

# **Australia Pacific LNG Project**

## **Volume 4: LNG Facility**

### **Chapter 20: Social Impact Assessment**

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## 20. Social impact assessment

### 20.1 Introduction

#### 20.1.1 Purpose

This chapter of the environmental impact statement (EIS) forms the social impact assessment (SIA) of the liquefied natural gas (LNG) facility component of the Australia Pacific LNG Project (the Project). The SIA assesses the social impacts associated with the development, construction and operation of the LNG facility. It identifies the nature, magnitude and significance of social impacts and identifies appropriate measures for impact management and mitigation, designed to mitigate potential impacts and maximise the positive benefits and opportunities. There are five steps in the SIA process:

1. Baseline assessment of the social environment
2. Stakeholder engagement
3. Identification and assessment of potential impacts
4. Identification of mitigation measures and opportunities for enhancement
5. Development of a draft social impact management plan (SIMP).

The Australia Pacific LNG sustainability principles were drawn from to guide the completion of the SIA and the Project's draft SIMP. The draft SIMP identifies the strategies required to implement the proposed mitigation measures and enhancement of opportunities and benefits, as well as outlining mechanisms and indicators to monitor the social environment. Using Australia Pacific LNG's 12 sustainability principles to guide the development of the draft SIMP ensures that the proposed strategies are consistent with the Project's overall approach and that contribution to sustainable development is maximised. Specifically, the Australia Pacific LNG sustainability principles relevant to the social environment are:

- Fostering the health and wellbeing of Australia Pacific LNG's workforce
- Respecting the rights, interests and diverse cultures of the communities in which Australia Pacific LNG operates
- Engaging regularly, openly and transparently with people and communities affected by Australia Pacific LNG's activities, considering their views in its decision-making and striving for positive social outcomes
- Working cooperatively with communities, governments and other stakeholders to achieve positive social and environmental outcomes, seeking partnership approaches where appropriate
- Upholding exemplary ethical behaviour in all aspects of Australia Pacific LNG's business
- Identifying, assessing, managing, monitoring and reviewing risks to Australia Pacific LNG's workforce, its property, the environment and the communities affected by its activities
- Ensuring that all employees and contractors work consistently with its sustainability principles, commitments, values and systems.

Guided by these principles, Australia Pacific LNG aims to deliver sustainable long-term benefits to the communities within which it operates, in collaboration with government, industry and communities.

Mechanisms to achieve this are outlined in the SIA and draft SIMP. Identifying opportunities for local and regional businesses and acting on these early through participatory mechanisms will play a key role in contributing to the sustainable community development. Australia Pacific LNG will select suppliers who demonstrate social responsibility, have high health, safety and environment standards and adopt ethical practices.

Proposed mitigation measures and strategies for maximising positive social benefits are aligned where possible with relevant regional community development plans. A key element of sustainability is partnerships. Strategies for maximising opportunities and benefits focus on a collaborative approach with industry, government and community stakeholders to increase the likelihood of success and improve contribution towards community development and capacity building. Guided by the sustainability principles, Australia Pacific LNG has worked with government and community stakeholders to identify possible impacts to existing social services and institutions, and through the SIA has developed strategies to mitigate potential impacts.

Strategies for maximising employment opportunities for local and regional residents while seeking to mitigate disruptive impacts of Project workforce requirements on the existing local and regional labour pool are a key focus of the SIA. The provision of long-term employment opportunities that reach all sectors of the community, including under-represented groups, will contribute to sustainable development. Employment opportunities are underpinned by training programs that support the development of the Project while providing diverse transferrable skills that provide employees with long-term career paths.

### 20.1.2 Scope of works

The SIA has been completed according to the terms of reference (TOR) for the Project as set by the Coordinator-General, December 2009. The specific requirements for the SIA are:

'The Social Impact Assessment (SIA) should be conducted in consultation with the Department of Infrastructure and Planning (DIP) Social Impact Unit. Matters to be considered include the social and cultural area, community engagement, a social baseline study, a workforce profile, potential impacts and mitigation measures and management strategies.'

### 20.1.3 The study area

The site for the LNG facility is in the Curtis Island Industry Precinct of the Gladstone State Development Area (GSDA), Gladstone. The SIA's LNG facility study area has been defined geographically according to the following statistical local areas (SLAs) as classified by the Australian Bureau of Statistics (ABS) 2007, as illustrated in Figure 20.1<sup>1</sup>:

- Gladstone
- Calliope Pt<sup>2</sup> A
- Calliope Pt B

The three SLAs are located within the Gladstone Regional Council (GRC) area. Social baseline data are presented according to these SLAs with state and/or national comparisons given as appropriate.

<sup>1</sup> The letters in parenthesis following the name of individual SLAs refers to the ABS classification of SLAs as either township (T) or city (C)

<sup>2</sup> 'Pt' is the ABS abbreviation for 'part', i.e. there is Calliope 'part' A and Calliope 'part' B SLA.

Data are also presented for the following urban localities where available and as appropriate: Boyne Island; Calliope; Gladstone and Tannum Sands.

## 20.2 Methodology

This section outlines the methods used to complete the SIA.

### 20.2.1 Social baseline

The social baseline for the LNG facility study area is presented in Volume 5 Attachment 42 with a summary in Section 20.4. Social baseline study data were collected from government agencies and other sources to define the social environment. The most up-to-date data is used wherever possible, however most statistics have a time lag of several years between collection and publication. The basic population data sets used are sourced from the ABS and the Department of Infrastructure and Planning (DIP) Planning Information and Forecasting Unit (PIFU) at the SLA or state level unless otherwise stated. SLA statistics are drawn from the 1996, 2001, and 2006 census collections. However, census statistics for urban localities are only available for 2001 and 2006 due to a change in the census collection boundaries from 1996 to 2001. Unless otherwise stated, census data are based on location upon census night (place of enumeration). This is the mode most readily available for collecting data as a time series from the 2001 and 2006 censuses.

Review of policies, programs, strategies and regional studies relevant to the LNG facility study area was completed to provide the regional context in which the Project will be operating and to gain an understanding of the implications for the development of the social environment (refer to Volume 5 Attachment 42 for further details).

Anecdotal evidence suggested that stakeholders are experiencing consultation fatigue as a result of the high level of engagement from industry, government and various studies that have recently been undertaken. The documented extensive public participation undertaken in Gladstone in recent times was used to determine community values, attitudes and aspirations. Two key studies that the SIA draws from to gauge community values and lifestyle are the Gladstone Regional Vision 2028 project (sponsored by the Rio Tinto Alcan Community Fund) and the Gladstone Region Social Infrastructure Strategic Plan (background report May 2009) being developed by Queensland Department of Infrastructure and Planning, Gladstone Regional Council and Gladstone Economic and Industry Development Board and are discussed in Volume 4 Chapter 2.

### 20.2.2 Community and stakeholder engagement

Community and stakeholder engagement for the purposes of the Project began in late 2008 and will continue throughout the life of the Project. Stakeholder engagement activities specific to the EIS were undertaken between 1 April 2009 and 9 November 2009, of which a detailed account for the LNG facility study area is presented in Volume 4 Chapter 2. Community and stakeholder engagement is also anticipated to occur when the EIS is released for public comment in 2010. It is anticipated that consultation will also occur should a supplementary EIS be required.



In addition to the above activities, stakeholder engagement specific to the SIA was undertaken to inform the SLA process. A summary of these activities and outcomes is presented in Section 20.3.

### **20.2.3 Impact identification and assessment**

#### ***Identification of impacts***

Potential social impacts were identified through a three-phased approach. The first phase involved a desktop investigation of the baseline assessment findings, analysis of stakeholder consultation outcomes and review of relevant studies. An internal workshop was then conducted to identify additional potential impacts and refine previously identified ones.

The second phase was to undertake a hazards and sensitivities analysis to determine if there were any additional potential impacts not identified in the first phase. The first step in a hazards and sensitivities analysis is to define potential project hazards. Project hazards are elements, activities, operations and processes which have the potential to impact the social environment. For example, the construction of accommodation facilities and laydown areas, workforce and generation of waste materials are project hazards.

Parallel to the identification of hazards, a sensitivities analysis is carried out to identify key aspects of the receiving social environment which are considered to be most sensitive. Sensitivities are defined as aspects of the social environment which support and sustain people. For example, access to accommodation, cost of living and employment opportunities. Potential impacts are identified through this process as a result of an interaction between a project hazard and its sensitivity.

The hazards and sensitivities matrix is included in Figure 20.2. The matrix shows impact areas and at which stage of the project development (construction or operation) that the impact may occur. The impact categories are detailed in Section 20.6.1 and the full impact assessment including mitigation strategies is provided in Section 20.6. The draft SIMP is presented in Volume 4 Chapter 24.

The third and final impact identification phase was the stakeholder engagement completed specifically for the Social Impact Assessment, which provided an opportunity for stakeholders to raise and discuss potential social impacts of the Project and the appropriateness and effectiveness of proposed mitigation strategies. Stakeholder engagement undertaken during this phase is summarised in Section 20.3.2 and the outcomes are discussed in Section 20.3.3.

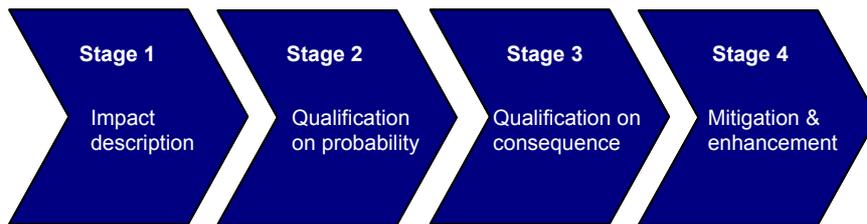
#### ***Assessment of impacts***

The key stages in assessing potential impacts are illustrated in Figure 20.3. The first stage is to explain each of the impacts, describing why these are regarded as an impact and demonstrating clearly whether the impact is positive or negative, direct or indirect, long-term or short-term, local or widespread and if it is reversible or irreversible.

The assessment has been completed using the draft guidelines for draft SIMPs received from the DIP in November 2009. It should be noted that this methodology was adopted to ensure consistency with the draft guidelines and is consistent across the gas fields, LNG facility and main gas transmission pipeline SIA, however differs to that adopted elsewhere in the EIS.

The qualification of each impact is based upon two assessment characteristics. These characteristics include an assessment of the probability of the impact occurring and an assessment of the actual result and scale of effect of an impact if it were to happen (that is, potential consequences). These two steps make up stage two and three of the impact assessment process respectively.





**Figure 20.3 Key stages of impact assessment**

The probability of occurrence is assessed for each impact and is rated between low and high, as follows:

- High (81-100%)
- Medium (31-80%)
- Low (0-30%).

The potential consequences may vary between low, medium and high, as follows:

- Low
  - Isolated issues or complaint that can be resolved via routine site procedures
  - Insignificant to minor social harm
  - No threat to social licence to operate
- Medium
  - Repeated incidents or community complaints that require significant adjustment to overall site level and business level procedures
  - Moderate social harm
  - Medium threat to social license to operate
- High
  - Significant, widespread and enduring community issue or dissent
  - Major to severe or irreversible social harm
  - Direct threat to social license to operate.

The fourth and final stage is to identify mitigation measures and opportunities for enhancement. The purpose of mitigation is to identify measures that avoid or reduce impacts, and safeguard the environment and the community affected by the Project. Where impacts are assessed to be positive, or where there is no, or only a minimal impact, opportunities for social enhancement are identified and measures for implementation are explained.

### **Cumulative impacts**

The first step within the cumulative impact assessment was to determine which projects to include in the assessment. Projects to be assessed cumulatively in the LNG facility SIA as agreed with the DIP is presented in Table 20.1. This list refers to only those developments in proximity to the LNG facility

study area: additional projects have been assessed for the gas field and gas pipeline SIAs in Volume 2 Chapter 20 and Volume 3 Chapter 20 respectively.

**Table 20.1 Projects used in cumulative assessment for LNG facility**

Project name	Project name
Gladstone Boulder steel making facility	Gladstone-Fitzroy water pipeline
Boyne Smelters expansion	Moura Link Railway
Central Queensland gas pipeline	Queensland Curtis LNG (QCLNG)
East End No. 5 Mine expansion	Shell Australia LNG
Fisherman's Landing Port expansion	Western Basin dredging
Gladstone LNG (GLNG)	Wiggins Island coal terminal
Fisherman's Landing Gladstone LNG	Yarwun Alumina Refinery expansion
Gladstone Pacific Nickel Refinery	

Quantitative and qualitative tools (e.g. modelling and stakeholder consultation) were used to evaluate the collective information from the projects to assess the cumulative impacts to the greater Gladstone region. Information regarding the different projects was gathered from desktop research of proponent's websites and EIS documents. Information considered in the cumulative impacts assessment regarding these projects, included, but was not limited to:

- Construction and operational workforce numbers
- Location of the project
- Construction and operational timelines
- Potential for individually insignificant but cumulatively significant impacts.

#### **20.2.4 Social impact management plan**

The Queensland State Government is developing guidelines to assist proponents develop a SIMP for all resource projects in Queensland. A draft SIMP has been developed for the Project to establish and define Australia Pacific LNG's management of social performance throughout the life of the Project. The Project's draft SIMP framework identifies and develops the strategies required to implement the proposed mitigation measures and opportunities for enhancement.

In particular, Australia Pacific LNG recognises that the State Government has a significant role in the planning and delivery of core services such as health, education, emergency services, transport and infrastructure, and the Federal Government in relation to employment and training initiatives. Where relevant, the draft SIMP designates the appropriate state or federal government department with a shared responsibility for the implementation and/or monitoring of a particular mitigation strategy.

The draft SIMP is presented in Volume 4 Chapter 24.

## 20.3 Community and stakeholder engagement

This section of the report provides a summary of the broader project stakeholder engagement program completed during the EIS process. It also outlines the stakeholder engagement undertaken specifically for the purpose of the SIA, and summarises the stakeholder engagement outcomes for both of the parallel processes.

The TOR for the EIS defines a stakeholder as a person or organisation with an interest or stake in a project. The term community has also been used to describe that stakeholder group which is comprised of both individual community members and community groups. For the purpose of this report, stakeholder engagement relates to engaging community and stakeholders.

The interests and issues raised by stakeholders are addressed in Section 20.6.2, social impacts and mitigation.

### 20.3.1 Existing stakeholder engagement

Stakeholder engagement in the region of the LNG facility, for the purpose of the Project, began in early 2009. For the purpose of this document, reporting reflects interaction and feedback obtained from 1 April to 9 November 2009. It is also recognised that stakeholder engagement will be an ongoing activity undertaken throughout the life of the Project.

In addition to seeking out the feedback of communities within close proximity to the proposed infrastructure, Australia Pacific LNG also encouraged those who influenced or had an interest in the LNG facility study area, to become involved in the consultation process. During the course of the consultation period, Australia Pacific LNG personnel travelled to the study region in areas associated with the LNG facility proposed to be located at Curtis Island, Gladstone.

Australia Pacific LNG also used newsletters, a suite of information sheets, print advertisements, posters and information displays to communicate project details to the public. Furthermore, information was available via a project-dedicated website; project-dedicated email address and the toll-free project hotline. Australia Pacific LNG values the feedback it receives from those that may be impacted or otherwise interested in the Project and expects the work completed to date and in the future will enable positive relationships and community activities to continue across the life of the Project.

Key stakeholders involved in the EIS study included the broader community, local, state and federal elected representatives and officers from regulatory bodies; local councils and peak industry; Indigenous Australians; and environmental, business and community groups. Feedback received from these stakeholders was used to inform various project decision-makers, including those involved in matters relating to the SIA.

A summary of the main stakeholder engagement activities are outlined below. Further details about the feedback received through the community engagement process related to the LNG facility are presented in Volume 4 Chapter 2.

### 20.3.2 Social impact assessment stakeholder engagement

The SIA was able to leverage considerably off the broader project stakeholder engagement program (refer to Volume 4 Chapter 2) as well as findings from consultation undertaken in Gladstone recently by industry and government.

Stakeholder engagement specific to the SIA was also undertaken in the form of one-to-one meetings with key stakeholders to assist in identifying and assessing social impacts and to discuss the appropriateness and effectiveness of proposed mitigation strategies.

Stakeholders engaged specifically as a part of the SIA process for the proposed LNG facility included:

- Department of Communities
- Department of Education and Training
- Department of Employment, Economic Development and Innovation
- Department of Environment and Resource Management
- Queensland Department of Infrastructure and Planning - Planning Information Forecasting Unit
- DIP Social Impact Unit
- Gladstone Economic Industry and Development Board
- Gladstone Regional Council
- Queensland Health
- 2028 Visioning Committee.

### **20.3.3 Stakeholder engagement outcomes**

Community members and stakeholders have vested interests in the EIS process and the Project's development. The Project defines community and stakeholders slightly differently from one another. A community member or group is regarded as a member of the public or a group of citizens that has united to form an identifiable group, due to a common interest. A stakeholder is usually a government representative, including government department/agency officers, members of Parliament/Council, business or industry, who represents the interests of the establishment for which they are employed or appointed.

During consultation for the broader project, the themes of discussion raised by community members varied to the themes of discussion raised by stakeholders (listed below). Community members predominately focused on employment and business opportunities generated by the Project, and how the Project may impact on recreational boating and fishing in the Gladstone Harbour. Stakeholders, including government agencies, industry, environmental and community groups focused their discussions on environmental, social and lifestyle issues.

#### ***Employment and business***

The global financial crisis has significantly impacted the Gladstone community within the last year. The Gladstone Engineering Alliance has reported that several major projects in Gladstone experienced delays, resulting in maintenance and supply contracts being cancelled and several hundred job losses. Subsequently, the primary interest expressed by Gladstone community members is the employment and contract opportunities that will be presented by the Project. The community commonly queried the Project timelines, employment and tendering process.

Community members and stakeholders have conveyed that the Gladstone community experiences frustration and anxiety regarding the perceived boom-or-bust nature of their city. Although the Gladstone community is currently experiencing job losses due to industry downturn, community members are aware that Gladstone lacks the workforce to accommodate all of the LNG projects.

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## ***Community values and lifestyle***

The Gladstone region boasts a strong recreational boating and fishing identity. Gladstone Area Promotion and Development Limited report that fishing and boating are one of Gladstone's most prominent tourist drawcards. Gladstone's major community events also celebrate Gladstone's fishing and boating character, including the annual Gladstone Harbour Festival, Gladstone Seafood Festival and Boyne-Tannum Hook Up.

Government agencies, industry, environmental and community groups and the general public queried how LNG shipping and exclusion zones will impact industrial activities, fishing and boating access to the Gladstone Harbour. Overall, queries regarding shipping, exclusion zones, fishing and boating dominated over all other topics of discussion raised by community members and stakeholders (with the exception of the communities' interest in employment).

Australia Pacific LNG arranged further meetings with local boating, fishing, environmental groups and identities. Over 30 additional consultations were conducted with the aim of gaining a further depth of understanding of local concerns regarding potential project impacts. This extensive consultation process also provided an opportunity to gain community input regarding proposed environmental management plans, such as fishing mitigation measures and offsets.

## ***Local facilities and services***

Concerns have been raised regarding new workers settling in the Gladstone region and the potential FIFO component of the LNG workforce. Community members and stakeholders often raised discussions relating to potential impacts to community infrastructure and community services.

Community members focused their attention on the location of project infrastructure – particularly the LNG facility and gas pipeline location. Community members also expressed their opposition to the Queensland Government's proposal to construct a bridge from mainland Gladstone to Curtis Island (as proposed by DIP in the Draft Port of Gladstone Western Basin Master Plan, 2009). Opposition was based on a variety of reasons, including concern that the Project will impact on access for fishing and boating activities in the Gladstone Harbour.

During the course of Australia Pacific LNG's stakeholder consultation within the past year, community members were educated that Australia Pacific LNG does not require a bridge, and therefore does not propose to build a bridge to Curtis Island. Subsequently, the number of comments received regarding the bridge reduced in the later stages of consultation (October to November 2009).

Several questions were also raised about the potential for collaboration between the various coal seam gas (CSG) to LNG project proponents. The community's interest regarding collaboration between the proponents was most likely spurred by the local and national media articles throughout 2009 discussing this matter.

During the later stages of consultation (October to November 2009), stakeholder queries increased regarding how the cumulative impacts of all of the proposed Queensland CSG to LNG projects will be assessed and managed.

## ***Education and training***

Stakeholders and community members are enthusiastic that the LNG projects present an opportunity to increase labour force participation and increase local skills capacity. Government and community groups also discussed potential education and training initiatives to encourage under-represented groups into the LNG workforce. Suggestions were made by these groups regarding training programs for Indigenous, youth, women, carers, long-term unemployed and the disabled.

## ***Housing and accommodation***

Stakeholders and the community expressed high interest in the location of workforce accommodation. Government stakeholders, including Queensland Police, commented that impacts to the Gladstone community could potentially be minimised if the Project's temporary accommodation facilities (TAFs) were located outside of Gladstone city. Alternatively, the Gladstone Regional Council expressed a preference for the workforce accommodation to be located on Gladstone's mainland to improve social interaction of the workforce with the Gladstone community.

Stakeholders and the community also voiced their concern that the increase in population due to the LNG projects will impact affordable housing and accommodation.

## ***Community health and safety***

Both stakeholders and the community discussed potential impacts to community health and lifestyle, including noise and visual amenity. Community members and government regulators also discussed Australia Pacific LNG's air quality assessment and potential cumulative impacts. Gladstone community members have expressed an ongoing concern regarding industrial impacts to air pollution and also conveyed varied responses to the Queensland Government's Clean and Healthy Air for Gladstone monitoring project<sup>3</sup>.

Safety discussions primarily centred on Australia Pacific LNG's risk assessments, security processes and emergency preparedness. Local government, Queensland Police Service, Fire and Rescue and Volunteer Marine Rescue raised comments regarding the logistical capability of local emergency services to respond to potential safety or security incidents at Curtis Island.

The Australia Pacific LNG LNG Show held in Gladstone in September 2009 provided an opportunity to educate the community and stakeholders about the safe properties of LNG and the strict safety codes and practises that apply to the LNG industry. Queries regarding safety decreased in the later stages of consultation (October to November 2009) when compared to first round of consultation (April to September 2009).

## ***Summary of themes of discussion***

A summary of the key issue themes relating to social impacts identified by stakeholders between 1 April 2009 and 11 November 2009 are summarised below in Table 20.2.

**Table 20.2 Summary of key stakeholder issues from 1 April to 11 November 2009**

<b>Themes from discussions</b>	<b>Location of detailed discussion in the EIS</b>	<b>Interest shown by whom</b>
<b>Employment and Business</b>		
Increase labour-force participation	Volume 4 Chapter 20	Gladstone Regional Council
Local employment and suppliers	Volume 4 Chapter 21	Gladstone Regional Council – Airport Services
Regional employment and supply contracts		Rockhampton Regional Council State Member for Gladstone

<sup>3</sup> Clean and Healthy Air for Gladstone Project is a Queensland Government initiative, established to gain a better understanding of air pollution in the Gladstone area, and to identify any potentially associated risks to public health.

Themes from discussions	Location of detailed discussion in the EIS	Interest shown by whom
		Department of Communities Queensland Police Service Gladstone Engineering Alliance Gladstone Area Promotion and Development Limited Gladstone Economic and Industry Development Board Community members
<b>Community values and lifestyle</b>		
Shipping process, frequency and exclusion zone parameters	Volume 4 Chapter 10	Department of Community Safety
Gladstone Harbour access.	Volume 4 Chapter 17	Department of Employment, Economic Development and Innovation
Designated 'safe harbour' area of Graham Creek	Volume 4 Chapter 18	Department of Environment and Resource Management
Access to prime fishing, crabbing and prawn areas	Volume 4 Chapter 19	Queensland Police Service
Public access to boating areas and recreational areas located at Graham Creek or near Laird Point	Volume 4 Chapter 20	Gladstone Ports Corporation
Business activities within the Port		Great Barrier Reef Marine Park Authority
Australia Pacific LNG participation in local fishing and boating programs and competitions		Maritime Safety Queensland
Fishing mitigation strategies and offsets		Australian Maritime Safety Authority
		Volunteer Marine Rescue
		Local Marine Advisory Council
		Fitzroy Basin Association
		Capricorn Conservation Council
		Port Curtis Sailing Club
		South End Progress Association
		Australian National Sportsfishing Association
		Gladstone Sportsfishing Club
		Sunfish
		Community members.

<b>Themes from discussions</b>	<b>Location of detailed discussion in the EIS</b>	<b>Interest shown by whom</b>
<b>Local facilities and services</b>		
Direct impacts on infrastructure and services	Volume 4 Chapter 17	Gladstone Regional Council
Road upgrades to accommodate increased traffic due to LNG projects	Volume 4 Chapter 20	Gladstone Regional Council – Airport Services
Impacts to Gladstone airport	Volume 4 Chapter 21	State Member for Gladstone
Water, sewage and other utilities to accommodate Gladstone population growth		Great Barrier Reef Marine Park Authority
Transport of workers to Curtis Island		Gladstone Ports Corporation
Cumulative social impacts		Maritime Safety Queensland
		Queensland Police Service
		Department of Transport and Main Roads
		Department of Environment and Resource Management
		Gladstone Economic and Industry Development Board
		Gladstone Area Group
		Apprenticeships Ltd
		Capricorn Conservation Council
		Local Marine Advisory Council
		Port Curtis Sailing Club
		South End Progress Association
		Save Curtis Island
		Community members
<b>Education and training</b>		
Local skills capacity and diversification	Volume 4 Chapter 20	Gladstone Regional Council
Skills of under-represented groups (Indigenous, young mothers, disabled, youth, unemployed) and introducing under-represented groups to the workforce	Volume 4 Chapter 21	State Member for Gladstone
Employment of people who lost their jobs during the global financial downturn		Department of Communities
		Department of Employment, Economic Development and Innovation
		Department of Education and Training
		Queensland Police Service

<b>Themes from discussions</b>	<b>Location of detailed discussion in the EIS</b>	<b>Interest shown by whom</b>
Partnerships with local training programs		Gladstone Economic and Industry Development Board
Gladstone does not have adequate workforce to accommodate all of the proposed LNG projects		Central Queensland University Gladstone Engineering Alliance
Need for fly-in/fly-out workforce component		Gladstone Area Group Apprenticeships Ltd Community members
<b>Housing and accommodation</b>		
Use of TAFs	Volume 4 Chapter 20	Gladstone Regional Council
Location of TAFs	Volume 4 Chapter	Rockhampton Regional Council
Long-term use of TAFs		State Member for Gladstone
Potential housing shortages and wider accommodation markets		Department of Communities Department of Education and Training
House prices		Department of Transport and Main Roads
Rental accommodation and hotel accommodation (price and availability)		Queensland Police Service
Temporary accommodation facilities to be located outside of Gladstone city to minimise impacts to Gladstone community		Queensland Health Gladstone Economic and Industry Development Board
Development of housing strategy for LNG workforce		Fitzroy Basin Association Anglicare Community members
<b>Community health and safety</b>		
Cumulative impacts of all LNG facilities to air quality, noise, lighting and visual amenity	Volume 4 Chapter 7 Volume 4 Chapter 10	Gladstone Regional Council Department of Community Safety
Some community members dissatisfied with Clean and Healthy Air for Gladstone monitoring program	Volume 4 Chapter 11 Volume 4 Chapter 13	Department of Education and Training Department of Infrastructure and Planning
Australia Pacific LNG's risk assessment process	Volume 4 Chapter 14 Volume 4 Chapter 15	Department of Transport and Main Roads.
LNG projects and cumulative risk studies	Volume 4 Chapter 20 Volume 4 Chapter 22	Department of Justice and Attorney General Queensland Health

Themes from discussions	Location of detailed discussion in the EIS	Interest shown by whom
Flare/plume impacts to airport operations		Queensland Police Service
Australia Pacific LNG's liaison with local emergency providers and neighbouring industry to coordinate emergency preparedness		Gladstone Regional Council – Airport Services Gladstone Economic and Industry Development Board
Local emergency services (police, fire and rescue, hospitals, Volunteer Marine Rescues) capability to respond to a security or safety incident at Curtis Island		Gladstone Area Promotion and Development Ltd Australian Customs Service Maritime Safety Queensland Save Curtis Island
Queensland Police Service requirement and resources to assist in heavy load transports		South End Progress Association Fitzroy Basin Association Community members

## 20.4 Social baseline summary

### 20.4.1 Policy review

A detailed review of policies, programs, strategies and regional studies relevant to the LNG facility study area is presented in the social baseline assessment in Volume 5 Attachment 42. The review provides the regional context in which the Project will be operating and facilitates an improved understanding of the implications for the development of the social environment as well as informing the Project's mitigation measures and strategies for enhancement.

### 20.4.2 Town profiles

Detailed profiles of towns within the LNG facility study area are presented in the social baseline assessment in Volume 5 Attachment 42, with a summary of key characteristics in Table 20.3.

**Table 20.3 Summary of key characteristics for studied towns**

Characteristics	Gladstone	Calliope	Boyne Island	Tannum Sands	Queensland
Population, 2006	30,734	1,505	3,719	4,308	4,091,546
Average age, 2006	33.7	33	34	35	37.2
Population AAGR <sup>a</sup> , 1996 to 2006	1.5%	2.4%	0.5%	1.6%	2.1%
Estimated population AAGR, 2009 to 2031	1.9%	1.5%	1.7%	1.7%	1.7%
Indigenous population, 2006	3.8%	2.1%	2.7%	2.2%	3.3%

Characteristics	Gladstone	Calliope	Boyne Island	Tannum Sands	Queensland
Unemployment rate, March quarter 2009	4.3%	4.3%	4.3%	4.3%	4.0%
Median weekly household Income, 2006 (A\$)	\$1,344	\$1,192	\$1,283	\$1,334	\$1,202
Completed up to grade 12, 2006	35.20%	26%	34.8%	36.5%	41.3%
Median dwelling price, June 2009 (A\$)	\$360,000	\$385,000	\$395,000	\$430,000	\$414,000
Average weekly rent, October 2009 (A\$)	\$350	\$360	\$330	\$340	\$450 <sup>b</sup>

<sup>a</sup> AAGR – Aggregated annual growth rate

<sup>b</sup> Brisbane City

Source: ABS (2006), RP Data (2010), YIP (2010) and OESR (2009a)

### 20.4.3 Key baseline statistics

Sources of data for the key baseline statistics summarised below are referenced in the social baseline assessment in Volume 5 Attachment 42.

#### *Population*

- As at June 2008, the estimated population of the Gladstone Regional Council area was 57,587 with 56% (or 32,415) of the population located within Gladstone City and 85% (or 49,000 people) within commuting distance (of Gladstone City)
- Between 1996 and 2006, the population of Gladstone SLA and Calliope Pt A SLA grew faster than for Queensland as a whole due to rapid and large scale industrial development and expansion
- The population of Gladstone SLA is expected to grow by 1.9% per annum between 2009 and 2031, compared to state and national growth averages of 2.1% per annum and 1.4% per annum, respectively
- In contrast, Calliope Pt B SLA recorded minimal growth due to its small population base and focus on agriculture and service industries
- Gladstone City has a relatively young population profile with a high proportion of people in the 20 to 35 year age cohort
- Compared to Gladstone City, Calliope township has a larger proportion of established families with older children, rather than young adults and couples with young children
- Consistent with Queensland and national trends, the average number of people per household decreased between 1996 and 2006 in Calliope Pt B SLA and Gladstone SLA, whereas Calliope Pt A SLA remained constant

#### *Indigenous Australians*

- In 2006, there were 1,479 resident persons of Aboriginal and/or Torres Strait Islander heritage in the LNG facility study area of which the majority (1,077 or 73%) resided in Gladstone City

- Consistent with national trends, the Indigenous community was very young with 61% aged younger than 25 years
- Lone person households accounted for just 10% of Indigenous households which was significantly lower than the general population (21% of total households)
- The median household weekly income for Indigenous residents in the LNG facility study area is the highest in the township of Calliope at just over A\$1,200 per week, which is in line with the overall population
- The Indigenous workforce of the LNG facility study area is generally younger than the non-Indigenous workforce, with over half aged between 15 and 34 years
- A considerably larger proportion of the Indigenous workforce in the LNG facility study area is employed by the private sector (82%) in comparison to the Queensland average (60%)
- The proportion of Indigenous students in the region enrolled in Vocational Education and Training courses, and working full-time was higher than the Queensland average for Indigenous students
- There is no Indigenous specific social housing and very low levels of general public housing in Boyne Island, Tannum Sands and Calliope.

### ***Income and affordability***

- Income growth in the LNG facility study area has been most pronounced between 2001 and 2006, with a slower rate of growth between 1996 and 2006
- Median household weekly incomes in the LNG facility study area are higher than for Queensland as a whole which is mainly due to the manufacturing and construction sectors
- Calliope Pt A is the least under-represented SLA as measured by the ABS socio-economic indexes for area, followed by Gladstone and Calliope Pt B.

### ***Employment and business***

- The workforce participation rate in 2006 was approximately 62.6% which is marginally lower than the Queensland participation rate of 66.3%
- The predominant sectors of employment in the Gladstone region were manufacturing (21%), followed by construction (11%) and retail trade (11%)
- Unemployment in the Gladstone region rose from 3.3% in December 2007 to 4.5% in December 2008, compared to the Queensland average which remained constant at 3.7% over this period.

### ***Education and training***

- At present the senior and primary state schools in the LNG facility study area have the capacity to take an additional 300 to 450 children
- Private schools in the area also have the capacity to absorb additional students
- Within the LNG facility study area a high proportion of the population (47%) had achieved certificate qualifications (the majority of which were gained from vocational education providers) compared to Queensland (35%) as a whole

- The proportion of people with a non-school qualification holding a bachelor degree or higher was the greatest in Gladstone (19.4%), followed by Calliope Pt A (18.3%) and Calliope Pt B (16.1%), but these were considerably lower than the national average of 29.6%
- Central Queensland University has direct interest in the LNG facility study area, with a campus located at the Gladstone marina.

### ***Housing and accommodation***

- Prior to the global financial crisis, Gladstone had been experiencing a housing price boom, fuelled by initiatives such as the first home owners grant, Gladstone's diversity of industries, proximity to the Great Barrier Reef and coastal towns such as Tannum Sands
- The global financial crisis has impacted house and unit prices within the LNG facility study area, with all localities experiencing a negative growth rate in the 12 months to July 2009 – this is in contrast to an average annual growth rate (AAGR) of more than 10% over the past 10 years
- The median AAGR of house prices over the last 10 years was 13% in Gladstone, 13% in Boyne Island, 12% in Tannum Sands and 18% in Calliope
- As at July 2009, the median house price ranged from \$360,000 in Gladstone to \$430,000 in Tannum Sands
- The median AAGR of unit prices over the last 10 years was 12% in Gladstone and 20% in Tannum Sands
- As at July 2009, the median unit price was \$255,000 in Tannum sands and \$262,000 in Gladstone
- In 2008, one quarter of the private rental stock available in the Gladstone region was affordable for low income earners (i.e. it cost less than 30% of household income), which was similar to the Queensland average
- There has however been a significant decrease in the availability of affordable rental housing since 2003 when over half (52%) of the rental housing stock was affordable.

### ***Community health and safety***

- The major health hub for the region is Rockhampton 110km northwest of Gladstone where a considerable number of patients travel for health care services which are unavailable in Gladstone
- The primary reasons that patients were hospitalised at the Gladstone Hospital (as in-patients) in 2004-2005 include births, dental extractions and restorations, colonoscopies and chest pains (this reflects the health services provided and not the morbidity of the population)
- A community health survey found that 75.7% of respondents expressed some level of concern about potential impacts of industry on health, with the main concern (68.7%) being air pollution and dust
- The total number of offences against the person in the Gladstone Police district was equal to or lower than for the state as a whole across all categories except for assaults (which was only marginally higher).

- Gladstone district recorded higher rates of other offences than for Queensland as a whole (3,921 offences/ 100,000) at 4,728 offences/ 100,000, particularly in the areas of drug and traffic related offences
- A shift in volunteering due to difficulties in regular attendance was noted as one of the consequences of the regions recent growth.

### ***Facilities and services***

- The Gladstone region is serviced by seven kindergartens and 11 child care centres and family day care schemes
- Three of the private schools offer after-school care and the Gladstone Police and Citizens Youth Centre offers school-aged vacation care and after-school care
- There is currently demand for Kindergartens in the LNG facility study area, particularly in Tannum Sands, where the waiting list is approximately 110 children for only 40 places
- It is estimated that up to seven additional kindergarten facilities will be required by 2031
- Overall, the Gladstone area has a diverse array of cultural, community and recreation facilities with more than 50 sporting clubs and recreational associations available.
- A survey of a sample of Gladstone residents undertaken as part of the Open Space and Recreation Plan suggested approximately 49% of the people were very satisfied or satisfied with Council facilities, but approximately 27% were either dissatisfied or most dissatisfied with Council facilities.

### ***Community values, attitudes and liveability***

- With respect to further industrial development, Gladstone residents appear to embrace new industries, however are well aware of the challenges associated with social change caused by increased development and the need to manage these challenges closely
- The community is generally supportive of industrial growth within the region, however not at the cost of lifestyle opportunities. For example, industry shift work is regarded by the community as one of the causes for decreasing people's time with family and decreasing participation in community events
- An online discussion forum in October 2009 aimed at obtaining ongoing community, business, industry and government feedback found that the topics discussed most frequently related to local shopping facilities, prevalence of litter in natural environment, aged care and festoon lighting.

## **20.5 Workforce profile**

The LNG facility is proposed to be developed in stages to a maximum ultimate capacity of approximately 18 million tonnes per annum (Mtpa) of LNG. The ultimate configuration of the LNG facility is yet to be determined, but may comprise up to four LNG trains<sup>4</sup>, each producing up to 4.5Mtpa of LNG. It is proposed initially to construct two LNG trains. The facility is planned to operate 24 hours per day, seven days per week.

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<sup>4</sup> An LNG train is the term used to describe the liquefaction and purification facilities in an LNG plant.

### 20.5.1 Construction

Construction of train 1 of the LNG plant and associated marine facilities is proposed to commence in 2011 with completion by late 2014. Construction of train 2 will commence essentially simultaneously with train 1 and complete in 2015 following completion of train 1 to take advantage of the workforce and construction equipment already mobilised on the Project.

#### **Construction workforce**

The construction workforce profile presented in this section applies to the construction of four LNG trains between 2011 and 2020. The peak construction period for the construction of train 1 and train 2 occurs in 2013, in which an estimated 2,100 construction workers will be required on the site on Curtis Island. The peak construction period for train 3 and train 4 occurs in 2018, where an estimated 2,100 construction workers will be required.

Between 2015 and 2016 a minimal construction workforce will be required as the construction of the first two LNG trains is completed and gradual ramping up occurs for the construction of the second two LNG trains.

Australia Pacific LNG is aiming to source at least 20% of its construction labour force for the LNG facility locally, which is defined as those workers who live within 60km of the Gladstone general post office. The local workforce will be accommodated in existing housing stock in Gladstone and the surrounding area, and the non-local workforce accommodated in the TAF at the LNG facility construction site at Curtis Island. Based on these assumptions, at peak an estimated 1,680 workers will work a fly-in/fly-out (FIFO) or drive-in/dive-out (DIDO) roster and the remaining 420 will reside locally in existing residences.

The prime contractor<sup>5</sup> is currently in discussions to finalise rosters. However, it is anticipated that the construction workforce will operate on two roster systems, one for employees who live locally and one roster for those who do not live locally, will largely be as follows:

- Local workforce – working Monday to Friday, 10 hours per shift, for a total of 50 hours per week
- Non-local workforce – working Monday to Friday, 10 hours per shift, followed by Saturday shifts of eight hours. This is a total of 58 hours per week for four weeks, followed by one week off roster.

Periodical night shift may be scheduled during peak periods of the Project. Construction and operational workforce requirements are illustrated in Figure 20.4.

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<sup>5</sup> The company contracted to build the LNG facility

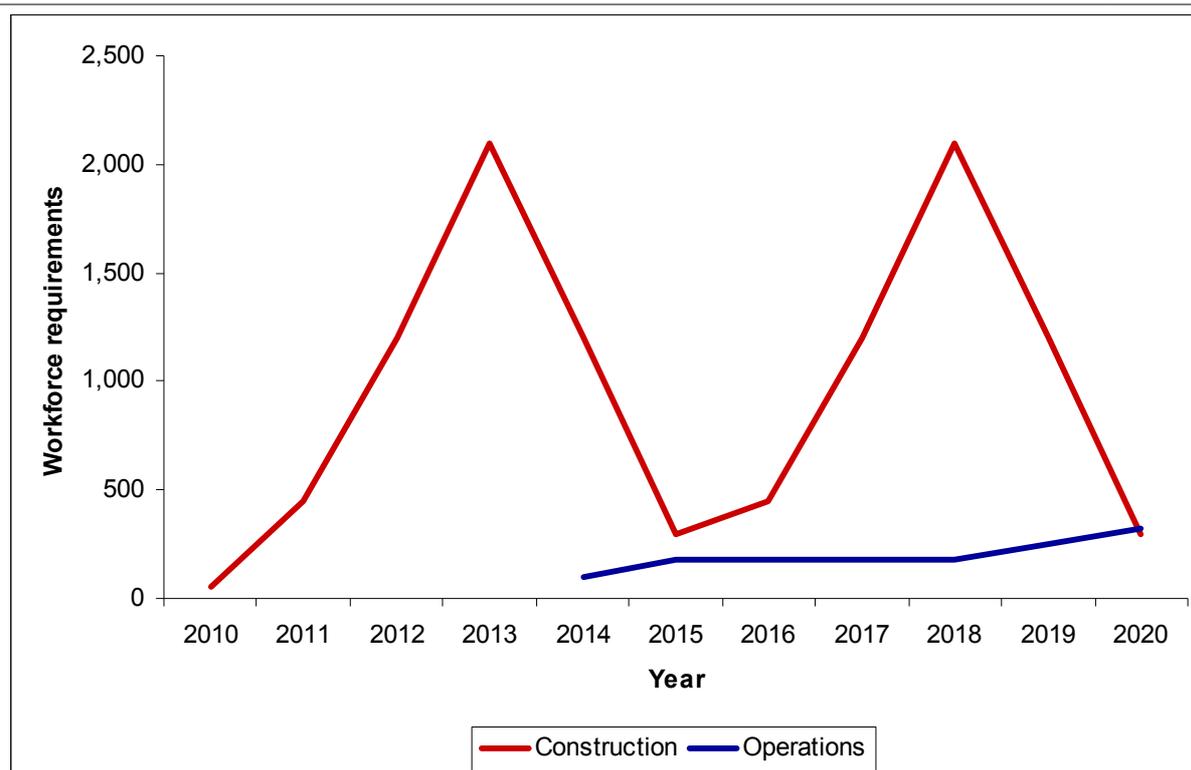


Figure 20.4 Construction and operational workforce requirements

### Construction skills base

The anticipated required skills base of the construction workforce at project peak is outlined in Table 20.4 which shows a workforce dominated by site preparation, piping and tank installation – accounting for approximately 50% of the total workforce.

Table 20.4 Peak construction workforce skills base

Job role	Number of workers	% of total workforce
Site preparation subcontractor	420	20%
Piping trades	315	15%
Tank subcontractor	252	12%
Civil trades	189	9%
Jetty subcontractor	189	9%
Electrical trades	189	9%
Other	168	8%
Instrumentation trades	84	4%
Millwright trades	84	4%
Painting, fireproofing and insulation subcontractor	84	4%

Job role	Number of workers	% of total workforce
Ironworking trades	63	3%
Buildings subcontractor	63	3%
<b>Total</b>	<b>2,100</b>	<b>100%</b>

### **Recruitment of construction workforce**

The construction workforce will consist of a mix of local hires within a 60km radius and workers recruited from other parts of Australia. The construction workforce will be recruited locally as much as possible and there are no plans at this stage to source labour from overseas. The largest construction workforce requirement occurs in 2013 and again in 2018 where a peak of 2,100 workers will be required. Approximately 420 workers will need to be sourced locally to achieve a target of 20% local employment at peak. It should be noted that the local workforce may involve people who are currently residing outside of Gladstone but who move within the 60km radius to access employment opportunities.

## **20.5.2 Operations**

### **Operations workforce**

Operational workforce requirements are shown in Figure 20.4 and summarised in Table 20.5. The operation of the first two LNG trains is expected to require a workforce of 175, which will then ramp up to 325 between 2018 and 2020 as operations of train 3 and train 4 commence.

**Table 20.5 Operational workforce requirements**

Year	Workforce estimate
2014	100
2015	175
2016	175
2017	175
2018	175
2019	250
2020	325

The operational workforce will be split between two different rosters, either an eight hour day shift, or a twelve hour rotating shift.

As well as the core operational workforce, personnel will be required to perform shutdowns of the LNG trains for maintenance. Major shutdowns are generally scheduled every few years and will require an approximate workforce of 300 to 500 personnel, depending on scope. Minor shutdowns may occur more frequently and will require an additional staff of approximately 50 to 100 personnel.

Major and minor shutdown teams will work 12 hours shifts, operating 24 hours a day, seven days a week.

## **Operations skills base**

The expected skills base and proportion of total workforce for the peak operational phase of the LNG facility when all four LNG trains are in operation (i.e. maximum workforce requirement) is summarised in Table 20.6.

**Table 20.6 Operational workforce skills base**

<b>Skill category</b>	<b>%</b>	<b>Approximate #</b>
Management	2	7
Engineering	6	20
Administration	1	3
Human resources	5	16
Health, safety, environment & quality	3	10
Marine	1	3
Supply chain	6	20
Maintenance	9	29
Operations	47	153
Contractors	17	55
Security	3	10
Total	100	325

## **Operation recruitment**

Australia Pacific LNG aims to source, and/or locate, the operational workforce locally depending upon the skills and experience available. If suitable candidates can not be sourced locally, alternative sourcing strategies will be required. Recruitment will be completed in line with Australia Pacific LNG's employment and engagement policies.

## **20.6 Social impact identification**

This section provides a detailed discussion of the assessment of potential social impacts for the construction and operational phases of the LNG facility element of the Project. Impacts are discussed for each of the social impact categories including for cumulative effects resulting from other development projects (refer to Section 20.2.3 for cumulative impact assessment methodology). Following a description of the potential social impact, mitigation strategies are described. Where impacts are assessed to be positive, or where there is no or only a minimal impact, opportunities for social enhancement have been identified and discussed. The impact assessment and mitigation summary is presented in Section 20.7.

### **20.6.1 Identification of potential social impact categories**

Social impacts have been classified according to the categories presented in Table 20.7. Social impact categories were identified through existing knowledge of the LNG facility study area and contemporary SIA practices, and then refined during the Australia Pacific LNG impact assessment

workshops (refer to Section 20.2.3 for further details). Each of the impact categories are explained in the context of potential implications of the Project on the social environment.

**Table 20.7 Impact categories**

Impact category	Implication to social environment
Population impact	Implications for demand for social infrastructure, services and population trends
Demographic profile	Implications for community safety, attraction and retention of people to the region and demand for social infrastructure and services
Indigenous Australians	Implications for Indigenous values, social harmony, access to services for Indigenous Australians, equality and health and wellbeing
Income and affordability	Implications for quality of life, liveability, equality and social harmony
Employment, training and business	Implications for economic diversity and resilience, sustainable communities, standard of living, opportunities for employment and addressing skills gap
Primary and secondary education	Implications for attraction and retention of people to the region and transition from school to work
Housing and accommodation	Implications for workforce, local businesses and industry, housing affordability, short-term accommodation, rental affordability and under-represented sectors of the community
Community health and safety	Implications for provision of adequate primary, secondary and tertiary health care services, community safety, liveability, community cohesion and mental health
Facilities and services	Implications for quality of life, liveability, attraction and retention of people to the region
Community values and lifestyle	Implications for community cohesion, resilience to change, workforce integration, liveability and social harmony

## 20.6.2 Social impacts and mitigation

### *Population impact*

#### **Construction**

A peak workforce of approximately 2,100 workers will be required during the construction phase of the Project in 2013 and 2018. Australia Pacific LNG is aiming to source at least 20% of its labour force locally, which is defined as those workers who live within 60km of the Gladstone general post office. The local workforce will be accommodated in existing housing stock in Gladstone and the surrounding area, and the non-local workforce accommodated in a TAF at the LNG facility site located at Curtis Island.

Based on these assumptions, at peak construction, an estimated 1,680 workers will work a FIFO or DIDO roster and the remaining 420 workers will reside locally in existing residences.

## Operations

During the operational phase of the Project it is expected that initially a workforce of 100 will be required in 2014, ramping up to a peak of 175 workers between 2015 and 2018 and ultimately 325 workers will be required in 2020 and beyond. KPMG Econtech (2009) estimate that the overall population increase attributed to the operational phase of the Project could be approximately 880. The small increase in population, both in real terms (880 people), and as a proportion of the overall population (approximately 2%), means that the operational workforce is not expected to have significant population impacts.

It is expected that some of the initial operational workforce will already live within the Gladstone area, either working on construction of the LNG facility or employed elsewhere, however experienced workers will need to be sourced from elsewhere, as well, such as personnel from ConocoPhillips' Darwin LNG facility. Although workers will be sourced from outside of Gladstone, the impact on the existing population is expected to be minimal for the operational phase of the Project due to the relatively small workforce requirements (325 workers maximum).

Cumulative operational workforce estimates for all Projects assessed depict a maximum scenario as they are based on maximum workforce numbers and assume that the full operational workforce commences immediately after construction ceases (i.e. it does not take into consideration a gradual increase in workforce numbers). Based on these assumptions, up to 1,600 workers could be required in the Gladstone area by 2013 and then ramping up to 2,600 workers by 2020 and beyond.

It is expected that the overall population increase will be significant. A cumulative population increase to 2020 of 7,020 people can be estimated by multiplying the additional workforce numbers by the average household in Gladstone and Calliope Part A of 2.7 persons (ABS 2006). This represents a population increase of 16.4% on the 2006 population (ABS 2006), but is less than the population increase of 31.5% forecast for the same period by the Queensland Office of Economic and Statistical Research (OESR 2009b). This suggests that the prospective population increases are within the population increases being considered in the current planning framework for the State Government.

## Mitigation

The impact of population increase during the construction phase will be principally mitigated by employing locally where possible and by accommodating non-local workers in the temporary accommodation facilities on Curtis Island. It is acknowledged that the number of proposed projects for the Gladstone region will ultimately affect the expected proportions of local employees. Section 1.7 of Volume 4 Chapter 3, provides information on construction workforce accommodation alternatives and the reasons that Australia Pacific LNG has selected Curtis Island as the preferred location of the TAF.

The impact on the existing population profile for the operational phase of the Project is not expected to be significant enough to warrant mitigation as the total workforce requirements are relatively small. While this is true for the Project alone, the potential increase in population due to cumulative effects is significant and will need to be addressed.

To address the cumulative impact of a population increase, Australia Pacific LNG will continue to work with government, service providers and other industries to plan and share information relating to potential impacts and mitigation measures. This will facilitate longer term planning and allow for increased services and social infrastructure to be provided to match the increasing population.

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## **Demographic profile**

### **Construction**

While the demographic profile of the construction workforce will most likely be younger and male dominated, it is not expected to impact on the demographics of the Gladstone population due to this group being more likely to be FIFO.

Apart from age and sex, the other demographic aspect potentially affected by an influx of construction workers could be cultural diversity, should overseas workers be sourced. In other regions within the Project area, businesses have sponsored 457 visa<sup>6</sup> workers to supplement their workforce due to labour shortages. The Project intends to improve local and interstate workforce content and only if necessary, supplement this with qualified overseas labour. In the event that migrant workers are required they will be accommodated in the TAF at Curtis Island, working a FIFO roster which will minimise the need for specialised support services in Gladstone. Furthermore, any migrant workers will be sourced in accordance with Government requirements necessary to obtain visa approval.

Potential impacts on community values as a result of an influx of construction workers are discussed under 'community values and lifestyle' impacts in the following section.

Impacts and concerns arising from a change to demographic profile from a cumulative perspective could be significant without mitigation especially in relation to community safety, community values and lifestyles and facilities and services. Potential impacts and mitigation measures are discussed in the following sections.

### **Operations**

As some of the operational workforce will already live in Gladstone either working on construction of the Project or previously employed elsewhere, and the total workforce requirements are relatively small (325 workers maximum), there are expected to be minimal impact to the existing demographic profile. Australia Pacific LNG also expects that demographics of workers moving permanently to the area will be comparable to the existing demographics of the Gladstone region due to the industrial base.

As discussed above, the expected cumulative population increase will be significant with an estimated population increase of approximately 7,020 people. Although the population increase is significant, albeit in line with current planning estimates by the State Government, potential impacts on the demographic profile are not expected to be significant as the demographics of workers moving permanently to the area will be comparable to the existing population demographics.

### **Mitigation**

Australia Pacific LNG is aiming to source at least 20% of its construction labour force locally and will prioritise local employment over non-local employment, subject to skill and training limitations, to reduce the impact to the existing demographic profile. A key component of the Australia Pacific LNG workforce strategy will be methods to attract local, under-represented groups to the workforce (e.g. women, Indigenous Australians, people with a disability).

Mitigation measures relating to potential cumulative impacts on the Gladstone demographic profile as they relate to community safety, community values and lifestyles, and local facilities and services are discussed in the following sections.

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<sup>6</sup> Temporary Business (Long Stay) - Standard Business Sponsorship (Subclass 457)

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## **Indigenous Australians**

### **Population demographics**

It is expected that the Project will result in a small increase in Gladstone's population, some of which may be Indigenous Australians. This may increase the number of Indigenous males in the 25 to 44 age cohort as a proportion of the total Indigenous population, however even if this were the case, it is not expected to have a significant impact on the Indigenous population demographics.

### **Indigenous income and affordability**

Lower income levels in Indigenous communities are often attributed to factors such as a younger age profile, lower educational and training levels, higher participation rates in part-time employment and higher levels of unemployment. An increase in the cost of living relative to households whose income levels do not increase at the same rate, will result in lower levels of affordability. If the cost of living were to increase significantly, this will impact on Indigenous Australians, especially given the lower than average levels of disposable income found in this sector of the community. Through the development of an Indigenous engagement strategy, Australia Pacific LNG aims to improve the positive contribution to Indigenous economic and social development. Specifically, Australia Pacific LNG will contribute to a number of areas, such as:

- Education and training
- Employment
- Business development and support
- Cultural heritage.

Investment in the above areas will provide an opportunity for the Project to have a positive impact on Indigenous economic and social development. Refer to Volume 4 Chapter 18 for further information.

### **Indigenous employment and business**

Relevant to employment and business, the Indigenous engagement strategy has two goals:

- Increase Indigenous participation in the workforce in Australia Pacific LNG's communities of interest
- Foster Indigenous business development and contracting opportunities in Australia Pacific LNG's communities of interest.

Australia Pacific LNG recognises that the main challenges facing Indigenous Australians from benefiting from the Project through employment and business are lower educational and training levels, unsuitable company recruitment and retention strategies and lack of business training or experience. Australia Pacific LNG's Indigenous engagement strategy will outline strategies to improve the positive impact of the Project on employment and business opportunities for Indigenous Australians by addressing the above challenges.

Another challenge recognised by Australia Pacific LNG in improving employment and business opportunities for Indigenous Australians is the small Indigenous population in the LNG facility study area.

## **Indigenous education and training**

Relevant to education and training, the goal of the Indigenous engagement strategy is to 'improve access to education and levels of training achieved by Indigenous students in Australia Pacific LNG's communities of interest'.

The proportion of Indigenous students in the region enrolled in Vocational Education and Training courses, and working full-time was higher than the Queensland average which is indicative of the types of employment opportunities in the Gladstone region (that is, many require certificate or diploma rather than university degrees). Australia Pacific LNG will aim to improve the positive contribution to training opportunities for Indigenous Australians by continuing to work with Energy Skills Queensland, Queensland Minerals and Energy Academy and relevant training organisations to identify skills gaps and address them through the development and implementation of targeted training programs, mentoring support and career opportunities.

Levels of schooling amongst the Indigenous communities in the LNG facility study area are low (although not dissimilar to the national average), with almost one in four Indigenous residents aged over 15 years not reaching year 10 (ABS 2006). The Project will aim to make a positive impact on improving Indigenous education levels through the provision of a secondary school scholarship.

## **Indigenous housing and accommodation**

A potential impact of the construction and operation of the LNG facility on housing and accommodation for Indigenous Australians may be reduced ability to access the private rental market and home ownership market due to inflated prices. Potential housing and accommodation impacts and mitigation measures for Indigenous Australians are similar to that of the broader community which are discussed later in this section. Impacts may be exacerbated for Indigenous Australians though given the lower levels of home ownership and higher dependency on affordable rental housing.

In collaboration with the Port Curtis Coral Coast Aboriginal Corporation, Gladstone Aboriginal and Torres Strait Islander Housing Co-operative, industry, and local and state government, Australia Pacific LNG will monitor demand for affordable rental housing stock and support strategies to maintain adequate levels of availability through its housing and accommodation strategy.

## **Indigenous facilities and services**

Potential impact on facilities and services for Indigenous Australians, and proposed mitigation measures, will be the same as for the broader community. These are discussed later in this section.

A potential positive impact of the Project will be to strengthen the capacity of facilities and services specific to Indigenous Australians. Strategies to achieve this will be outlined in the Australia Pacific LNG community investment strategy.

## **Indigenous cultural values**

Potential impacts on Indigenous cultural and heritage values and proposed mitigation strategies related to the LNG facility study area are discussed in Volume 4 Chapter 18.

## ***Income and affordability***

### **Construction**

KPMG Econtech (2009) estimate that at a regional level, the Project has the potential to contribute to a short term increase in the cost of living for households due to inflationary pressure from higher

wages and increased demand for goods and services in the region. In addition, increased demand for infrastructure and social services may place further upward pressure on prices in the region, in the short term (KPMG Econtech 2009).

An increase in the cost of living relative to households whose income levels don't increase at the same rate, will result in lower levels of affordability or at worst, people having to leave the area and relocate to a more affordable location.

Should the income of high wage earners increase at a faster rate than low wage earners this will increase the gap between these two sectors of the community and has the potential to create social divide between people who earn high wages working in the construction industry, and those in other industries.

At a regional level it is likely that the Project will contribute to an increase in prices, in the short to medium term, as the supply side in local areas adjusts to the increase in demand associated with the Project (KPMG Econtech 2009).

### **Operations**

As discussed above, potential impacts on income and affordability are estimated to be short to medium term. Refer to the economic impact assessment for more detailed discussion of potential impacts to income and affordability in the LNG facility study area, Volume 4 Chapter 21.

### **Mitigation**

Approximately 80% of the construction workforce will be working on a FIFO or DIDO roster which will mitigate to some extent the inflationary pressure that these workers would have personally contributed to the local economy if they were residing within the community.

Maximising participation in the workforce by all sectors of the community, including the under-represented, will ensure as many people benefit from the Project as possible. As well as addressing recruitment and retention of under-represented groups, the Australia Pacific LNG workforce strategy will also outline mechanisms for working with industry groups to develop opportunities for scholarships, apprenticeships and cadetships, outside as well as within, industry.

As well as individuals benefiting from the Project, implementation of the Australia Pacific LNG local content strategy will aim to improve the positive contribution to benefits of local businesses supplying goods or services to the Project. The community investment strategy will support local business through education and capacity building programs.

A reduction in housing affordability may create a greater social divide within the community. The Australia Pacific LNG housing and accommodation strategy will aim to mitigate potential impacts on local housing affordability.

### ***Employment, training and business***

#### **Construction**

Construction workforce requirements for train 1 and train 2 are summarised in Section 20.5.1 and show a peak workforce requirement of 2,100 in 2013 and again in 2018.

The labour market in Gladstone has softened in 2009 mainly due to the slowing of the expansion of the Rio Tinto Yarwun alumina refinery (570 contractors retrenched) and a general downsizing in operations (35 permanent employees retrenched– Yarwun refinery and Boyne Smelters). It is

estimated that the Bowen Basin incurred approximately 3,000 job losses across the mining industry in 2008 and 2009 (Department of Education, Employment and Workplace Relations (DEEWR) 2008). However, despite the downturn, the labour market remains relatively tight with an unemployment rate of 4.5% as at December 2008 in the Gladstone regional area (DEEWR 2008). Due to the labour market conditions it is expected that a large portion of the local workforce will consist of workers moving to Gladstone to work on the Project and as such would generate additional demands for housing and local facilities and services. These impacts are discussed later in this section.

Construction and operational workforce estimates for the projects in the Gladstone area that are either under investigation, committed or under construction and are to be assessed cumulatively are summarised in Table 20.8. The construction workforce estimates are for peak requirements and do not take into consideration that the workforce will increase to a maximum load for a period of time and then drop off progressively until construction ceases for all of the projects. Similarly, operational workforce estimates represent the maximum required workforce and do not take into consideration gradual ramping up of workforce numbers if relevant.

**Table 20.8 Workforce estimates for projects under investigation or committed**

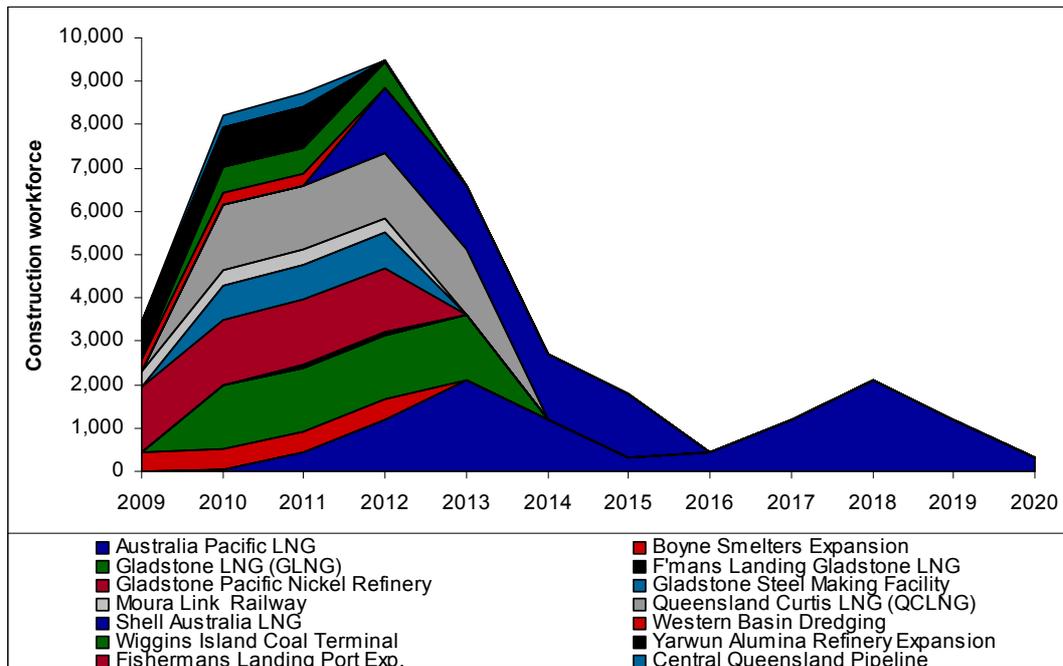
Project	Construction start date	Construction end date	Construction employment	Operational employment
<b>Under investigation</b>				
Australia Pacific LNG	2010	2020	peak 2,100	325
Fisherman's Landing Port expansion	2011	2012	50	Not applicable <sup>#</sup>
Gladstone LNG (GLNG)	2010	2013	1,500	200
Fisherman's Landing Gladstone LNG	2011	2012	50	30
East End No. 5 Mine expansion	Not available	Not available	Not available	Not available
Gladstone Pacific Nickel Refinery	2009	2012	1,500	500
Gladstone-Fitzroy water pipeline	2010	2012	Not available	Not available
Queensland Curtis LNG Project (QCLNG)	2010	2013	1,500	200
Shell Australia LNG	2012	2015	1,500	250
Western Basin Dredging	2009	2011	270	Not applicable <sup>#</sup>
<b>Committed</b>				
Boyne Smelters expansion	2009	2012	450	Not applicable <sup>#</sup>
Moura Link Railway	2009	2012	350	Not applicable <sup>#</sup>
Central Queensland gas pipeline	2010	2011	300	8
Wiggins Island coal terminal	2010	2012	600	130
<b>Under construction</b>				
Yarwun Alumina Refinery expansion	2009	2011	900	250

<sup>#</sup> No operational employees are required post-construction

Source: Desktop research of proponents' websites and EIS documents

Construction workforce estimates in the above table are illustrated cumulatively in Figure 20.5 and include contract and permanent staff for the assessed projects. Modelling shows that approximately 9,500 construction workers will be required during the peak construction period in 2012. The potential impact of such a workforce requirement could place severe strains on labour force availability. This is discussed in more detail in Volume 4 Chapter 21.

Potential impacts of a large construction workforce entering Gladstone to housing and accommodation, income and affordability, community health and safety, and community values and lifestyle are discussed in the following sections.



**Figure 20.5 Potential cumulative construction workforce requirements in Gladstone, 2009 to 2020**

Source: Desktop research of proponents' websites and EIS documents

Energy Skills Queensland (2009b) predicts the greatest period of employment growth in the Queensland CSG/LNG sector to be within the next five years and it will be in vocational occupations with technical skills. Construction workforce skill shortages identified in the Energy Skills Queensland study, relevant to the Australia Pacific Project, include electrical and instrumentation technicians which make up 13% of the total project construction workforce.

Australia Pacific LNG intends to work with training organisations to increase the local skills capacity for employment during the construction phase of the LNG facility, and during transition from construction to operations. The lead time required to supply additional skills through apprenticeships and traineeships or to up-skill the existing local workforce is significant and Australia Pacific LNG will incorporate strategies to address this in the Australia Pacific LNG workforce strategy.

Primary sources of skilled labour identified in a DEEWR survey conducted in 2005 suggest that the top three sources of skilled labour include other employers (44%) followed by upgrading skills of existing employees (22%) and universities (18%) (DEEWR 2008). Businesses that have a high turnover of employees due to staff leaving to seek employment on the CSG/LNG projects may experience increased recruitment, retention and training costs which will impact on their profitability. Depending upon the supply and demand of certain labour skills, some businesses may be unable to

attract staff which will impact on their ability to service the local market. Strategies for attracting and retaining workers, while minimising impacts on local businesses, will be a key aspect of the Australia Pacific LNG workforce strategy.

A number of stakeholders consulted regarding the Project expressed the view that there are a significant number of construction workers in Northern Territory and Western Australia who are originally from Gladstone and may return to Gladstone if the opportunity allowed. The development of the LNG facility will present such an opportunity and if this observation were correct will assist Australia Pacific LNG in meeting its local recruitment target.

Local and regional businesses will benefit from the Project through increased activity in supplying goods and services to Australia Pacific LNG. Businesses in Gladstone are represented by a number of organisations, including Gladstone Economic and Industry Development Board, Gladstone Engineering Alliance, Gladstone Industry Leadership Group, Gladstone Chamber of Commerce and Industry and Gladstone Area Promotion and Development Limited. These organisations work with business in a number of ways to take full advantage of opportunities from industry development, such as networking events, supply chain education, strengthening and fostering relationships, and promotion of services. To improve the positive contribution to benefits for local and regional businesses, Australia Pacific LNG will work with industry and the above organisations to identify demand for particular goods and services and how businesses are best placed to deliver.

Competition between Australia Pacific LNG and local and regional businesses for labour, goods and services, and commercial real estate has the potential to place upward pressure on prices and create shortages in supply of goods and services. Cumulative effects will further exacerbate the potential impacts to local and regional businesses, somewhat offsetting some of the gains that are likely to flow through from increased demographic and economic growth. Mitigation measures for this potential impact are presented in the following mitigation section.

## Operations

Operational workforce requirements are summarised in Section 20.5.2 and show that a workforce of 325 is expected to be required by 2020.

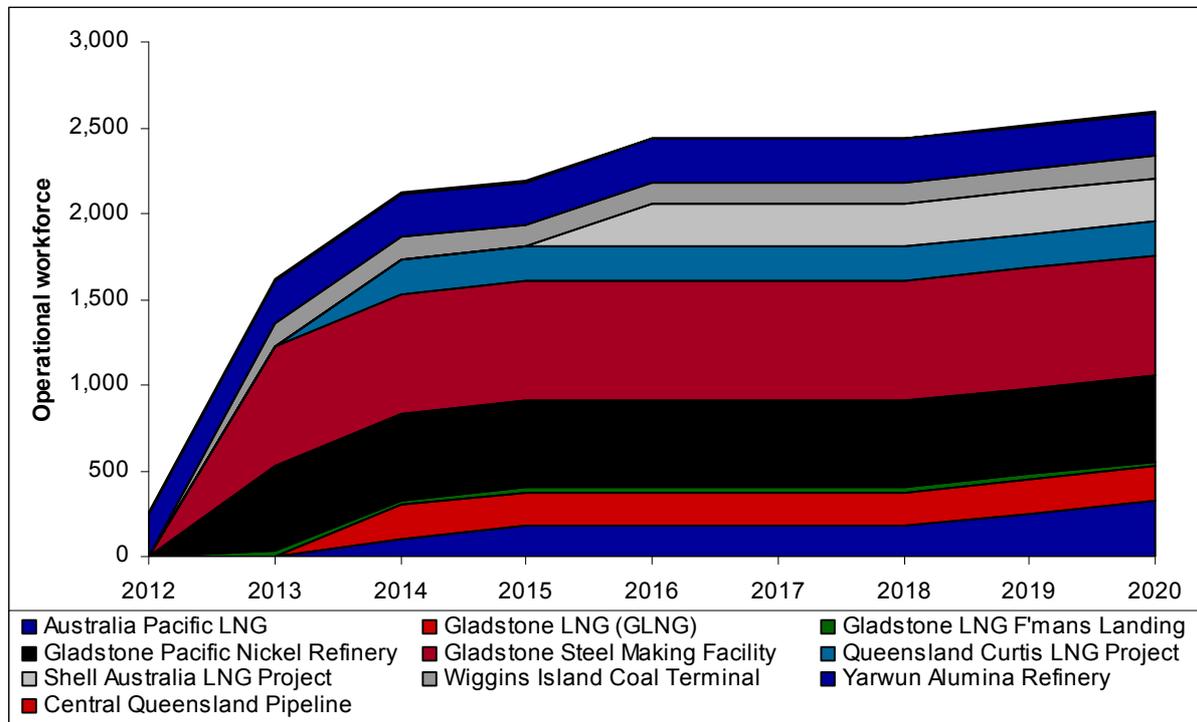
Impact on the local labour market due to the operational phase of the Project is expected to be minimal as the number of workers required as a proportion of the total Gladstone labour pool is small. In addition, a proportion of the required personnel will be sourced from the Australia Pacific LNG construction workforce.

Short-term local labour shortages during maintenance shutdown periods of the Australia Pacific LNG facility may occur, particularly during the major shutdowns, but potential impact on long-term labour force availability is not expected to be significant. See Section 20.5.2 for maintenance shutdown workforce requirements.

Operational workforce estimates are illustrated cumulatively in Figure 20.6 and include contract and permanent staff for the assessed projects. The estimates are based on maximum requirements and assume that the full operational workforce commences immediately after construction ceases. Based on these assumptions, up to 1,600 workers could be required by 2013 and then ramping up to 2,600 by 2020 and beyond. Cumulative impacts on population are discussed in the 'population' impacts section above and potential impacts on housing and accommodation, income and affordability, community health and safety, and community values and lifestyle in the following sections.

Energy Skills Queensland 2009a predicts skills that are in critical shortage as relevant to the operations of the LNG facility are electrical and instrumentation technicians and electrical engineers.

In a cumulative context these skills are likely to be experience significant shortages. Potential impacts on the regional labour force are discussed in the LNG facility economic impact assessment, presented in Volume 4 Chapter 21.



**Figure 20.6 Potential cumulative operational workforce requirements in Gladstone**

Source: Desktop research of proponents' websites and EIS documents

### Recruitment

As at August 2009, there were 74 major projects<sup>7</sup> across Australia which were under construction and have had funding committed – 38 energy, 31 minerals and five mineral processing plants – and a further 247 projects undergoing feasibility studies (Energy Skills Queensland 2009b). Although the Australia Pacific LNG operational workforce will not be large, requirement for additional labour in an already stretched labour market will contribute to the current skills shortage (especially with respect to electrical and instrumentation technicians and electrical engineers) and pose challenges for recruitment and retention.

### Local and regional business

Opportunities for local and regional businesses to supply goods and service during the operational phase of the Project will be identified in the Australia Pacific LNG local content strategy. The local content strategy will identify the most effective way to engage businesses through relevant networking and support organisations such as Gladstone Economic and Industry Development Board, Gladstone Engineering Alliance, Gladstone Industry Leadership Group, Gladstone Chamber of Commerce and Industry and Gladstone Area Promotion and Development Limited.

In the context of the Project, impacts on local and regional businesses during the operational phase are not expected to be significant. Competition for operational labour will not be significant enough to

<sup>7</sup> Capital expenditure for major projects expected to be greater than \$40 million, except for gold projects, for which the expenditure threshold is \$15 million

cause a noticeable drain on the availability of staff for existing local businesses and the use of commercial real estate will have been established in the construction phase of the Project and therefore will not experience inflationary pressure. In a cumulative context, impacts on local and regional businesses may be significant and mitigation measures are discussed in the following section.

## Mitigation

### Employment and training

Australia Pacific LNG will develop a workforce strategy that details its approach to employment and training during the construction and operational phases of the LNG facility. The strategy will be developed in the context of the Gladstone environment which, if the majority of projects under investigation proceed will be experiencing a period of unprecedented growth. The strategy will be developed in close collaboration with the construction contractor of the proposed LNG facility. Strategies will be developed and implemented to ensure the following:

- Adequate supply of labour
- Timely engagement of labour
- Appropriate competence development
- Timely competence development.

Specifically, the workforce strategy will include, but not be limited to, the following:

- In-house training programs
- Analysis of ongoing labour requirements
- Training strategies targeted to local labour
- Targeted employment and training programs
- Methods to attract local people to the workforce
- Methods to attract under-represented groups to the workforce.

Australia Pacific LNG will advertise positions through the usual local and mainstream recruitment channels (e.g. local, state and national print media, online) and develop regular employment opportunities bulletins (to be posted at Centrelink, community noticeboards). To assist job seekers, readily accessible information and advice will be provided through the Australia Pacific LNG office and community centre, open days, online recruitment portal and workshops as well as through the establishment of a construction employment facility (anticipated to be built by the construction contractor) within Gladstone to enable local people to register their interest for employment on the Project.

As the local labour market is tight, particularly within the context of cumulative effects resulting from other projects, Australia Pacific LNG will need to focus on a number of strategies to attract and retain workers. Potential strategies may include attracting retirees back to the workforce, sourcing labour and skills from industries in decline, targeting under-represented groups such as females and Indigenous workers, and sourcing labour from interstate.

The Project will contribute positively to employment opportunities through the assessment of existing community skills and identifying gaps to offer targeted skills training to a diverse range of people and sectors of the community (including minority and under-represented groups). Ongoing labour

availability will be analysed to ensure training strategies include targeting local labour. The Australia Pacific LNG workforce strategy will outline how Australia Pacific LNG will work with local employment and training organisations to identify workers within the region who can obtain qualifications based on the principle of prior learning to boost the number of employment opportunities.

The Australia Pacific LNG workforce strategy will outline the resourcing requirements for the construction and operational phases of the Project and communicate demand to TAFE, universities industry networks and training organisations to provide early and accurate information on the number and types of skills required. This will assist to mitigate against the long lead time required to supply additional skills through apprenticeships, traineeships and tertiary education.

Key studies or programs that are underway, or completed, to assist this process include:

- Energy Skills Queensland recently completed a labour market analysis to investigate industry demand for skills, potential and known future labour, and skills supply markets. This study has improved industry's understanding of likely shortfalls in the availability of skilled labour and will inform Australia Pacific LNG's workforce strategy
- Gladstone Engineering Alliance is developing a program to assist job seekers obtain qualifications necessary to secure employment (e.g. working at heights, riggers, doggers and forklift tickets)
- The Department of Education and Training's Education Queensland and Industry Partnership Program (EQIP) which aims to have high school students job-ready when they graduate by providing on-the-job training. EQIP also oversees training programs, which are already in place, as does the Gladstone Schools Engineering Skills Centre.

Australia Pacific LNG will sponsor educators such as relevant TAFEs, Central Queensland University and secondary schools to visit the LNG facility during the construction and operations stages to raise awareness of the skills required to work in the CSG/LNG industry and to support programs aimed at transition from school to work or higher education. Examples of transitional programs include:

- Gladstone Area Group Apprentices Limited's Get Set For Work program which addresses the learning and employment options available to young people and helps prepare them for employment
- Gladstone Area Group Apprentices Limited's pre-trade program which provides training to Year 11 and 12 students interested in trade related careers and Gladstone Schools Engineering Skills Centre's transition to work program
- EQIP (see above).

The Department of Education and Training is seeking long-term partnerships with industry and EQIP could provide CSG/LNG specific options if demand required. Australia Pacific LNG will support EQIP.

Feedback from Department of Education and Training indicated that within the schooling sector, more males than females entered trade schools. The same applied for Indigenous students undertaking these pathways. However, the percentage of females (Indigenous and non-Indigenous) entering part-time work post-schooling is much higher than for males. This may present an opportunity for Australia Pacific LNG to increase female participation in trade school qualifications.

### **Local and regional businesses**

Improved benefits to local and regional businesses will be achieved through the development and implementation of the Australia Pacific LNG local content strategy. The local content strategy will be

based on an accurate understanding of current and potential future business capacity and developed in collaboration with industry support organisations, local and regional businesses and specialist training organisations. There are a significant number of industry support organisations in the Gladstone area, such as Gladstone Economic and Industry Development Board, Gladstone Engineering Alliance, Gladstone Industry Leadership Group, Gladstone Chamber of Commerce and Industry and Gladstone Area Promotion and Development Limited and Queensland Industry Capability Network.

A key component of the Australia Pacific LNG local content strategy will be a local business capacity building program that provides business networking opportunities and provides development groups and businesses with regular project updates, overview of goods and services packages and education regarding the supply chain. Where challenges facing businesses are identified they will be addressed through participatory measures (e.g. through workshops and one-on-one engagement). The Australia Pacific LNG Community Centre in Gladstone will play a pivotal role in providing information and assistance to local and regional businesses.

Australia Pacific LNG will also use existing local programs to promote local and regional businesses to project employees and contractors and will buy locally where possible to support the sustainability of these businesses.

Local businesses potentially losing employees to the Project, and particularly in a cumulative context, as a result of labour competition will be mitigated to some extent through a number of measures. Australia Pacific LNG will work with businesses to highlight and engage existing available Government workforce programs aimed at attracting workers. It will foster support for the local area by encouraging the workforce to support local businesses as much as possible. Australia Pacific LNG support for, and input to, local and regional apprenticeships programs and the Gladstone Engineering Alliance / State Government Skills Formation Strategy will improve the availability of qualified labour for local and regional businesses.

To mitigate against potential commercial real estate shortages during the construction phase, Australia Pacific LNG will continue to participate in local government and regional planning processes by providing information regarding demand for commercial real estate. The housing and accommodation strategy will outline strategies for minimising impacts on the commercial real estate market and will be developed in the context of expected local economic growth, taking into account the potential cumulative impacts resulting from increased demand from all projects that are under investigation or committed in the Gladstone area.

Australia Pacific LNG will continue to support opportunities for industrial tourism through entities such as Gladstone Area Promotion and Development Limited, Gladstone Economic Industry Development Board and Gladstone Engineering Alliance. Industrial tourism is an important component of Gladstone's tourism base and during the recent economic downturn provided resilience to the tourism sector.

### ***Primary and secondary education***

#### **Construction**

Consultation with Department of Education and Training indicated that primary and secondary state schools in Gladstone have the capacity to absorb an approximate additional 300 to 450 children and private schooling also holding capacity to absorb additional students. It is expected that the existing primary and secondary schools will be able to meet any additional demand associated with the Project construction workforce.

The Department of Education and Training has retained 106 government employee houses that are being used as teacher housing. Access to government employee housing is a significant advantage to attracting and retaining employees in the region. The construction of the LNG facility will not impact on the availability of government employee housing for Department of Education and Training employees.

## **Operations**

Although a higher proportion of the operational workforce are more likely to have children requiring schooling than the construction workforce, it is expected that the existing primary and secondary education system will still be able to cope with any increase in demand attributed to the operation of the Project.

## **Mitigation**

Given the relatively small numbers of additional school aged children requiring primary or secondary education services in Gladstone as a result of the Project, and the good capacity of existing institutions to meet additional demand, the impact of the Project is not expected to be significant. However given the cumulative impacts may be significant, Australia Pacific LNG will assist primary and secondary education institutions in forecasting future demand by providing relevant workforce data to relevant State Government departments.

Australia Pacific LNG will also work with government, the community and other industries to plan for potential cumulative impacts and share information relating to potential impacts and mitigation measures.

## ***Housing and accommodation***

### **Construction**

The preference of Australia Pacific LNG is to accommodate the non-local construction workforce in a TAF located on Curtis Island. This preference is based on an assessment of various temporary accommodation options, detailed in the Project description in Volume 4 Chapter 3. Non-local workforce has been defined as those people who live greater than 60km from the Gladstone general post office (GPO). Meeting the Project target of 20% local employment will equate to approximately 1,680 employees to be housed in the TAF during the peak construction period (2013 and 2018). The development of other projects may affect the percentage of the workforce that can be sourced locally by Australia Pacific LNG. The remainder of the construction workforce will be accommodated in housing in Gladstone and the surrounding area.

The TAF will have 1,800 beds and will be utilised during the construction of the four LNG trains and will have an approximate life of 10 years. The TAF will be located within the LNG facility site footprint. Facilities and buildings at the TAF will include, but will not be limited to, the following:

- Accommodation
- Main office, reception and training centre
- Commercial kitchen and dining
- Laundry
- Recreational facilities (e.g. lounge, television rooms, game room, fitness centre, basketball/volleyball, squash/racquet ball courts)

- Sports field and jogging trail
- Medical clinic
- Warehouse and maintenance shop
- Guard house.

The TAF will be built to comply with the draft 'Queensland Development Code Part MP 3.3, Temporary Accommodation Buildings and Structures' and be regarded as within the top quartile of facilities in Australia. It will comply with all local government and other regulatory approvals. It is unknown at this stage which company will manage the TAF as it has not yet gone out to tender.

The Social Infrastructure Strategic Plan (Gladstone Regional Council et al. 2009) background report identified one of the impacts of growth in Gladstone being that some segments of the population (e.g. young people, low-income households and older people) have been forced to relocate from Gladstone to outer and more remote areas to find affordable housing. Accessibility to affordable housing was also highlighted in the Gladstone Regional Vision 2028 report and listed as one of the 10 long-term goals which are central to realising the vision:

'To ensure that there is affordable housing and appropriate facilities and services for all people who want to live or retire in the Gladstone region.'

As at December 2006, there were 92 households on the waiting list for Anglicare's Central Queensland community rent scheme which allocates affordable and appropriate housing in the Gladstone, Boyne Island and Tannum Sands region. This indicates a shortage of affordable housing. The Project may cause a further reduction in the availability of affordable housing if inflationary pressure on rents or property prices is experienced.

As at November 2009, the rental market in Gladstone was flat due to the recent downturn in economic activity, particularly the scaling back of the Rio Tinto Yarwun 2 expansion. Anecdotal evidence suggests that property investors have decreased rents by as much as A\$70 per week on a three bedroom house in order to attract tenants. Anecdotal evidence further suggests that there is vacant housing stock that is yet to be released to the market. However, the cumulative impacts on housing and accommodation could see a significant increase in demand which may increase rental and property prices and reduce housing affordability. The Social Infrastructure Strategic Plan (2009) background report recognised that low income households are impacted the most during phases in which rental accommodation availability is tightening and rents are rising. Furthermore, the cumulative impact of projects on the short-term commercial accommodation market could see 0% vacancy rates and inflated prices which could significantly impact local and regional businesses and the tourism industry.

## **Operations**

The operational phase of the Project will ultimately require an expected workforce of 325 by 2020. The workforce required for the operational phase of the Project will be accommodated in local, permanent housing within 80km of Gladstone's GPO.

As well as the core operational workforce, personnel will be required to perform shutdowns of the LNG trains for maintenance. Major shutdowns are generally scheduled every few years and will require an approximate workforce of 300 to 500 personnel, depending on scope. Minor shutdowns may occur more frequently and will require an additional staff of approximately 50 to 100 personnel. Staff required for these shutdowns will be accommodated where possible at the TAF on Curtis Island while

it remains operational and within existing temporary, short term and permanent accommodation in Gladstone.

While it is expected that a proportion of the operational workforce will be sourced in part from the LNG facility construction workforce and existing local residential labour, there may be some workers and their families relocating to Gladstone to work on the Project that will require accommodation.

For analysis of potential impacts on property values during the construction and operational phases of the LNG facility, including cumulative impacts, refer to the economic impact assessment in Volume 4 Chapter 21.

### **Mitigation**

Australia Pacific LNG will develop a housing and accommodation strategy that details how it will minimise impacts on the local housing and rental market, focusing on four key areas:

- Temporary accommodation
- Permanent accommodation
- Short-term accommodation
- Affordable housing.

The housing and accommodation strategy will be developed in the context of expected local economic growth, taking into account the potential cumulative impacts resulting from increased demand from all projects that are under investigation or committed in the Gladstone area.

### **Temporary accommodation**

Accommodating the non-local portion of the construction workforce in the TAF will assist in mitigating short to medium-term inflationary pressure on housing and accommodation costs in Gladstone and surrounds. Cumulative impacts on the housing and accommodation market in Gladstone will be further exacerbated if the Project did not utilise a TAF at Curtis Island.

A concern raised during the stakeholder engagement process was that within the TAF there can be anti-social behaviour which impacts on the host community. Some stakeholders also raised the location of the TAF as an issue, citing that a TAF located within Gladstone City (as opposed to Curtis Island) will improve the local social and economic benefits. Conversely, other stakeholders, including Queensland Police, commented that potential impacts to the Gladstone community could be minimised if the Project TAF was located outside of Gladstone city. To address the concern that anti-social behaviour may be demonstrated, Australia Pacific LNG will manage its employees and contractors through the Australia Pacific LNG project rules and specific TAF code of behaviour to ensure high standards of behaviour that extend beyond the TAF and into the general community.

Australia Pacific LNG assessed that locating the TAF at Curtis Island to accommodate approximately 80% of the construction workforce is the most beneficial option to both the community and Australia Pacific LNG. Locating 100% of the construction workforce in Gladstone could place significant short-to medium-term pressure on facilities and services, particularly given the potential cumulative impacts from large construction workforce requirements. Increased competition may result in inflationary pressures and shortages in the market and impact residents and businesses. Additional benefits from having the non-local portion of the workforce accommodated at Curtis Island include the convenience for employees of minimal travel times to work, reduced service costs for Australia Pacific LNG, fatigue management and less pressure on local roads.

To improve the social benefits resulting from the construction workforce located at Curtis Island, Australia Pacific LNG is considering whether to offer structured opportunities for the construction workforce to participate in community or social activities in Gladstone during rostered days off. The Australia Pacific LNG Project Lifestyle Coordinator will implement and monitor this strategy.

### **Permanent accommodation**

Pressure placed on the housing market in Gladstone and surrounding settlements due to the influx of workers during the construction phase of the Australia Pacific LNG Project will be mitigated by forecasting and reviewing demand for housing and communicating this information to local and state government and developers to assist in planning for future growth. The same strategy will be employed during the operational phase of the Project and also to address cumulative impacts.

### **Short-term accommodation**

During the construction phase of the Project, visiting Australia Pacific LNG employees and contractors will be accommodated in TAF where possible to minimise the impact on short-term commercial accommodation.

### **Affordable housing**

In collaboration with industry, local and state government and community housing providers, Australia Pacific LNG will monitor demand for affordable rental housing stock and assist in the development of strategies to maintain adequate levels of availability. An opportunity exists for Australia Pacific LNG, through its community investment strategy, to assist in addressing the issue of availability of housing affordability. Australia Pacific LNG strategies to address the issue will be aligned with the objectives of the Gladstone Regional Vision 2028.

## ***Community health and safety***

### **Construction**

The construction of an LNG facility and associated infrastructure is generally physically demanding, executed in isolated areas and for lengthy periods of time. As such, the work has historically attracted a young, male dominated workforce. This observation is reinforced by a recent statement made by the Construction, Forestry, Mining and Energy Union who commented that 'too many older, experienced workers are being pushed out of the industry because of their age or because they require special treatment for injuries received on the job' (ABC 2009).

It is unlikely the influx of a young, male dominated peak construction workforce of approximately 2,100 will have a significant impact on the overall Gladstone demographics as approximately 80% workforce will be located in the TAF at Curtis Island and they will interact infrequently with the Gladstone community. The construction workforce influx may however impact community safety and health, vulnerable groups of people, access to community facilities and services, and community values and lifestyle. Impacts to facilities and services, and community values and lifestyle are discussed in later in this section.

The non-local construction workforce accommodated in the TAF at Curtis Island will be working a four week on followed by one week off roster, six days per week. Australia Pacific LNG is considering whether to provide opportunities for the construction workforce to travel to Gladstone during rostered days off to participate in community or social activities. Regardless of whether this option eventuates, the construction workforce accommodated at Curtis Island will interact with the Gladstone community during shift changes and if they were required to travel to Gladstone for equipment, supplies or

logistical reasons. The local construction workforce will be working a five day week, Monday to Friday and therefore will interact with the community on a daily basis.

An influx of young, male dominated workers may impact on community safety and health. This may not be limited to social venues, perhaps extending to public places include parks and walking areas. Cumulative impacts to community safety may further exacerbate any impacts.

The potential cumulative increase in population during the construction and operational phases of the projects is discussed in Section 20.6.2 (refer to Population Impact subsection). This has a direct impact on community health and safety with a larger increase in population potentially exacerbating the impacts described above. This relates mainly during the construction phase of the projects in which the workforce is likely to consist of young males. Potential cumulative impacts of an influx of young, male dominated workers include impacts to community safety and health.

During stakeholder consultation for the Project, stakeholders highlighted concerns related to potential impacts to Gladstone air quality and related potential impacts to community health as a result of the construction of the LNG facility. Potential impacts and mitigation measures for air quality as they relate to public health and safety are discussed in Volume 4 Chapter 13. Volume 4 Chapter 13 also addresses the potential cumulative impacts to air quality.

Construction of the LNG facility will cause an increase to road, air and shipping movements as a direct result of the transport of personnel, materials and equipment. The potential impact to road and maritime safety and congestion related to the LNG facility is discussed in detail in Volume 4 Chapter 17. Volume 4 Chapter 17 also addresses potential cumulative impacts to traffic and transport.

## **Operations**

Impacts to community health and safety due to the Australia Pacific LNG operational workforce are not expected to be significant as the operational workforce requirements are relatively small (325 workers maximum by 2020).

Impacts to road safety and congestion during the operational phase of the Project are not expected to be significant due to the relatively few additional traffic movements to the existing network. This is discussed in detail in Volume 4 Chapter 17.

During consultation activities for the Project, community members and stakeholders discussed Australia Pacific LNG's risk management process related to LNG production and LNG shipping. As consultation activities progressed, discussions focussed on concerns in relation to potential cumulative impacts associated with the siting of numerous LNG facilities on Curtis Island. The main concern was community safety and health. Potential impacts and mitigation strategies related to the LNG facility and cumulative impacts are discussed in detail in Volume 4 Chapter 22.

## **Mitigation**

Australia Pacific LNG will locate the TAF on Curtis Island to reduce the potential impact from an influx of construction workers to Gladstone. Discussion on alternatives for the location of the TAF and the preferred option are discussed in detail in Volume 4 Chapter 3.

The good behaviour of Australia Pacific LNG employees and contractors who reside at the TAF at Curtis Island (during the construction phase) or in Gladstone will be a key component of mitigating potential impacts to community health and safety. There are two components to this (1) workforce culture and (2) workforce health promotion programs.

Creating a culture of good behaviour, responsibility for actions and integration with the existing community to ensure harmony and minimal disturbance will be partly achieved by the design and construction of a high quality TAF. The TAF will be regarded as within the top quartile of facilities within Australia and will have a diverse array of recreation activities. As well as a high quality TAF, Australia Pacific LNG will enforce project rules and a TAF code of behaviour to ensure high standards of behaviour that extend beyond the TAF and into the general community. The Australia Pacific project rules and TAF code of behaviour will be discussed during Project inductions and will extend to contractors.

The Australia Pacific LNG project rules include rules, regulations and mechanisms for enforcement across the following areas relevant to potential social impacts:

- Employee accountability
- Requirements for personal protective equipment
- Site access
- Road rules and parking
- Transportation to and from work
- Access to the site for children<sup>8</sup>
- Gambling and raffles
- Use of telephones
- Fitness for work, including drugs and alcohol
- Employee behaviour
- Banned items.

The TAF code of behaviour outlines expected employee behaviour for those residing in the TAF at Curtis Island across the following areas relevant to potential social impacts:

- Safety and health
  - Emergency procedures
  - Precautions against fire
  - General hygiene and sanitation
- Employee meals
- Accommodation
- Resident visitors
- Recreational facilities
- Prohibited items
- Complaints
- Employee behaviour

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<sup>8</sup> Under 16 years of age

- Rules for the bar area.

A Project Lifestyle Coordinator will be employed should Australia Pacific LNG choose to provide opportunities for the construction workforce residing at Curtis Island to participate in community or social activities in Gladstone during rostered days off. The Project Lifestyle Coordinator will coordinate these activities and be responsible for encouraging an appropriate culture of good behaviour.

The implementation of workforce health promotion programs will assist to mitigate potential impacts to workforce health and safety. Australia Pacific LNG will implement health promotion programs amongst its workforce such as 'Fit for Work' and 'Drug and Alcohol' policies to ensure the maintenance of high standards of workforce behaviour.

Australia Pacific LNG will provide local government with estimates of workforce numbers and traffic movements to assist infrastructure planning. Mitigation measures addressing the provision of facilities and services to support community health and safety are addressed later in this section.

During stakeholder consultation for the Project, stakeholders highlighted concerns related to potential impacts to community safety and Gladstone air quality and related potential impacts to community health. Potential impacts and mitigation measures for air quality as they relate to public health and safety are discussed in Volume 4 Chapter 13. Volume 4 Chapter 13 also addresses the potential cumulative impacts to air quality.

Project health and safety practices and results of relevant monitoring will be communicated through a range of channels such as Australia Pacific LNG's community centre, consultation sessions, media and meetings. Australia Pacific LNG will engage with community groups, such as the Clean and Healthy Air Group in two-way dialogue on health and safety matters.

Australia Pacific LNG will continue to implement educational programs within the community, such as the LNG Demonstration Show held in Brisbane and Gladstone in September 2009. A community complaints procedure is outlined in the draft SIMP which describes the process for stakeholders to raise concerns, and in turn have them addressed (refer to Volume 4 Chapter 24).

Emergency response planning related to the LNG facility is addressed in Volume 4 Chapter 22. Australia Pacific LNG's emergency response planning will include consultation with neighbours and collaboration with relevant stakeholders, as practical.

Safe transportation management practices related to the LNG facility are addressed in detail in Volume 4 Chapter 17. Key mitigation measures to address traffic safety and congestion include developing and implementing a range of road safety programs (e.g. targeting fatigue and safe driving), designing workforce transport to minimise potential impacts to traffic congestion, designing travel routes away from sensitive receptors (e.g. schools and hospitals) and the potential use of buses to shuttle FIFO construction workers to and from the Gladstone airport to the ferry embarkation point.

## ***Facilities and services***

### **Construction**

The population of Gladstone is expected to increase during the construction phase due to workers and dependents moving to Gladstone to seek employment on the Project and also a population influx resulting from indirect employment, business and contracting opportunities. Facilities and services potentially impacted as a result of an increase in population and economic activity can be categorised as:

- Medical and health
- Recreation
- Emergency services
- Community support services and facilities
- Utility services.

Potential impacts on facilities and services are discussed below. With respect to cumulative impacts, the Social Infrastructure Strategic Plan (2009) background report suggests that the cumulative effects of current industrial projects are already exerting pressures on available social services related to the increase in the number of people moving into the area impacting access to existing facilities and services. A collaborative approach between industry and local and state government will be crucial in the adequate management of cumulative impacts to local facilities. Accurate forecasting of workforce requirements and associated demographic impacts will assist the local and state government to plan appropriate social infrastructure to meet the needs of a growing community.

### **Medical and health**

The Gladstone population is predicted to double by the year 2031, and the Social Infrastructure Strategic Plan (2009) background report suggests that the current regional health hub (Rockhampton) and spoke (Gladstone) service delivery model will need to be revised and that Gladstone should become a hub location by 2031. The current hub and spoke model has received criticism from some Gladstone community members. Recent consultation with Gladstone stakeholders found that Gladstone community members' felt that the lack of available public transport between Gladstone and Rockhampton (and between Gladstone and surrounding towns) and the costs associated with driving or flying to Rockhampton were impediments to accessing Rockhampton health services. The Social Infrastructure Strategic Plan (2009) background report similarly documents that Gladstone community members perceive themselves to be the poor cousin when comparing facilities and services available in Gladstone and Rockhampton with residents reporting that they need to drive to Rockhampton or Brisbane for specialist medical treatment.

It is likely that Gladstone will experience increased demand on medical and health services as a result of the increase in population attributed to the construction of the Project. If this were the case it will particularly relate to primary health care services. Primary health care is the first point of entry for people into the health system and includes services such as visits to the general practitioner, dentist, prescription chemist and physiotherapy.

First response medical capabilities will be located on-site on Curtis Island providing the following services to both local and non-local employees and contractors:

- Twenty-four hour service to accommodate workers based at the TAF and site
- Emergency response to handle medical emergencies anywhere on site and at the TAF
- Ambulance service to transport injured workers from the site to the clinic and ferry point for transport to the Gladstone mainland
- Outpatient medical care to injured workers
- Sick call for workers
- Issue medical referrals for treatment needed at a mainland facility
- Issue sick leave and off-duty authorisations

- Minor first aid care to workers
- Stabilise seriously injured workers for transport to Gladstone mainland facilities.

### Recreation

Australia Pacific LNG is considering two berthing options (Option 1b and Option 2a – which are explained in Volume 4 Chapter 3). Option 1b and Option 2a differ in regard to potential impacts on access for recreational users of Port Curtis. Option 1b will restrict access to Graham Creek and The Narrows via the passage between Curtis Island and North Passage Island. This is due to the LNG loading pipe trestle that will extend from the Laird Point site to the loading berths on the southern side of North Passage Island. Access will be restricted for safety and security concerns. Additionally, access by tall boats / yachts will be physically constrained. Access via this passage is not however restricted in the case of Option 2a, even while an LNG ship is loading at berth.

Access to the sandy beach at Laird Point at the mouth of Graham Creek is not anticipated to be restricted and impacts associated with construction activities such as noise and dust will be shielded by intervening terrain.

During public consultation, Gladstone community members also discussed the lack of sporting facilities available for youth and possible increases in anti-social behaviour by youth.

### Emergency services

Emergency services are well represented in Gladstone, including a permanent fire station located at Gladstone and support stations located at Calliope, Gladstone and Mount Larcom. State emergency services are located at Calliope, Gladstone, Mount Larcom and Boyne Island.

During consultation regarding the Project, emergency services discussed their planning requirements to service industry developments. The Project will be well equipped to respond to emergency situations, including emergency medical evacuation from Curtis Island, however may need to draw from the expertise and assistance of local emergency services if the situation required. Potential impacts for hazard and risk as they relate to the LNG facility and emergency services are discussed in Volume 4 Chapter 22.

The Social Infrastructure Strategic Plan (2009) background report identified a shift in volunteering due to difficulties in volunteers' ability to contribute regular attendance. Australia Pacific LNG's workforce rosters are conducive to participation in community activities such as volunteering, with the local construction workforce working five days per week. The potential for participation in volunteering activities for the non-local workforce could be limited given that they will be residing at Curtis Island, working a six day week. Australia Pacific LNG is considering whether to provide structured opportunities for the construction workforce to participate in community activities in Gladstone during rostered days off and if this eventuated it may present opportunities for the workforce to contribute to volunteering.

### Community support services and facilities

The presence of quality and diverse community support services and facilities is vital to the social health of a community. It plays an important role in the quality of life for residents and in building a vibrant and strong community.

The Social Infrastructure Strategic Plan (2009) identifies a general lack of social support networks for families in the Gladstone region, particularly for child care services and public transport. The provision of child care services is an important factor in enabling parents to participate in employment, education and training, community activities and personal activities. Inadequate child care services will

also present challenges for attraction and retention of workers with young families and targeting increased participation of women and carers into the workforce.

It was noted during stakeholder consultation, that Central Queensland University will be becoming an Engineering Excellence University and that this may result in reduced curriculum at the university related to welfare and service sector qualifications.

Australia Pacific LNG does not anticipate sourcing construction labour from overseas and subsequently does not expect impacts to resettlement and multicultural services. Should the need arise for overseas workers to be employed on the Project, it has been identified that there are adequate levels of support available in Gladstone to assist the integration of overseas workers. Gladstone Economic and Industry Development Board's orientation service to new community members is an example of such a service. Support services are also required for non-locals moving to the region from within Australia and it is expected that there will be an increase in demand for these services as an increase in workers and dependents migrate to Gladstone.

The FIFO or DIDO component of the construction workforce will increase the pressure placed on the Gladstone Airport and local roads, respectively. The potential transportation related impacts related to the LNG facility are discussed in Volume 4 Chapter 17.

### **Utility services**

Given that up to 80% of the construction workforce is expected to be accommodated at the TAF located at Curtis Island and the remainder in existing accommodation arrangements in Gladstone and surrounds, the potential impact on utility services is expected to be minimal.

### **Operations**

An exclusion zone of a 250m radius from the LNG jetty will be enforced during LNG loading. The exclusion zone for the Option 2a loading berth configuration is not expected to have a significant impact on the use of the waterway for recreational fishing or boating activities as the exclusion zones are small relative to the overall area available. The construction or operation of the LNG facility is not expected to impact areas on Curtis Island used for recreation purposes due to the isolation of the site and the lack of infrastructure connecting the site to the South End community.

The initial operational workforce for the LNG facility, commencing in 2014, will be 100 workers, increasing to 175 by 2015 and finally ramping up to a maximum of 325 workers after 2020. KPMG Econtech (2009) estimate that the overall population increase attributed to the operational phase of the Project could be approximately 880. The small increase in population, both in real terms (880 people), and as a proportion of the overall population (approximately 2%), means that the operational workforce is not expected to significantly impact Gladstone facilities and services.

### **Mitigation**

The Gladstone Social Infrastructure Strategic Plan is being undertaken to develop a blueprint to guide investment decisions for the future provision of strategic social infrastructure in the region, and to inform current and future Project proponents of potential contributions to social services and facilities. Key findings of the Social Infrastructure Strategic Plan social infrastructure audit are:

- Key regional facilities and services are mainly located in Rockhampton
- Existing provision of facilities and services in Gladstone region are focused in the Gladstone central business district
- Relatively poor provision of facilities and services in outer suburbs of Gladstone city

- Reasonable provision of facilities and services in outlying communities relative to size – many functioning in service roles beyond needs of population
- Limited social infrastructure in surrounding small rural villages.

Australia Pacific LNG will consult with the relevant local and state government departments regarding the development of mitigation strategies for potential impacts on facilities and services. Australia Pacific LNG will be guided by the service and infrastructure priorities identified in the Social Infrastructure Strategic Plan and relevant local and regional plans. Australia Pacific LNG will also draw from the outputs of the Gladstone Region Visioning 2028 report.

### **Medical and health**

If additional demand were placed on medical and health services as a result of the construction workforce it will most likely relate to primary health care services. To minimise any potential increase in demand, Australia Pacific LNG will:

- Implement employee and family well-being programs and conduct regular education campaigns to improve health and wellbeing
- Provide first response medical capabilities on-site at Curtis Island for both local and non-local employees and contractors
- Collaborate with government, industry and other providers to develop programs to mitigate the impact on health services in local communities.

Australia Pacific LNG will provide Queensland Health with regular and advanced notice of workforce movements within the region to assist government planning processes. Australia Pacific LNG will also support the State Government funded general practitioner super clinic via the provision of population projections that reflect Project requirements.

Australia Pacific LNG will, in collaboration with other LNG proponents, consider extending emergency medical evacuation services to Curtis Island residents.

### **Recreation**

Australia Pacific LNG is considering two berthing options (Option 1b and Option 2a – which are explained in Volume 4 Chapter 3). Option 1b and Option 2a differ in regard to potential impacts on access for recreational users of Port Curtis. Option 1B will restrict access to Graham Creek and The Narrows via the passage between Curtis Island and North Passage Island. This is due to the LNG loading pipe trestle that will extend from the Laird Point site to the loading berths on the southern side of North Passage Island. Access will be restricted for safety and security concerns. Additionally, access by tall boats / yachts will be physically constrained. Access via this passage is not however restricted in the case of Option 2a, even while an LNG ship is loading at berth.

The LNG jetty and LNG vessel exclusion zones are legal security and safety requirements and are not expected to have a significant impact on the use of the waterways for recreational fishing or boating given the relatively small area of impact. In the event that there are impacts on recreational areas, Australia Pacific LNG will, through the Project communications plan, communicate the extent and timing of impacts to affected stakeholders and schedule works around minimal disturbance. Australia Pacific LNG will work with government and stakeholders to address loss of fishing access. Specific mitigation measures relating to offsets for loss of fishing access are discussed in Volume 4 Chapter 10.

Access to the sandy beach at Laird Point at the mouth of Graham Creek is not anticipated to be restricted and impacts associated with operations activities such as noise and light will be shielded by intervening terrain.

In the event there are community complaints: they will be addressed through the community complaints procedure. The community complaints procedure is outlined in the draft SIMP and describes the procedure for stakeholders to raise concerns, and in turn have them addressed (refer to Volume 4 Chapter 24).

### **Emergency services**

Australia Pacific LNG will communicate the emergency response plan to Curtis Island South End, Witt Island and Tide Island residents to ensure that they are aware of the procedures in the event of an emergency. Mitigation measures for hazard and risk as they relate to emergency services are discussed in Volume 4 Chapter 22.

Australia Pacific LNG will improve opportunities for participation in community activities, such as volunteering, by implementing rosters that are conducive to such participation. The local workforce will be working a five day week which will facilitate opportunities for participation. The potential for participation in volunteering activities for non-local workforce could be limited, given that they will be residing at Curtis Island, working a six day week. However, Australia Pacific LNG is considering whether to provide structured opportunities for the construction workforce to participate in community activities in Gladstone during roster days off. A Lifestyle Coordinator will be employed to implement and monitor this strategy.

### **Community support services and facilities**

Through the Project community investment strategy, Australia Pacific LNG will consult with relevant stakeholders to identify programs that target community support services and provide support for these. Australia Pacific LNG will be an advocate for, and participate in, regional assessments and planning processes to anticipate demand for community support services and facilities, highlighting any short falls to relevant Local or State Government departments.

The requirement for a competitive airport in Gladstone with an additional carrier and ability to take 737 aircraft on a regular basis has been identified as a key priority due to the cumulative impacts of proposed projects. Strategies to mitigate against the potential impacts to the Gladstone airport and local roads are discussed in Volume 4 Chapter 17.

Through the community investment strategy, Australia Pacific LNG will partner with community organisations to develop strategies aimed at off-setting any Project impacts to community support services and facilities. Australia Pacific LNG will also explore opportunities to use Project infrastructure for community use after construction. For example, a Project car park or lay-down area may be linked to a boating access area. Such initiatives will need to be aligned with the long-term vision for Gladstone.

Australia Pacific LNG will provide orientation to employees moving to the region through the workforce induction program to assist in alleviating pressures on existing support services.

### **Utility services**

Australia Pacific LNG will provide data for regional assessments to anticipate cumulative demand for utility services, highlighting any short falls to local and state government and utility providers.

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## **Community values and lifestyle**

### **Construction**

A survey undertaken as part of the Gladstone Regional Vision 2008 project found that 80% of respondents are optimistic about their future in Gladstone which indicates a largely positive community sentiment. A sense of the values that are prevalent in the Gladstone community was understood through the following responses to the same survey (Gladstone Regional Vision 2008):

- Nearly two-thirds of the regional Gladstone community (64.3%) believed that 'community members care about the natural environment' and only 4.2% disagreed with this statement, and 31.6% were unsure
- Over half of the community (54.7%) believed that 'the community tends to have traditional family values'. Only 4% disagreed with this statement and just under half (47%) were unsure
- Over half of the community (53.8%) believed that 'Gladstone people embrace multiculturalism'. Only 5.5% disagreed and 40.7% were unsure.

Overall, these results suggest that Gladstone residents have a positive outlook on their future and have values that support resilience to change. A review of the number and type of community events in Gladstone found there to be over 11 major events on the calendar annually which indicates an active community. These findings were reinforced through Project stakeholder engagement which found there to be a high degree of community pride in Gladstone supported by Gladstone's accolade of winning Queensland's tidiest town in 2002 and joint winner as Queensland's Healthiest Community in the Healthy Queensland Awards in 2009.

An influx of a construction workforce, dependents and general growth attributed to the construction of the LNG facility, and in particular cumulative impacts from a large number of projects, has the potential to place pressure on community values and residents lifestyle patterns. The Social Infrastructure Strategy Plan (2009) background report found that if this were the case, the areas expected to experience pressure will be:

- Established communities.
- Existing recreational and leisure resources.
- Increased shift work employment lessening people's time spent with their families and participation in community activities.
- Decreased volunteering due to difficulties in regular attendance.

In addition to these areas, community values and lifestyle may be impacted due to the relationship between increased disposable income and spending patterns. For example, increased spend on gambling, alcohol or drugs could contribute to a decline in community values and strength.

Potential impacts on facilities and services which relate to lifestyle are discussed earlier in this section and impacts of lighting, dust and noise to community amenity and lifestyle are discussed in the following chapters of Volume 4:

- Lighting – Chapter 7
- Dust – Chapters 5 and 13
- Noise – Chapter 15
- Traffic – Chapter 17.

The potential cumulative increase in population during the construction and operational phases of the LNG facility is discussed earlier in this section. The greater the influx in population to Gladstone, the increased likelihood that there will be further impacts to community values and lifestyles as the region will be experiencing a greater rate of change. It is also expected that cumulative impacts would place additional pressure on facilities and services. Impacts are mainly related to the construction phase of projects where the influx in population is short to medium term and the demographics are more likely to consist of a young, male dominated workforce with high levels of disposable income. The potential cumulative impacts can be mitigated in part by planning for the location of the TAF and the provision of appropriate services to the non-resident workforce.

## Operations

The operational phase of the Project is expected to have minimal impact on community values due to the relatively small size of the workforce and the dynamics of the existing population base. Gladstone already has a relative young population, many of whom have moved to the area within the last 10 years (ABS 2006). It is anticipated that this community can accommodate, and benefit from, an influx of new people more readily than other communities that have experienced little population change in the past.

Potential impacts on facilities and services which relate to lifestyle are discussed in earlier in this section. Other potential impacts of dust, lighting, noise and traffic to community amenity and lifestyle are discussed in Volume 4 Chapter 5, Volume 4 Chapter 7, Volume 4 Chapter 13, Volume 4 Chapter 15 and Volume 4 Chapter 17 respectively.

## Mitigation

It is Australia Pacific LNG's intention to become an integral and valued community member by upholding, and adding value to, existing community values and lifestyle conditions. Contributing to community values and lifestyle in the most effective and appropriate way will be guided by the community investment strategy which will be developed in close consultation with key stakeholders. The support for health promotion and well-being programs through internal human resources programs will contribute to the social health and well-being of the Project workforce.

Stakeholder engagement found that there is a concern that segments of the construction workforce may display anti-social behaviour which could impact on community values and lifestyle. To mitigate against this potential impact, Australia Pacific LNG will manage its employees and contractors through the Australia Pacific LNG project rules and specific TAF code of behaviour to ensure high standards of behaviour that extend beyond the TAF and into the general community. Mitigation strategies in relation to potential anti-social behaviour of the construction workforce are discussed earlier in this section. It is important to note that the Australia Pacific LNG project rules are applicable to and enforced amongst all employees and contractors, and not just those residing in the TAF at Curtis Island.

In the event there are stakeholder complaints, they will be addressed promptly and appropriately through the Project community complaints procedure. Details regarding the community complaints procedure are contained within the draft SIMP (Volume 4 Chapter 24).

Stakeholders have expressed concern that housing workers at Curtis Island will reduce opportunities for the workforce to contribute to the social and economic well being of Gladstone. To improve the social benefits from the construction workforce located at Curtis Island, Australia Pacific LNG is considering structured opportunities for the non-local construction workforce to participate in

community activities (including volunteering) during rostered days off. A Lifestyle Coordinator will be employed to implement and monitor this strategy.

During the operational phase of the Project, Australia Pacific LNG will develop a social program to encourage employees to become active members of the community.

Stakeholder consultation and the Social Infrastructure Strategic Plan 2009 background report found that contributing to volunteering activities is an area of high demand. Australia Pacific LNG already has a corporate volunteering framework in place and will partner with volunteer and community organisations to adapt this framework for the Gladstone region.

Stakeholder consultation for the Project and that conducted by Clean and Healthy Air for Gladstone Project found that the community expressed strong interest and value in the environment, particularly related to air quality. Australia Pacific LNG is committed to upholding, and improving where possible, the environmental values of the region. Strategies to mitigate against potential impacts of dust, lighting, noise and traffic to community amenity and lifestyle are discussed in Volume 4 Chapter 5, Volume 4 Chapter 7, Volume 4 Chapter 13, Volume 4 Chapter 15 and Volume 4 Chapter 17 respectively.

Strategies to mitigate against potential impacts on facilities and services which relate to lifestyle are discussed earlier in this section.

Proponents will need to accurately estimate workforce numbers and provide this information to Government to allow for the adequate planning for the provision of social facilities and services as a result of cumulative impacts. Providing adequate levels of facilities and services for the community will contribute strongly towards regional liveability. Another important component in addressing cumulative impacts to community values and lifestyle is the integration of workforce and dependents in a manner that upholds existing community values. This is best achieved by fostering a culture of good behaviour, high levels of participation in community activities (including volunteering) and ensuring that adequate resettlement and orientation services are available to those relocating to the area.

## 20.7 Impact assessment and mitigation summary

Table 20.9 contains a summary of the social impacts identified for the construction and operation stages of the LNG facility and the corresponding mitigation measures.

The format of the impact assessment and mitigation summary table was completed using the draft guidelines for SIMPs received from the DIP in November 2009. The risk categories used to assess probability and consequence were also received from the DIP (refer to Section 20.2, for further information regarding the methodology). Social impacts have been classified according to the categories presented in Table 20.7. Each of the impact categories are explained within the context of potential implications of the Project to the social environment.



**Table 20.9 Impact assessment and mitigation summary**

Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
<b>Population</b>					
Increase in population of Gladstone	Cons	H	M	Australia Pacific LNG will provide housing for non-local construction staff and contractors in temporary accommodation facilities and will consult with stakeholders including the local council as part of the site selection process	L
	Ops	H	L	Australia Pacific LNG will work with government, the community and other industries to plan for potential cumulative impacts and share information relating to potential impacts and mitigation measures	L
Australia Pacific LNG will continue to participate in local government and regional planning processes and provide information about the Project to inform discussion and decision making in a timely manner					
Australia Pacific LNG will continue to use and/or develop methods to attract people local to the region to the workforce					
Australia Pacific LNG will continue to use and/or develop methods to attract under-represented groups to the workforce					
<b>Demographic profile</b>					
Change in community demographics due to construction workforce profile	Cons	H	M	Australia Pacific LNG will continue to use and develop methods to attract people local to the region to the workforce	L
	Ops	L	L	Australia Pacific LNG will continue to use and develop methods to attract under-represented groups to the workforce	L
Australia Pacific LNG will uphold a high standard of behaviour and					



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
				will communicate and strictly enforce its code of conduct for all staff and contractors	
				Refer to community health and safety mitigation measures	
<b>Income and affordability</b>					
Increase in cost of living due to inflationary pressure from higher average weekly incomes	Cons	M	M	Australia Pacific LNG will provide housing for non-local construction staff and contractors in temporary accommodation facilities and will consult with stakeholders including the local council as part of the site selection process for these facilities	L
	Ops	L	M	Australia Pacific LNG will work through committees established under the Sustainable Resource Communities Policy to identify housing market issues, forecasts and possible responses	L
				To mitigate potential impacts on housing affordability and availability, Australia Pacific LNG community programs will include working with government and agencies that provide housing to people in financial distress	
Social divide resulting from increased wage gap (e.g. the haves and have nots)	Cons	M	M	Australia Pacific LNG will continue to use and develop methods to attract people local to the region to the workforce	L
	Ops	L	M	Australia Pacific LNG will implement a local content strategy whereby we participate in or establish programs which assist qualified local and regional businesses with the opportunity to tender for provision of goods and services for the Project	L
				Australia Pacific LNG will continue to use and develop methods to attract under-represented groups to the workforce	
				Australia Pacific LNG will aim to build collaborative partnerships with	



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
			government and community organisations to enhance the capacity of employers to provide jobs and the capacity of locals to develop skills and secure jobs		
			Australia Pacific LNG's community investment programs will support sustainable community development		
			To mitigate potential impacts on housing affordability and availability, Australia Pacific LNG community programs will include working with government and agencies that provide housing to people in housing distress		
<b>Employment training and business</b>					
Opportunity to increase labour-force participation and increase local skills capacity	Cons	M	+	Australia Pacific LNG workforce strategy will address:	+
	Ops	M	+	<ul style="list-style-type: none"> <li>In-house training programs including potential opportunities for on site training on an existing LNG facility</li> <li>Analysis of ongoing labour requirements</li> <li>Training strategies targeted to local labour</li> <li>Targeted employment and training programs</li> <li>Methods to attract people local to the region to the workforce</li> <li>Methods to attract under-represented groups to the workforce</li> </ul>	+
				Australia Pacific LNG will work with government, the community and other industries to plan for potential cumulative impacts and share information relating to potential impacts and mitigation measures	
				Australia Pacific LNG will work together with the CSG/LNG industry	



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
				through the CSG/LNG Skills Taskforce of Energy Skills Queensland to help address skill shortages by: <ul style="list-style-type: none"> <li>Raising awareness of the CSG/LNG industry in the local community</li> <li>Supporting vocational training</li> <li>Facilitating career advice and work readiness programs for new entrants and mature entrants from related industries</li> </ul> <p>Australia Pacific LNG will participate in CSG/LNG gateway programs with high schools in the Project region to implement programs that promote career opportunities and facilitate employment in the CSG/LNG industry</p> <p>Australia Pacific LNG will continue to collaborate on programs with government, training and education groups that build the local skills base both to meet the specific needs of the industry and other impacted sectors. This will include further development of apprenticeship, traineeship, scholarship and higher education programs</p> <p>Establish a construction employment facility within Gladstone to raise awareness on job prospects and for prospective employees to source information and lodge job applications</p>	
Opportunities for local and regional businesses to supply goods and services to the	Cons	H	+	Australia Pacific LNG will implement a local content strategy whereby it participates in or establishes programs which assist qualified local and regional businesses with the opportunity to tender for provision of goods and services for the Project	+
	Ops	M	+		+



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
Project				The local content strategy will include provision such as regular Project updates, overview of goods and services packages, supply chain education	
Inflationary pressure on commercial real estate costs impacts on local businesses	Cons	L	L	Australia Pacific LNG will ensure contracts with suppliers and sub-contractors are aligned with Australia Pacific LNG's 12 sustainability principles	L
Impact to local and regional businesses losing employees to the Project	Cons Ops	M L	M L	Australia Pacific LNG will continue to participate in Local Government and regional planning processes by providing information regarding demand for commercial real estate and secure jobs. For example through the Community Skills Scholarship program  Australia Pacific LNG will aim to build collaborative partnerships with government and community organisations to enhance the capacity of employers to provide jobs and the capacity of locals to develop skills and secure jobs. For example through the Community Skills Scholarship program  Australia Pacific LNG will continue to collaborate on programs with government and training and education groups that build the local skills base both to meet the specific needs of the industry and other impacted sectors. This will include further development of apprenticeship, traineeship, scholarship and higher education programs	L L
				Australia Pacific LNG will continue to provide input into Gladstone Engineering Alliance/ State Government Skills Formation Strategy as	



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
				well as other planning processes	
Opportunities for industrial tourism	Ops	L	+	Continue to support opportunities for industrial tourism through entities such as Gladstone Economic and Industry Development Board, Gladstone Engineering Alliance and Gladstone Area Promotion and Development Limited	+
Opportunities for apprenticeships, scholarships and vocational training	Ops Cons	H M	+	Australia Pacific LNG will continue to collaborate on programs with government and training and education groups that build the local skills base both to meet the specific needs of the industry and other impacted sectors. This will include further development of apprenticeship, traineeship, scholarship, higher education programs and potentially including those that recognise prior learning	+
				Australia Pacific LNG will work with government, the community and other industries to plan for potential cumulative impacts and share information relating to potential impacts and mitigation measures	
				Australia Pacific LNG will continue to participate in local government and regional planning processes and provide information about its Project to inform discussion and decision making in a timely manner	
Opportunity to support work readiness programs and pre-trade training concepts	Ops Cons	H M	+	Australia Pacific LNG will continue to utilise existing or develop local partnerships to assist students to transition from school to work or higher education	+
				Australia Pacific LNG will partner with local training providers to develop industry and employment skills	
				Australia Pacific LNG will work together with the CSG/LNG industry through the CSG/LNG Skills Taskforce of Energy Skills Queensland	



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
				to help address skill shortages by: <ul style="list-style-type: none"> <li>Raising awareness of the CSG/LNG industry in the local community</li> <li>Supporting vocational training</li> <li>Facilitating career advice and work readiness programs for new entrants and mature entrants from related industries</li> </ul> <p>Australia Pacific LNG will participate in CSG/LNG gateway programs with secondary schools in the Project region in partnership with providers such as the Queensland Minerals and Energy Academy to implement programs that promote career opportunities and facilitate employment in the CSG/LNG industry</p> <p>Australia Pacific LNG will expand competency based training and skills development programs for Production and Process Plant Operators</p>	
<b>Primary and secondary education</b>					
Inability of primary and secondary education facilities to meet demand	Cons	L	M	Australia Pacific LNG will assist primary and secondary education institutions in forecasting future demand by providing accurate workforce data to relevant state government departments	L
	Ops	L	M	Australia Pacific LNG will work with government, the community and other industries to plan for potential cumulative impacts and share information relating to potential impacts and mitigation measures	L
<b>Housing and accommodation</b>					



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
Increase in housing and/or rental prices caused by increased demand and limited supply resulting in poor levels of housing affordability and an over-inflated market	Cons	H	M	Australia Pacific LNG will work with government, the community and other industries to plan for potential cumulative impacts and share information relating to potential impacts and mitigation measures	L
	Ops	M	M	Australia Pacific LNG will continue to participate in local government and regional planning processes and provide information about its Project to inform discussion and decision making in a timely manner  Australia Pacific LNG's community investment programs will support sustainable community development  Australia Pacific LNG will provide housing for non-local construction staff and contractors in temporary accommodation facilities and will consult with stakeholders including the local council as part of the site selection process for these facilities  The Australia Pacific LNG operations workforce will live within the local community in the general housing pool during the operational phase of the Project  Australia Pacific LNG will work through committees established under the Sustainable Resource Communities Policy to identify housing market issues, forecasts and possible responses  To mitigate potential impacts on housing affordability and availability, Australia Pacific LNG community programs will include working with Government and agencies that provide housing to people in housing distress	L
Concerns that the temporary	Cons	M	H	Australia Pacific LNG will locate the TAF on Curtis Island to reduce the potential impact from an influx of construction workers to	L



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
accommodation facilities will foster anti-social behaviour and impact the host community			Gladstone  Australia Pacific LNG will continue consultation and engagement programs with communities and stakeholders to ensure their views are understood and considered throughout the life of the Project  Australia Pacific LNG will communicate and strictly enforce its project rules and accommodation code of behaviour upon all employees and contractors		
			Australia Pacific LNG will design and construct a high quality TAF with sufficient social and recreational facilities		
			Australia Pacific LNG will continue to implement a community complaints procedure for stakeholders to raise concerns, and in turn have them addressed in a timely manner		
Increased demand for hotel/motel accommodation presents challenges for competing local industry and businesses	Cons	M	H	Australia Pacific LNG will work with government, the community and other industries to plan for potential cumulative impacts and share information relating to potential impacts and mitigation measures  Australia Pacific LNG will continue to participate in local government and regional planning processes and provide information about its Project to inform discussion and decision making in a timely manner  Australia Pacific LNG will provide housing for non-local construction staff and contractors in a TAF	L
<b>Community health and safety</b>					



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
Community concern about health and safety impacts resulting from the Project	Cons	M	H	Project health and safety practices and results of relevant monitoring will be communicated through a range of channels such as Australia Pacific LNG's community centre, consultation sessions, media and meetings	L
	Ops	M	H	Emergency response planning to include consultation with neighbours and collaboration with relevant stakeholders, as practical  Australia Pacific LNG will implement community complaints procedure for stakeholders to raise concerns, and in turn have them addressed in a timely manner  Australia Pacific LNG will work with government, the community and other industries to plan for potential cumulative impacts and share information relating to potential impacts and mitigation measures  Australia Pacific LNG will continue consultation and engagement programs with communities and stakeholders to ensure their views are understood and considered throughout the life of the Project  Australia Pacific LNG will engage with community groups, such as the Clean and Healthy Air group, in two-way dialogue on health and safety matters	M
Potential for socially unacceptable behaviour due to the increase in population and changed demographics	Cons	M	M	Australia Pacific LNG will continue consultation and engagement programs with communities and stakeholders to ensure their views are understood and considered throughout the life of the Project	L
	Ops	L	M	Australia Pacific LNG will uphold a high standard of behaviour and will communicate and strictly enforce its project rules and accommodation code of behaviour for all employees and contractors	L



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
Increased road, air and shipping movements impacting on road and maritime safety congestion	Cons	H	H	Australia Pacific LNG will design and construct a high quality TAF with sufficient social and recreational facilities	M
	Ops	H	H	Australia Pacific LNG will implement a community complaints procedure for community members and stakeholders to raise concerns, and in turn have them addressed in a timely manner	
				Health promotion programs relating to the 'Fit for Work' and 'Drug and Alcohol' policies will be implemented by Australia Pacific LNG	
				Australia Pacific LNG will work with the federal, state and local government and industry in regard to potential upgrades required to meet the increase demands on regional infrastructure	L
				Australia Pacific LNG will develop a logistics management plan to efficiently move people and materials and to reduce the impact of traffic and transport on communities by: <ul style="list-style-type: none"> <li>Consolidation of material prior to transport to reduce truck movements</li> <li>Siting logistic hubs (warehouses and lay down facilities) that divert traffic flows around local towns</li> <li>The use of buses for personnel site access during construction and operations</li> <li>Appropriate travel restrictions</li> <li>Development and implementation of safe transportation management practices to reduce the impact to the local environment.</li> </ul>	



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
				<ul style="list-style-type: none"> <li>Avoid travel along school routes during set down pick up times</li> <li>Night time travel managed where routes pass sensitive sites, e.g. residential and schools</li> <li>Speed restrictions especially next to sensitive sites – residential, schools or along unsealed roads to reduce dust creation</li> <li>Vehicles lights and warning lights illuminated as appropriate</li> <li>Implementation of driver training program</li> </ul> <p>Australia Pacific LNG will expand the Community Safety Awareness program in conjunction with industry partners, government and community groups to develop responses to community safety concerns in the region.</p> <p>Refer to mitigation measures in Volume 4 Chapter 17</p>	
<b>Facilities and services</b>					
Increased demand on medical and health services	Cons	M	H	Provision of first response medical capabilities on site at Curtis Island	L
	Ops	M	L	In collaboration with other LNG proponents, consider extending emergency medical evacuation services to Curtis Island residents	L
				Australia Pacific LNG will collaborate with Government, industry and other providers to mitigate cumulative impacts on health services in local communities including providing the appropriate level of medical facilities for its TAF and operating facilities	



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
				Australia Pacific LNG will continue to participate in local government and regional planning processes and provide information about its Project to inform discussion and decision making in a timely manner	
				Health promotion programs relating to the 'Fit for Work' and 'Drug and Alcohol' policies will be implemented by Australia Pacific LNG	
Increased demand on emergency services	Cons Ops	L L	M L	Australia Pacific LNG will continue to participate in Local Government and regional planning processes and provide information about its Project to inform discussion and decision making in a timely manner  Australia Pacific LNG will collaborate with government, industry and other providers to mitigate the impact to health services in local communities including providing the appropriate level of medical facilities for its temporary accommodation facilities and facilities	L L
				In collaboration with other LNG proponents, extend emergency medical evacuation services to Curtis Island residents	
				See Volume 4 Chapter 22 for mitigation measures for hazard and risk as they relate to emergency services	
Increased demand for community support services and facilities (e.g. public transport, family services)	Cons Ops	M M	M M	Australia Pacific LNG will collaborate with government, industry and community partners on research programs to understand the social impacts and opportunities created by development in the communities in which it operates  Australia Pacific LNG's community investment programs will support sustainable community development	L L
				Australia Pacific LNG will work with Government, the community and other industries to plan for potential cumulative impacts and share	



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
				information relating to potential impacts and mitigation measures	
				Provide orientation to employees moving to the region through the workforce induction program to assist in alleviating pressure on existing support services	
				Australia Pacific LNG will continue to participate in local government and regional planning processes and provide information about its Project to inform discussion and decision making in a timely manner	
				Develop a social program to encourage employees to become active members of the community during the operational phase of the Project.	
				See Volume 4 Chapter 17 for mitigation measures for impacts on traffic and transport services and infrastructure	
Increased pressure on utility services	Cons Ops	L L	L L	Australia Pacific LNG will work with government, the community and other industries to plan for potential cumulative impacts and share information relating to potential impacts and mitigation measures	L L
Reduced access to waterways, water bodies and other recreational areas	Cons Ops	M M	M M	Australia Pacific LNG will continue to participate in local government and regional planning processes and provide information about its Project to inform discussion and decision making in a timely manner	M L
				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 and will communicate the extent and timing of any impacts to affected stakeholders and schedule works around minimal disturbance	



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
				Australia Pacific LNG will implement a community complaints procedure for community members and stakeholders to raise concerns, and in turn have them addressed in a timely manner	
				Australia Pacific LNG will work with government and stakeholders to address loss of fishing access	
				Refer to Volume 4 Chapter for mitigation measures relating to offsets for loss of fishing access	
<b>Community values and lifestyle</b>					
The region's growth will impact local community values and residents' lifestyle patterns.	Cons	M	M	Australia Pacific LNG will collaborate with government, industry and community partners on research programs to understand the social impacts and opportunities created by development in communities in which it operates	L
	Ops	M	M	Australia Pacific LNG's community investment programs will support sustainable community development	L
				Australia Pacific LNG will ensure contracts with suppliers and sub-contractors are aligned with Australia Pacific LNG's 12 sustainability principles	
				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	
				Australia Pacific LNG will communicate and strictly enforce its project rules and accommodation code of behaviour for all employees and contractors	



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
Shift work employment decreases the time workers spend with their families and participating in community activities (including volunteering)	Cons Ops	M M	M M	<p>Australia Pacific LNG will uphold a high standard of behaviour</p> <p>Partner with volunteer and community organisations to adapt the corporate volunteering framework for the Gladstone region</p> <p>Consider an incentive program for the workforce to enhance participation in community activities</p> <p>Australia Pacific LNG will collaborate with government, industry and community partners on research programs to understand the social impacts and opportunities created by development in communities in which it operates</p> <p>Australia Pacific LNG will allow flexible work policies, where appropriate</p> <p>Australia Pacific LNG will consider structured opportunities for the non-local construction workforce to participate in community activities (including volunteering) during rostered days off</p> <p>Australia Pacific LNG will employ a lifestyle coordinator to implement and monitor strategy for employee participation in the community during the construction phase of the Project</p>	L L
Relationship between increased disposable income and how people spend it (e.g. increased spend on gambling, alcohol or	Cons Ops	L L	H H	<p>Australia Pacific LNG will uphold a high standard of behaviour and will communicate and strictly enforce its project rules and accommodation code of behaviour upon all employees and contractors.</p> <p>Australia Pacific LNG will continue consultation and engagement programs with communities and stakeholders to ensure their views are understood and considered throughout the life of the Project</p>	L L



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
drugs) impacting on community values				<p>Australia Pacific LNG's community investment programs will support sustainable community development</p> <p>Australia Pacific LNG will work with government, the community and other industries to plan for potential cumulative impacts and share information relating to potential impacts and mitigation measures</p> <p>Australia Pacific LNG will collaborate with government, industry and community partners on research programs to understand the social impacts and opportunities created by development in communities in which it operates.</p> <p>As part of the employee well-being program conduct regular education campaigns such as 'fit for work', 'drug and alcohol' and 'financial management'</p>	
Impact of lighting, dust, noise and traffic to community amenity and lifestyle	<p>Cons</p> <p>Ops</p>	<p>M</p> <p>L</p>	<p>H</p> <p>M</p>	<p>Australia Pacific LNG will work with government, the community and other industries to plan for potential cumulative impacts and share information relating to potential impacts and mitigation measures</p> <p>Australia Pacific LNG will continue consultation and engagement programs with communities and stakeholders to ensure their views are understood and considered throughout the life of the Project</p> <p>Implement community complaints procedure for stakeholders to raise concerns, and in turn have them addressed in a timely manner</p> <p>Australia Pacific LNG will continue to participate in local government and regional planning processes and provide information about its Project to inform discussion and decision making in a timely manner</p>	<p>L</p> <p>L</p>



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
				See Volume 4 Chapter 7 for mitigation measures for potential visual amenity related impacts	
				See Volume 4 Chapter 7 for mitigation measures for potential lighting related impacts	
				See Volume 4 Chapter 11 for mitigation measures for potential dust related impacts	
				See Volume 4 Chapter 15 for mitigation measures for potential noise related impacts	
Community concerns about the management of environmental, social or economic issues	Cons Ops	H M	M M	Australia Pacific LNG will continue consultation and engagement programs with communities and stakeholders to ensure their views are understood and considered throughout the life of the Project  Australia Pacific LNG will collaborate with government, industry and community partners on research programs to understand the social impacts and opportunities created by development in communities in which it operates  Australia Pacific LNG's community investment programs will support sustainable community development	L L
<b>Indigenous peoples</b>					
Reduced ability to access affordable housing	Cons Ops	H M	H M	Australia Pacific LNG will work with government, the community and other industries to plan for potential cumulative impacts and share information relating to potential impacts and mitigation measures	L L



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
Difficulty in securing and retaining employment on the Project for Indigenous Australians	Cons Ops	H H	M M	<p>To mitigate potential impacts to housing affordability and availability, Australia Pacific LNG community programs will include working with Government and agencies that provide housing to people experiencing housing distress</p> <p>Australia Pacific LNG will continue to use and develop methods to attract people local to the region to the workforce</p> <p>Australia Pacific LNG will continue to use and develop methods to attract under-represented groups to the workforce</p> <p>Australia Pacific LNG will aim to build collaborative partnerships with government and community organisations to enhance the capacity of employers to provide jobs and the capacity of locals to develop skills and secure jobs. For example through the Community Skills Scholarship program</p>	M M
Lack of business development opportunities realised for Indigenous Australians	Cons Ops	H H	M M	<p>Indigenous engagement strategy to address recruitment and retention strategies specific to Indigenous Australians</p> <p>Australia Pacific LNG will implement a local content strategy whereby we participate in or establish programs which assist qualified local and regional businesses with the opportunity to tender for provision of goods and services for the Project</p> <p>Australia Pacific LNG will ensure contracts with suppliers and sub-contractors are aligned with Australia Pacific LNG's 12 sustainability principles</p> <p>Indigenous engagement strategy to identify business opportunities and programs for development</p>	M M



Potential Impact	Project phase (Cons, Ops)*	Probability (H, M, L, +)**	Consequence (H, M, L, +)**	Mitigation or enhancement	Residual risk (H, M, L, +)**
Lack of respect for Indigenous Australians	Cons Ops	L L	H H	Australia Pacific LNG will provide input into Gladstone Engineering Alliance/ State Government Skills Formation Strategy as well as other planning processes  Australia Pacific LNG will implement a cultural awareness program  Australia Pacific LNG will support Indigenous stakeholders to participate in Caring for Country initiatives  Support programs that contribute to the health and well-being of Indigenous employees  Engage with Indigenous Australians in a respectful and culturally appropriate way	L L

\* Cons = Construction phase, Ops = Operational phase

\*\* H = High, M = Medium, L = Low, + = positive impact

## 20.8 Conclusion

The Project has the potential to impact the social environment and communities within the LNG facility study area. Some impacts will be beneficial to communities, whilst others, if not appropriately mitigated, may be detrimental. Project benefits include growth in local skills, employment and business opportunities and the potential for sustainable community development through the establishment of partnerships with governments and community groups. Without mitigation, the Project could also directly impact on access to affordable housing, increase pressure on local services and facilities, increase demand on the local workforce and further polarise socio-economic groups in the community.

### 20.8.1 Commitments

Australia Pacific LNG has committed to a range of strategies which improve the level of benefits of the Project and mitigates those impacts which could be detrimental to local communities. These commitments are aligned with Australia Pacific LNG's 12 sustainability principles and are detailed, along with associated performance measures, in the draft SIMP (refer to Volume 4 Chapter 24).

A summary of the key social commitments made by Australia Pacific LNG are presented below.

#### ***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.

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## ***Stakeholder engagement and consultation***

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.

## ***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.

## ***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 a TAF 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

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- 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.

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