required
- Utilising lower noise cooling fans for compressor engines at gas processing facilities, as required

- Incorporating noise controls into water treatment facilities
- Investigating the alternative of electric drive motors instead of gas-fired engines for gas processing facilities, water treatment facilities, and wellheads.

Waste

Australia Pacific LNG will:

- Develop and implement detailed waste management guidelines across the gas fields utilising the principles of the waste management hierarchy
- Work with local councils to determine the current landfill capacities and accepted waste types and will work with councils to assist with the planning of expansion and upgrade of landfills to ensure wastes generated from the Project can be accommodated if required
- Establish contracts with companies encouraging sustainable waste management practices
- Encourage the procurement of pre-fabricated materials where practicable
- Encourage local businesses to take advantage of opportunities for re-use and recycling, if available or initiate opportunities, if unavailable
- Regularly review of the waste management guidelines including the marketability of wastes and the results of waste audits to improve waste management within the gas fields.

Traffic and transport

To reduce the risk of accidents to employees and other transport network users from project operations, Australia Pacific LNG will develop and implement detailed traffic management plans and transport and logistics management plans for constructing and operating the gas fields. These plans will incorporate safety measures to be implemented across all relevant modes of transport.

A range of operational health and safety measures covering the operation of project vehicles will be implemented to reduce the risk of motor vehicle accidents. Australia Pacific LNG will adopt Origin's health, safety and environment (HSE) management system for the operation of the gas fields.

Australia Pacific LNG will:

- Rehabilitate, post construction, impacted stock routes
- Work with the Australian, Queensland and local governments and industry in regard to infrastructure alterations which may be required to meet the increased demands on the regional and local transport network which may include access road construction, flood mitigation measures, intersection and road modifications, pavement rehabilitation and road maintenance
- Decommission access roads to temporary facilities, laydown areas and stockpile sites that have been constructed as part of the Project, unless relevant government agencies or landowners agree with Australia Pacific LNG to leave them in place
- Implement measures to reduce, as far as practicable, the generation of dust by project vehicles
- Participate in pro-active weed management and will work closely with regional councils
- Work with Western Downs Regional Council and relevant government agencies and service providers to determine the most appropriate options for the use of Miles aerodrome
- Support Maranoa Regional Council's applications for government funding to upgrade the Roma airport.

Indigenous cultural heritage

Australia Pacific LNG commits to continued engagement and negotiations with endorsed Aboriginal Parties and to developing (where not already developed) and implementing an approved cultural heritage management plan for the gas fields' area.

Australia Pacific LNG is seeking to develop long-term relationships with Aboriginal parties and broader Indigenous communities through implementing an Indigenous engagement strategy.

Non-indigenous cultural heritage

Australia Pacific LNG commits to avoiding adverse impact on non-indigenous (shared) cultural heritage where practicable, and where unable to avoid impacts, develop a heritage management plan in consultation with relevant regulatory bodies.

Social assessment

Employment and business

Australia Pacific LNG will:

- Continue to use existing methods or develop new methods to attract people to the workforce who are local to the region, as well as those from under-represented groups
- Implement a local content strategy, to participate in or establish programs to assist qualified local and regional businesses with tendering opportunities for providing goods and services for the Project
- Aim to build collaborative partnerships with government and community organisations, to enhance the capacity for employers to provide jobs and for local people to develop skills and obtain employment (e.g. through the Community Skills Scholarship program)
- Work with government, the community and industry to plan for potential cumulative impacts and to share information about potential impacts and mitigation measures
- Ensure contracts with suppliers and contractors are aligned with Australia Pacific LNG's sustainability principles and objectives
- Work closely with Energy Skills Queensland's CSG/LNG Skills Taskforce to help meet the growing skills demand by:
  - Creating community awareness about the industry and opportunities
  - Enhancing vocational training
  - Facilitating career advice and work readiness programs for new entrants and mature entrants from related industries.

Education and training

Australia Pacific LNG will:

- Implement CSG/LNG gateway programs with high schools in the region, in partnership with providers such as the Queensland Minerals and Energy Academy, to promote career opportunities and facilitate employment in the CSG/LNG industry

- Expand competency based training and skills development programs for production and process plant operators, including further development of the dedicated training facilities at the Peat gas processing facility near Wandoan
- Continue to collaborate on programs with government, training and educational groups that build the local skills base, to meet the specific needs of the industry and other impacted sectors including ongoing development of apprenticeship, traineeship, scholarship and higher education programs.

Community health and safety

Australia Pacific LNG will:

- Expand its community safety awareness program in conjunction with industry partners, government and community groups, to develop responses to project-related community safety issues in the region
- Communicate and strictly enforce its code of conduct for all staff and contractors, to uphold a high standard of behaviour
- Collaborate with government, industry and other providers to mitigate the impact on health services in local communities, including providing the appropriate level of medical facilities for operating plants and accommodation facilities.

Local services and facilities commitments

Australia Pacific LNG will:

- Collaborate on research programs with government, industry and community partners to understand social impacts and opportunities the development creates in the communities in which it operates
- Implement community investment programs to support sustainable community development.

Housing and accommodation commitments

Australia Pacific LNG will:

- Provide temporary accommodation facilities for non-local construction staff and contractors, and consult with stakeholders during the site selection process for these facilities
- Mitigate pressure on housing affordability during gas fields operations, temporary accommodation will be provided for personnel wishing to relocate until such time as housing stock becomes available
- Work through committees established under the Queensland Government's Sustainable Resource Communities Policy to identify housing market issues, forecasts and possible responses
- Mitigate potential impacts on housing affordability and availability, through community programs that involve working with government and agencies that provide housing to people in distress.

Economic assessment

To manage potential impacts of the Project on the local and regional economic environments, Australia Pacific LNG has committed to a range of strategies. The economic commitments for these strategies are contained within the social commitments section.

Hazard and risk

In order to minimise the potential risk to people property and the environment from abnormal events or accidents associated with its gas fields activities, including from exposure to natural hazards, Australia Pacific LNG will:

- Operate the gas field under a formal safety management plan in accordance with the requirements of the Petroleum and Gas (Production and Safety) Act 2004, to be updated as required during operations
- Maintain an up to date traffic management plan which will include: driver fatigue monitoring, driver education and training, enforced speed limits for project vehicles, use of buses to reduce private vehicle use, public access restrictions to work areas; and use of in-vehicle monitoring systems
- Initiate and participate in ongoing community campaigns to reduce the likelihood and consequences of vehicle accidents
- Consult with Civil Aviation Safety Authority and the Western Downs Regional Council on plans for the proposed gas processing facility near Miles aerodrome.

Matters of national environmental significance

To manage potential impacts on matters of national environmental significance from activities within the gas fields, Australia Pacific LNG has committed to a range of strategies, as described within the terrestrial and aquatic ecology sections.

2 - Gas pipeline - commitments

Stakeholder engagement

Australia Pacific LNG will:

- Continue consultation and engagement programs with stakeholders to ensure their views are understood and considered throughout the life of the Project
- Continue to participate with government in local and regional planning processes and provide timely information about the Project to inform discussion and decision-making
- Continue to work to mitigate project impacts on local landowners throughout the project life by:
  - Engaging with each landowner within the project area prior to any project activity on their land
  - Where possible, working towards mutually beneficial outcomes
  - Assigning a dedicated liaison officer to each landowner in the project area
  - Locating and scheduling project activities to reduce impacts on landowner activities.

Climate

In order to manage potential impacts of climate and climate change associated with the gas pipeline, Australia Pacific LNG will:

- Incorporate adaptive management approach to climate change throughout the life of the Project
- Incorporate the agreed preferred climate change strategies which resulted from the risk assessment into the design process
- Cooperate with government, other industry and other sectors to address adaptation to climate change.

Geology and soils

Australia Pacific LNG commits to the following for the construction, operation, and decommissioning of the Project within the gas pipeline corridor:

Minimise erosion risk by refining construction techniques, and erosion and sediment control methods

- Creek rehabilitation will be consistent with surrounding environment and contours of the channel at the time of construction
- Direct point discharges to stable waterways and/or drainage lines with appropriate engineering controls, such as scour protection and flow velocity limits
- Complete an acid sulphate soils investigation and develop an acid sulphate soils management plan in accordance with relevant Queensland guidelines
- Develop and implement procedures and monitoring programs to identify, investigate and conduct necessary remedial works for potential site contamination to retain environmental values.

Land use and planning

To minimise adverse impacts to existing or future land uses from its activities related to the gas pipeline, Australia Pacific LNG will:

- Work with affected landholders to limit disruption to the landholder's use of the land for agricultural and other purposes

- Participate in proactive weed management and will work with regional councils to construct weed wash down facilities at a location in the Banana Shire to support gas pipeline construction and operations
- Consult with the operators and owners of infrastructure such as roads, railways, marine facilities, other pipelines and telecommunication cables to develop management measures for the crossing of, or co-location with, such infrastructure.

Landscape and visual amenity

To manage the potential visual impacts associated with the construction and operation of the gas pipeline, Australia Pacific LNG will, where practicable:

- Minimise the construction time within the visible areas of sensitive receptors
- Minimise clearing of forest and woodland cover particularly in the vicinity of sensitive receptors
- Undertake detailed analysis of the visual catchment of each accommodation facility to establish if there are any sensitive receptors within 800m of the facility. Where required, strategies will be implemented to minimise impacts, in consultation with the landholder.
- Rehabilitate disturbed areas to be consistent with surrounding area
- Where sight lines are important in forest areas, re-establish cover (within operational and safety bounds) to diminish the contrast between the adjoining forest and the easement
- Properly fell trees and clear easements to minimise impact on adjoining vegetation.

Terrestrial ecology

To manage potential impacts on terrestrial ecology associated with the construction, operation and decommissioning of the gas pipeline, Australia Pacific LNG will:

- Conduct surveys for large-fruited zamia palm and Pedley's wattle along the Callide Range (KP 255-271) and Calliope Range (KP 281.5-282.1), and for shiny-leaf ironbark and other endangered, vulnerable or rare plants (i.e. EVR, as listed under State legislation) in the central section of the route (KP 90-105) and develop strategies to reduce impacts
- Limit vegetation clearing to the minimum practicable extent along the right of way
- Undertake pre-clearing surveys to identify the presence of endangered, vulnerable or rare and other significant flora and fauna species where they are likely to occur. Where populations are identified, the gas pipeline route will be realigned or the right of way narrowed for short distances, where safe, to reduce damage or loss of these populations
- Develop and implement bio-security management measures for weeds and pest animals
- Work with regional councils in weed control and contribute to the construction of a permanent weed washdown facility in the Banana Shire
- Develop a vegetation offsets program in consultation with the Queensland Department of Environment and Resource Management and the Commonwealth Department of Environment, Water, Heritage and the Arts.

Aquatic ecology

To manage the potential impacts on water quality, aquatic ecology and habitat and fluvial geomorphology associated with the construction, operation and decommissioning of the proposed gas pipeline infrastructure, Australia Pacific LNG will:

- Design and implement erosion and sediment control devices according to regulatory requirements (Queensland 'Guidelines for Erosion and Sediment Control')
- Design watercourse crossings to not impede flow and therefore the passage of organisms.

Marine ecology

Australia Pacific LNG is committed to managing the potential impacts that constructing the gas pipeline may have on the marine environment, particularly when constructing the gas pipeline crossing of The Narrows.

Australia Pacific LNG will:

- Develop a construction methodology that will minimise disturbance
- Work with State Government, Gladstone Ports Corporation and other proponents proposing similar crossings to achieve an outcome that minimises cumulative impacts
- Establish a process for visual observations and recording of dugongs and cetaceans.

If horizontal directional drilling (HDD) is not the adopted construction method, Australia Pacific LNG will select an appropriate plan to construct a pipeline trench across The Narrows. All dredging activities will be in accordance with dredge management procedures, to reduce potential impact to the watercourse and marine flora and fauna.

Water resources

Australia Pacific LNG will:

- Undertake works, where practicable, in watercourses when the channels is dry
- Undertake, where practicable, any post-construction remedial works of waterway crossings prior to the onset of the wet season
- Undertake annual post-construction monitoring of waterway crossing sites at the end of the wet season, until it has been established that the construction works were successfully completed
- Implement water efficiency measures for construction activities which require the use of surface or groundwater
- Be as self-sufficient as practical for all construction and operational water requirements
- Require all major contractors to submit water conservation plans.

To manage potential impacts of hydrotest water, Australia Pacific LNG will:

- Test the quality of the hydrotest water prior to release
- Discharge hydrotest water in compliance with all regulatory requirements and consult landholders about opportunities for reuse.

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Coastal environment

Australia Pacific LNG's commitments to maintaining the existing values of the coastal environment of The Narrows are addressed in the Marine Ecology section.

Air quality

To manage the potential impacts of air emissions associated with the construction of the gas pipeline and to meet air quality objectives, Australia Pacific LNG will minimise dust emissions through the following measures:

- Minimise the area and duration of land disturbance activities as far as practicable
- Schedule land disturbance activities with recognition of potentially adverse weather conditions
- Reduce speed limits on unpaved roads and tracks adjacent to dwellings to reduce dust
- Suppress dust formation where required with water or other suitable means
- Rehabilitate disturbed areas as soon as practicable.

Greenhouse gases

Australia Pacific LNG will:

- Develop ongoing processes for minimising energy consumption and GHG emissions
- Develop and implement a leak detection and repair program.

Noise and vibration

To manage potential impacts of airborne noise and ground vibration associated with construction of the gas pipeline, Australia Pacific LNG will:

- Locate the gas pipeline at least 100m from sensitive dwellings, commercial premises or cultural heritage listed structures to minimise the risk of cosmetic or structural damage
- Schedule non-standard trenching operations such as rock-sawing, rock-hammering or directional-drilling during standard daytime working hours and notify residents or businesses within 200m before any of these activities are conducted
- Limit construction activities near dwellings to between 6.30am and 6.30pm, as far as practicable
- Undertake out-of-hours construction activities (for example, drilling) in accordance with a noise management plan that addresses the Environmental Protection (Noise) Policy 2008 acoustic quality objectives
- Locate temporary accommodation facilities at least 500m from sensitive receptors
- Prepare a traffic management plan prior to construction to identify suitable routes and times of travel to minimise disturbances to residents and traffic conditions.

Waste

Australia Pacific LNG will:

- Develop and implement detailed waste management guidelines for the gas pipeline utilising the principles of the waste management hierarchy
- Consult with local councils to determine current landfill capacities and accepted waste types, and

should insufficient capacity be identified, Australia Pacific LNG will provide councils with information to assist in planning the expansion and upgrade of their landfills to ensure waste generated from the Project can be accommodated

- Establish contracts with companies encouraging sustainable waste management practices
- Encourage local businesses to establish recycling facilities within the region to maximise the opportunities for re-use and recycling
- Regular review of the waste management guidelines including the marketability of wastes and the results of waste audits to improve waste management for the gas pipeline.

Traffic and transport

To reduce the risk of accidents to employees and other transport network users from project operations, Australia Pacific LNG will develop and implement detailed traffic management plans and transport and logistics management plans for constructing and operating the gas pipeline. These plans will incorporate safety measures to be implemented across all relevant modes of transport.

A range of operational health and safety measures covering the operation of project vehicles will be in place to reduce the risk of motor vehicle accidents. Australia Pacific LNG will adopt Origin's HSE management system for the operations of the gas pipeline.

Australia Pacific LNG will:

- Rehabilitate, post construction, impacted stock routes
- Work with Federal, State, and local governments and industry in regard to infrastructure alterations which may be required to meet the increased demands on the regional and local transport network which may include access road construction, flood mitigation measures, intersection and road modifications, pavement rehabilitation and road maintenance
- Decommission access roads to temporary facilities, laydown areas and stockpile sites that have been constructed as part of the Project, unless relevant government agencies or landowners agree with Australia Pacific LNG to leave them in place
- Implement measures to reduce, as far as practicable, the generation of dust by project vehicles
- Participate in pro-active weed management and will work closely with regional Councils
- Minimise impacts to existing road and rail infrastructure crossings through the use of construction techniques such as boring.

Indigenous cultural heritage

Australia Pacific LNG commits to continued engagement and negotiations with endorsed Aboriginal parties and to developing (where not already developed) and implementing an approved cultural heritage management plan for the gas pipeline.

Australia Pacific LNG is seeking to develop long-term relationships with Aboriginal parties and broader Indigenous communities through implementing an Indigenous engagement strategy.

Non-indigenous cultural heritage

Australia Pacific LNG commits to avoiding adverse impact on non-Indigenous cultural heritage where practicable, and where unable to avoid impacts, develop a heritage management plan in consultation with relevant regulatory bodies.

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Social assessment

Employment and business

Australia Pacific LNG will:

- Continue to use existing methods or develop new methods to attract people to the workforce who are local to the region, as well as those from under-represented groups
- Implement a local content strategy, to participate in or establish programs to assist qualified local and regional businesses with tendering opportunities for providing goods and services for the Project
- Aim to build collaborative partnerships with government and community organisations, to enhance the capacity for employers to provide jobs and for local people to develop skills and obtain employment (e.g. through the Community Skills Scholarship program)
- Continue to use existing methods or develop new methods to attract under-represented groups to the workforce.
- Work with government, the community and industry to plan for potential cumulative impacts and to share information about potential impacts and mitigation measures
- Ensure contracts with suppliers and contractors are aligned with Australia Pacific LNG's sustainability principles and objectives
- Work closely with Energy Skills Queensland's CSG/LNG Skills Taskforce to help meet the growing skills demand by:
  - Creating community awareness about the industry and opportunities
  - Enhancing vocational training
  - Facilitating career advice and work readiness programs for new entrants and mature entrants from related industries.

Education and training

Australia Pacific LNG will:

- Implement CSG/LNG gateway programs with high schools in the region, in partnership with providers such as the Queensland Minerals and Energy Academy, to promote career opportunities and facilitate employment in the CSG/LNG industry
- Continue to collaborate on programs with government, training and educational groups that build the local skills base, to meet the specific needs of the industry and other impacted sectors. This includes ongoing development of apprenticeship, traineeship, scholarship and higher education programs.

Community health and safety

Australia Pacific LNG will:

- Expand its community safety awareness program in conjunction with industry partners, government and community groups, to develop responses to project-related community safety issues in the region
- Communicate and strictly enforce its code of conduct for all staff and contractors, to uphold a high standard of behaviour

- Collaborate with government, industry and other providers to mitigate the impact on health services in local communities, including providing the appropriate level of medical facilities for operating plants and accommodation facilities.

Local services and facilities commitments

Australia Pacific LNG will:

- Collaborate on research programs with government, industry and community partners to understand social impacts and opportunities the development creates in the communities in which we operate
- Implement community investment programs to support sustainable community development.

Housing and accommodation commitments

Australia Pacific LNG will:

- Provide temporary accommodation facilities for non-local construction staff and contractors, and consult with stakeholders during the site selection process for these facilities
- Mitigate pressure on housing affordability during operations, temporary accommodation will be provided for personnel wishing to relocate until such time as housing stock becomes available
- Work through committees established under the Queensland Government's Sustainable Resource Communities Policy to identify housing market issues, forecasts and possible responses
- Mitigate potential impacts on housing affordability and availability, through community programs that involve working with government and agencies that provide housing to people in distress.

Economic assessment

To manage potential impacts of the Project on the local and regional economic environments, Australia Pacific LNG has committed to a range of strategies. The economic commitments for these strategies are contained within the social commitments above.

Hazard and risk

In order to minimise the potential risk to people, property and the environment of abnormal events, natural hazards or accidents associated with construction and operation of the gas pipeline, Australia Pacific LNG will:

- Operate the gas pipeline under a formal safety management plan, which considers whole-of-life safety management in accordance with the requirements of the Petroleum and Gas (Production and Safety) Act 2004, to be updated as required during operations
- Maintain an up to date traffic management plan which will include driver fatigue monitoring, driver education and training, enforced speed limits for project vehicles, use of buses to reduce private vehicle use, public access restrictions to work areas; and use of in-vehicle monitoring systems
- Initiate and participate in ongoing community campaigns to reduce the likelihood and consequences of vehicle accidents.

Matters of national environmental significance

To manage potential impacts on matters of national environmental significance from the construction and operation of the gas pipeline, Australia Pacific LNG has committed to a range of strategies, as described for terrestrial, marine and aquatic ecology, coastal environment and water resources above.

3 - LNG facility - commitments

Stakeholder engagement

Australia Pacific LNG will:

- Continue consultation and engagement programs with stakeholders to ensure their views are understood and considered throughout the life of the Project
- Continue to participate with government in local and regional planning processes and provide timely information about the Project to inform discussion and decision making.

Climate

In order to manage potential impacts of climate change associated with the LNG facility, Australia Pacific LNG will:

- Incorporate adaptive management approach to climate change throughout the life of the Project
- Incorporate the agreed preferred climate change strategies which resulted from the risk assessment into the design process
- Cooperate with government, other industry and other sectors to address adaptation to climate change.

Geology and soils

Australia Pacific LNG commits to the following for the construction, operation, and decommissioning of the LNG facility:

- Avoid areas of severe erosion potential where practicable
- Minimise erosion risk by refining construction techniques, and erosion and sediment control methods
- Complete an acid sulphate soils investigation and develop an acid sulphate soils management plan in accordance with the relevant Queensland guidelines
- Develop and implement procedures and monitoring programs to identify, investigate and conduct necessary remediation for potential site contamination.

Land use and planning

Australia Pacific LNG will continue to consult with Gladstone Regional Council, Gladstone Ports Corporation, and State and Australian government departments to develop the Project consistent with the planning objectives of the relevant jurisdictions.

Landscape and visual amenity

Whilst the proposed LNG facility will have an impact to the existing landscape, Australia Pacific LNG is committed to implementing mitigation measures during construction and operation to reduce potential impacts on the existing landscape and visual amenity.

Australia Pacific LNG will:

- Reduce, as far as practical, vegetation clearing required to support the construction and operation of the LNG facility
- Landscape cut and fill batters to reduce colour contrast with adjoining vegetation
- Ensure that the adjoining on-site bushland is managed to achieve effective visual integration with surrounding coastal landscape

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- Use a sensitive lighting approach to reduce light spill
- Utilise ground flares to reduce visual impact
- Be actively involved in the management of the Curtis Island environmental management precinct.

Terrestrial ecology

Australia Pacific LNG will manage potential impacts to terrestrial ecology of the LNG facility and maintain the ecological processes and integrity of the area by the following:

- Develop a biosecurity management plan in consultation with State and local government authorities and implemented prior to the construction
- Develop a vegetation offsets program in consultation with the Queensland Department of Environment and Resource Management and the Commonwealth Department of Environment, Water, Heritage and the Arts, and will consider ecological values at a regional scale when identifying locations for compensatory offset
- Develop and implement species specific management guidelines for threatened flora species
- Undertake pre-clearing surveys, erosion controls measures and fauna management
- Use a sensitive lighting approach to minimise the potential impact of artificial night lighting on terrestrial fauna.

Aquatic ecology

Australia Pacific LNG will implement effective management guidelines to mitigate potential impacts to freshwater aquatic flora and fauna.

Marine ecology

Australia Pacific LNG will:

- Establish a process for visual observations and recording of dugongs and cetaceans
- Use a sensitive lighting approach to reduce light spill impact on marine fauna
- Seek to work collaboratively with other Western Basin projects to offset the loss of sensitive marine habitat
- Work with government, the Gladstone Ports Corporation, other port users and stakeholders to address loss of fishing access
- Utilise community monitoring of fisheries and fisheries habitat where appropriate pre and post construction
- Work with the Gladstone Ports Corporation and other port users to develop an industry wide approach to minimise boat strikes to marine mammals and turtles.

Water resources

Australia Pacific LNG will:

- Developing and implementing a drainage strategy for the LNG facility to mitigate site flooding from storm events and storm surge
- Designing stormwater controls to divert runoff from external areas around LNG facility

- Preparing a stormwater management plan to ensure that the quality of stormwater discharged from the hydro-test pond and sediment basin of the LNG facility is monitored
- Continue to work collaboratively with Port Curtis Integrated Monitoring Program for whole of Port Curtis water quality monitoring.

Coastal environment

In relation to the coastal environment, Australia Pacific LNG will:

- Continue to address potential impacts from the dredging and reclamation associated with the construction of the materials offloading facility and include mitigation in the design
- Develop and implement a dredge management plan for construction and ongoing maintenance of the materials offloading facility to reduce potential impacts
- Implement monitoring to identify shoreline and near shore impacts resulting from modified hydrodynamics
- Continue dispersion modelling to optimise the design of liquid discharges from the LNG facility to the marine environment.

Air quality

Australia Pacific LNG will:

- Ensure emissions of pollutants to the atmosphere are minimised and air quality objectives are met
- Develop and implement a stack monitoring program to ensure that the air quality objectives and emission standards are achieved.

Greenhouse gases

Australia Pacific LNG will:

- Contribute to reducing global GHG intensity by producing LNG which can substitute for higher GHG intensive fuels
- Develop ongoing processes for reducing energy consumption and GHG emissions
- Use high efficiency aero-derivative drivers for refrigerant compressors
- Install waste heat recovery units to meet the process heat requirements of the LNG facility
- Reduce operational flaring and venting by:
  - Recovering LNG boil-off gas vapours during ship loading
  - Developing a leak detection program
  - Developing a strategy to minimise plant shutdowns
- Develop a GHG management plan, taking into account biodiversity offsets.

Noise and vibration

In order to manage potential impacts of noise and vibration during construction, Australia Pacific LNG will develop and implement construction noise and vibration management guidelines that address potential impacts including:

- Scheduling of high noise activities during normal working hours, where practicable

- Implementing construction techniques for noise reduction for high noise activities such as piling.

Australia Pacific LNG will further assess design measures for the LNG facility to reduce noise impacts including measures to address low frequency noise.

Waste

Australia Pacific LNG commits to the following waste management and minimisation actions:

- Develop and implement a waste management guidelines consistent with the Environmental Protection (Waste Management) Policy 2000 (including waste management hierarchy) for the LNG facility to reduce the risk of contamination of land or water
- Ensure removal, transport and disposal of all general waste and regulated wastes by an appropriately licensed waste management contractor and facilities.

Traffic and transport

To reduce the risk of accidents to employees and other transport network users from project operations, Australia Pacific LNG will develop and implement detailed traffic management plans and transport and logistics management plans for constructing and operating the LNG facility.

A range of operational health and safety measures covering the operation of project vehicles will be in place to reduce the risk of motor vehicle accidents.

Australia Pacific LNG will:

- Work with National, State, Local governments and industry in regard to infrastructure alterations which may be required to meet the increased demands on the regional and local transport network
- Work with Gladstone Regional council and relevant government agencies and service providers to determine the most appropriate options for the use of Gladstone Regional Airport
- Continue to support and consult with Gladstone Ports Corporation and relevant regulatory agencies on construction and operational shipping protocols and traffic management
- Continue negotiations with Gladstone Ports Corporation and Gladstone Regional Council to determine the most appropriate methodology for managing construction and operational traffic associated with the LNG facility via Fishermans Landing Northern Expansion
- Support additional modelling of ship movements within the Port of Gladstone.

Indigenous cultural heritage

Australia Pacific LNG commits to continued engagement and negotiations with endorsed Aboriginal Parties and developing and implementing an approved cultural heritage management plan for the Australia Pacific LNG facility study area.

Australia Pacific LNG is seeking to develop long-term relationships with Aboriginal parties and broader Indigenous communities through implementing an Indigenous Engagement Strategy.

Non-Indigenous cultural heritage

Australia Pacific LNG commits to the following:

- Archival recording of the fence lines on the LNG facility site prior to the commencement of construction
- Implementing procedures during site activities that aim to identify, assess and record undetected non-indigenous heritage sites, including appropriate induction of relevant project personnel.

Social assessment

Employment and business

Australia Pacific LNG will:

- Continue to use existing methods or develop new methods to attract people to the workforce who are local to the region, as well as those from under-represented groups
- Implement a local content strategy, to participate in or establish programs to assist qualified local and regional businesses with tendering opportunities for providing goods and services for the Project
- Aim to build collaborative partnerships with government and community organisations, to enhance the capacity for employers to provide jobs and for local people to develop skills and obtain employment
- Continue to use existing methods or develop new methods to attract under-represented groups to the workforce
- Work with government, the community and industry to plan for potential cumulative impacts and to share information about potential impacts and mitigation measures
- Ensure contracts with suppliers and contractors are aligned with Australia Pacific LNG's sustainability principles and objectives
- Work closely with Energy Skills Queensland's CSG/LNG Skills Taskforce to help meet the growing skills demand by:
  - Creating community awareness about the industry and opportunities
  - Enhancing vocational training
  - Facilitating career advice and work readiness programs for new entrants and mature entrants from related industries.

Education and training

Australia Pacific LNG will:

- Provide specialised LNG operator training programs, including potential opportunities for onsite training on an existing LNG facility
- Implement CSG/LNG gateway programs with high schools in the region, in partnership with providers, to promote career opportunities and facilitate employment in the CSG/LNG industry
- Continue to collaborate on programs with government, training and educational groups that build the local skills base, to meet the specific needs of the industry and other impacted sectors. This includes ongoing development of apprenticeship, traineeship, scholarship and higher education programs.

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Community health and safety

Australia Pacific LNG will:

- Expand its community safety awareness program in conjunction with industry partners, government and community groups, to develop responses to project-related community safety issues in the region
- Communicate and strictly enforce its code of conduct for all staff and contractors, to uphold a high standard of behaviour
- Collaborate with government, industry and other providers to mitigate the impact on health services in local communities, including providing the appropriate level of medical facilities for operating plants and accommodation facilities.

Local services and facilities commitments

Australia Pacific LNG will:

- Collaborate on research programs with government, industry and community partners to understand social impacts and opportunities the development creates in the communities in which we operate
- Implement community investment programs to support sustainable community development.

Housing and accommodation commitments

Australia Pacific LNG will:

- Provide temporary accommodation facilities for non-local construction staff and contractors.
- Expect the operations workforce for the LNG facility to live within the local community in the general housing pool
- Mitigate potential impacts on housing affordability and availability, through community programs that involve working with government and agencies that provide housing to people in distress.

Economic assessment

To manage potential impacts of the Project on the local and regional economic environments, Australia Pacific LNG has committed to a range of strategies. The economic commitments for these strategies are contained within the social commitments above.

Hazard and risk

Australia Pacific LNG commits to the following:

- Continuing hazard and risk studies throughout the project life including HAZOPs, HAZIDs, constructability studies and operability studies
- Continue consultation with Civil Aviation Safety Authority and Gladstone Regional Council Airport Services to determine an appropriate course of action to manage any potential impact to aviation safety
- Communicate project health and safety practices and results of relevant monitoring through a range of channels such as Australia Pacific LNG's community centre, consultation sessions, media and meetings
- Developing a safety report to cover major hazard facility requirements during the project design phase and update as required during the operations phase.

Matters of national environmental significance

To manage potential impacts on matters of national environmental significance from the construction and operation of the LNG facility, Australia Pacific LNG has committed to a range of strategies, as described for terrestrial, marine and aquatic ecology, coastal environment and water resources above.

More information

If you would like more information about the Australia Pacific LNG Project please:

Visit our website: www.aplng.com.au
Call the toll free number: 1800 526 369
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