

## 26. SOCIAL

This chapter describes the social values within and surrounding the project area, assesses the potential impacts of the project on these values and describes the measures Arrow Energy will implement through project design, construction, operation and decommissioning to manage impacts on these values.

This chapter is based on the social impact assessment (Appendix 20, Social Impact Assessment) and the Social Impact Management Plan (see Attachment 7, Social Impact Management Plan) completed by Sinclair Knight Merz Pty Ltd (SKM). Information in the report on consultation activities carried out by JTA Australia was also used in the social impact assessment (Appendix 30, Consultation Report).

The study area for the social impact assessment (SIA) encompasses the area of the Gladstone Regional Council as illustrated in Figure 26.1.

The objectives for the social impact assessment have been developed based on the legislative and policy context relevant to the study area. The objectives are set out in Box 26.1.

### **Box 26.1 Objectives: Social**

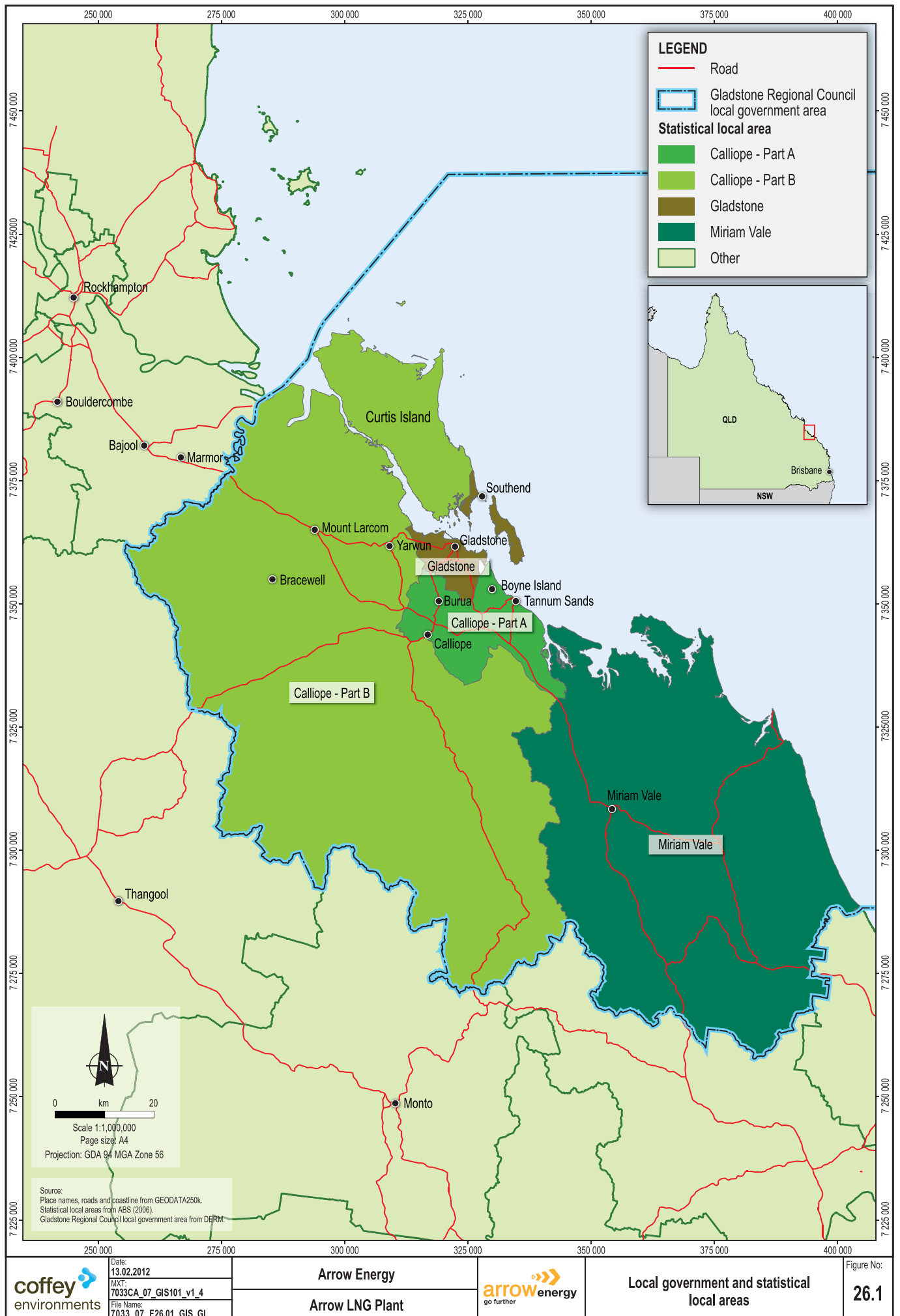
- To make a positive contribution to community wellbeing and liveability through supporting community values and lifestyles.
- To minimise the effects on the community of escalating housing and accommodation costs.
- To maximise the positive benefits of the project from employment and training opportunities and opportunities for local businesses.
- To minimise additional demands from the project on existing services and social infrastructure.

## 26.1 Legislative Context and Standards

The following legislation, guidelines and policies are relevant to managing social impacts through all project phases.

Relevant Queensland Government legislation and policies include:

- *Sustainable Planning Act 2009*. This act identifies activities that require development approval. To be granted approval, development must be consistent with planning intent including desired community outcomes. Activities associated with the project, such as the establishment of construction camps, will require such development approval.
- *Local Government Act 2009*. This act is the principal legislation for local government throughout Queensland. The act and its regulations require every council in Queensland to develop a long-term community plan. Plans are ten-year (minimum), high-level documents that identify community needs and articulate council and community long-term visions, aspirations and priorities.
- Sustainable Resource Communities Policy (DTRDI, 2008). This state policy was adopted in 2008 and places a strong emphasis on the assessment of social and cumulative impacts associated with major resource projects. In particular, a social impact assessment developed under the policy must forecast changes to communities in terms of local and cumulative impacts, as well as identify agreed strategies for mitigating these changes. The policy also



states that proponents of new or expanding resource projects must develop a social impact management plan (SIMP). The SIMP must be prepared in accordance with the social impact management plan guideline that was formally adopted by the Queensland Government in 2010 (DIP, 2010d).

The project is located within the Gladstone Regional Council local government area, formed in 2008 with the amalgamation of the former local governments of Gladstone City and the shires of Calliope and Miriam Vale. Chapter 30, Land Use and Planning, provides details of the planning and other statutory guidelines relevant to the project.

The local government plan of particular relevance to the social impact assessment includes the Gladstone Regional Council Corporate Plan 2009–2013 (GRC, 2009). The plan sets out the council's desired outcomes for the region and how it intends to achieve those outcomes. Key aspirations expressed in the plan include:

- Valuing community input into local decision making.
- Sustainable, environmentally managed growth.
- Quality of life for our community.

The council, in addition to land use and planning outcomes, administers policies and plans that seek to deliver positive social and community outcomes. These include:

- Healthy Active Gladstone Region sport and recreation strategy (GRC, 2010).
- Gladstone Multicultural Strategy (GRC, 2007).

The development of the Social Infrastructure Strategic Plan (GRC et al., 2010) is a recent initiative by the council to plan for the delivery of social infrastructure in line with population growth. The final draft is presently with the Queensland Government for consideration.

## **26.2 Assessment Method**

This section describes the study method used for the social impact assessment.

### **26.2.1 Baseline Assessment**

The existing social baseline for the study area was identified through desktop study, literature and policy review and consultation with the community and other relevant stakeholders. Data was sourced from the Australian Bureau of Statistics (ABS), other Commonwealth and state government agencies, the regional council, local governments and other relevant research. Key assessment criteria were defined based on the terms of reference (e.g., population and demography, housing and accommodation, employment and training). Existing community issues were also identified, in particular those relating to similar projects underway in the study area.

### **26.2.2 Community Engagement**

Community engagement activities were carried out to further inform the social baseline and to build an understanding of potential impacts as follows:

- The community consultation program for the project (see Chapter 4, Consultation and Communication).
- Consultation with key stakeholders undertaken for the SIA in 2010 by Coffey Environments and SKM in 2011.

Coffey Environments undertook a survey of key community stakeholders in 2010 to prioritise community values and impacts identified in the initial consultation undertaken for the EIS (as described above). Forty-eight surveys were completed.

Further meetings with stakeholders were conducted by SKM in April and May 2011. Stakeholders were met in person or contacted by telephone as detailed in Table 26.1.

**Table 26.1 Stakeholders consulted for the social impact assessment**

<b>Stakeholder</b>	<b>Details</b>
Community and cultural organisations	<ul style="list-style-type: none"> <li>• President, Liaison Officer, Outing Coordinator, Secretary and members of the Gladstone Sportfishing Club Inc.</li> <li>• Captain, Salvation Army.</li> <li>• President, St Vincent De Paul Society.</li> <li>• Support worker, OZChild.</li> </ul>
Department of Employment, Economic Development and Innovation	<ul style="list-style-type: none"> <li>• Employment and Training Manager, Indigenous Employment and Initiatives.</li> <li>• Manager, Gladstone Centre, Rural and Regional Development.</li> </ul>
Department of Education and Training	<ul style="list-style-type: none"> <li>• Principal, Tooloosa State High School.</li> </ul>
Department of Communities	<ul style="list-style-type: none"> <li>• Area Manager, Housing and Homelessness Services.</li> </ul>
Department of Local Government and Planning (SIA Unit)	<ul style="list-style-type: none"> <li>• Manager, Social Impact Unit.</li> <li>• Project Manager, Social Impact Unit.</li> </ul>
Education Queensland and Industry Partnership	<ul style="list-style-type: none"> <li>• Chief Executive Officer.</li> </ul>
Energy Skills QLD LNG Unit	<ul style="list-style-type: none"> <li>• Skills Formation Manager.</li> </ul>
Gladstone Chamber of Commerce and Industry	<ul style="list-style-type: none"> <li>• Acting President.</li> <li>• Treasurer.</li> </ul>
Gladstone Community Advisory Service	<ul style="list-style-type: none"> <li>• Community Development Officer, Gladstone Regional Council.</li> <li>• Youth Development Officer, Gladstone Regional Council.</li> <li>• Multicultural Community Relations Officer, Gladstone Regional Council.</li> <li>• Manager, Roseberry Community Service.</li> <li>• Manager, Supported Accommodation Assistance Program.</li> <li>• Manager, Relationships Australia.</li> <li>• Councillors, Relationships Australia.</li> </ul>
Gladstone Economic and Industry Development Board	<ul style="list-style-type: none"> <li>• Chief Executive Officer.</li> </ul>
Gladstone Industry Leadership Group	<ul style="list-style-type: none"> <li>• Chief Executive Officer.</li> </ul>
Gladstone Regional Council	<ul style="list-style-type: none"> <li>• Manager, Human and Social Services.</li> <li>• Sports and Recreation Officers.</li> <li>• Manager, Gladstone Aquatic Centre.</li> <li>• Senior Planning Officer.</li> <li>• Planning Officer.</li> <li>• Manager Project Coordination.</li> </ul>
Police and Emergency Services	<ul style="list-style-type: none"> <li>• Officer in Charge, Gladstone District Water Police.</li> <li>• District Officer, Gladstone Police Station.</li> <li>• Business Support Services Manager, Gladstone Hospital.</li> <li>• Executive Director Primary and Community Health, Gladstone Hospital.</li> </ul>
Schools and Industry Network	<ul style="list-style-type: none"> <li>• Chairman.</li> </ul>

### 26.2.3 Impact Assessment

The direct and indirect impacts from project activities have been identified and assessed using an impact rating tool (see Table 26.2). Impacts can be positive, negative or neutral. Significance ratings of low, medium, high or very high were derived for each impact based on the geographic location of the impact, its duration and severity and the probability of the impact occurring. Further details of the tool and its application are provided in Appendix 20, Social Impact Assessment.

**Table 26.2 Impact rating tool using in the assessment**

<b>Nature</b>	<b>Description</b>
Positive	Impacts have a positive or uplifting effect on the project-affected community and stakeholders. The quality of life of affected individuals, households or the community is improved.
Negative	Impacts have a negative or oppressive effect on the project-affected community and stakeholders. The quality of life of affected individuals, households or the community is diminished.
Neutral	Impacts are neither positive nor negative in nature and have no meaningful effect on project-affected communities and stakeholders.
<b>Extent</b>	<b>Description</b>
5	International scale
4	National scale
3	Regional scale (substantially beyond site boundaries)
2	Areas adjacent to the project site (local)
1	Site-specific
<b>Duration</b>	<b>Description</b>
5	Permanent/irreversible (more than 50 years)
4	Long term (25 to 50 years)
3	Medium term (5 to 25 years)
2	Short to medium term (1 to 5 years)
1	Short term (less than 1 year)
<b>Severity</b>	<b>Description</b>
5 Very high	<ul style="list-style-type: none"> <li>Significant loss of human, social, financial or built capital.</li> <li>Significant enhancement of human, social, financial or built capital.</li> </ul>
4 High	<ul style="list-style-type: none"> <li>Large loss of human, social, financial or built capital.</li> <li>Large enhancement of human, social, financial or built capital.</li> </ul>
3 Medium	<ul style="list-style-type: none"> <li>Moderate loss of human, social, financial or built capital.</li> <li>Moderate enhancement of human, social, financial or built capital.</li> </ul>
2 Low	<ul style="list-style-type: none"> <li>Limited loss of human, social, financial or built capital.</li> <li>Limited enhancement of human, social, financial or built capital.</li> </ul>
1 Negligible	<ul style="list-style-type: none"> <li>Negligible loss of human, social, financial or built capital.</li> <li>Negligible enhancement of human, social, financial or built capital.</li> </ul>
<b>Probability</b>	<b>Description</b>
5	Definite (more than 90% chance)
4	Probable (50 to 90% chance)
3	Possible (10 to 50% chance)
2	Unlikely (less than 10% chance)
1	Impossible

A cumulative impact assessment was also undertaken to consider the wider impacts of other projects planned or proposed or under construction in the study area. This analysis focused on:

- Population growth and changes to demography.
- Demand for accommodation and housing.
- Increased demand on social services and infrastructure or community investment.
- Changes to community values and lifestyles.

#### **26.2.4 Avoidance, Mitigation and Management**

Mitigation measures were identified that seek to avoid, minimise or manage potential adverse social impacts of the project's construction and operation and to enhance beneficial impacts to the community. These measures were developed in detail as part of the SIMP process. The SIMP includes action plans detailing specific activities that Arrow Energy will undertake as part of project implementation and, where required, how these activities will be coordinated with other projects being undertaken in the study area.

#### **26.2.5 Assessment of Residual Impacts**

A residual impact remains once controls or mitigation measures have been implemented. To identify the potential residual impacts for this project, each impact was reassessed assuming the mitigation measures set out in the SIMP had been implemented. Residual impacts will continue to be managed actively throughout the project and the SIMP revised accordingly.

### **26.3 Existing Environment and Social Values**

This section describes the existing social environment in the study area to provide context for the assessment. It draws on data and information for the urban centres and localities of Southend, Gladstone City, Calliope, Mount Larcom, Boyne Island and Tannum Sands, as well as the Gladstone Regional Council local government and more widely for Queensland where appropriate.

Located on the central Queensland coast, the Gladstone Regional Council covers an area of 10,488 km<sup>2</sup> and is bounded by Bundaberg Regional Council to the south, Rockhampton Regional Council to the north, North Burnett Regional Council to the southwest and Banana Regional Council to the west.

#### **26.3.1 Population and People**

Gladstone city is the regional centre, located on the mainland approximately 7 km to the south of the project site. Other key population centres in the study area include:

- Calliope, located on the mainland approximately 25 km south of the project site.
- Mount Larcom, a small rural township located approximately 25 km west of the project site.
- Boyne Island and Tannum Sands, twin towns located approximately 21 km southeast of the project site.
- Southend, the only township on Curtis Island, located approximately 9 km northeast of the project site.

Key demographic and social features of the study area that define the existing social environment are described below.

## Population and Demography

The study area had an estimated resident population of 59,644 people in 2009 according to the ABS. Gladstone city has the highest statistical local area population with 33,724 people (over half the population of the study area) followed by Calliope Part A, Miriam Vale and Calliope Part B (Table 26.3).

**Table 26.3 Estimated resident population of the study area, 30 June 2009**

Statistical Local Area	Estimated Resident Population
Gladstone city	33,724
Calliope Part A	16,813
Calliope Part B	3,069
Miriam Vale	6,037
Gladstone Regional Council	59,643
Queensland	4,425,103

Source: ABS (2009).

Gladstone city was one of the fastest growing local government areas in Queensland with an average annual population growth in the study area of 3.2% from 2006 to 2010. The population of the study area is projected to grow to approximately 98,010 people by 2031, resulting in an annual average growth rate of 2.4%. This rate is higher than Queensland's projected growth rate of 1.8%. In 2006, the population was approximately 51.2% male and 48.8% female, an imbalance that reflects the industrial character of the study area.

Population mobility was high, with 49.8% of the population having lived at a different address five years previous to the 2006 census. About 95% of people worked and lived in the study area with low levels of fly-in, fly-out (FIFO) or drive-in, drive-out (DIDO) employment. Some stakeholders noted that this pattern may have changed recently with increases in the numbers of FIFO workers commuting from outside the study area.

In 2006, the study area was defined by a high proportion of children aged 14 years or younger and a lower proportion of people aged 15 to 24 years. A low proportion of people were recorded as being aged 65 years and over. The Gladstone region social infrastructure strategic plan (GRC et al., 2010) notes the population is aging with increasing numbers of people seeking to retire to the study area.

Cultural diversity information collected by the Gladstone Regional Council indicated an influx to the study area of foreign-born people in recent years, through skilled migration programs due to local skill shortages. Migrant groups include those from South Africa, Indonesia, India, Philippines and Iran.

## Households and Families

In 2006, there were 17,394 households in the study area, with just over 58% located in Gladstone. The study area recorded a high proportion of family households (77%) compared to Queensland as a whole (74%), which suggests that people who have moved to the study area have brought their families.

## Housing and Accommodation

At the 2006 census, the study area contained approximately 21,569 dwellings, with separate dwellings comprising 87% of the housing stock in Gladstone city. While there has been increased development of higher density dwellings since the last census, separate dwellings still account for the vast majority of housing stock in the study area.

Home ownership rates in Gladstone city were 24.1% in 2006 (Table 26.4), slightly lower than Queensland (31.6%). When combined with those in the process of purchasing their homes, this figure increases across all statistical local areas from 64% in Gladstone city to 78% for Calliope Part B, compared to 65% for Queensland. These figures suggest that the population of the study area may have been better insulated from cost increases compared to other areas of Queensland.

A substantial number of households were renting in the private market. These households are potentially more sensitive to fluctuations in housing costs. Gladstone city had the highest rate of private renters at 23.9% of all households (similar to Queensland as a whole), suggesting that a larger number of households may be impacted by increased rental demand in Gladstone than other areas within the study area.

The rental market vacancy rate in the study area for the March quarter of 2011 was 1.4%, well below the preferred ideal rate of 3% suggested by the Queensland Department of Communities. The effect of several LNG infrastructure developments in the study area is expected to stimulate more demand for rental housing.

This level of demand is anticipated to drive supply as investors seek to build new housing and capitalise on the rental pool. However, demand will continue to be greater than supply, with rental costs expected to continue to rise.

**Table 26.4 Tenure and landlord type for households in 2006**

<b>Tenure and Landlord Type</b>	<b>Gladstone City</b>	<b>Calliope Part A</b>	<b>Calliope Part B</b>	<b>Miriam Vale</b>	<b>Qld</b>
<b>Tenure</b>					
Fully owned	24.1%	29.3%	42.0%	44.3%	31.6%
Being purchased <sup>1</sup>	39.6%	45.5%	36.2%	28.4%	33.8%
Rented	33.7%	22.4%	18.6%	22.3%	31.1%
<b>Landlord Type</b>					
Real estate agent	17.3%	13.4%	4.4%	7.3%	15.8%
State or territory housing	6.6%	1.1%	0.5%	0.5%	3.4%
Person not in same household <sup>2</sup>	6.6%	4.9%	9.0%	9.2%	8.1%
Housing co-op/community/church group	0.9%	0.2%	0.0%	0.4%	0.7%
Other landlord type <sup>3</sup>	1.8%	2.2%	1.8%	2.3%	2.1%
Other landlord (not stated)	0.5%	0.6%	2.8%	2.5%	0.9%
Total households	10,048	4,552	932	1,892	1,391,632

<sup>1</sup> Includes dwellings being purchased under a rent/buy scheme.

<sup>2</sup> Comprises dwellings being rented from a parent/other relative or other person.

<sup>3</sup> Comprises dwellings being rented through a residential park (includes caravan parks and marinas), employer-government (includes Defence Housing Authority) and employer-other employer (private).

Source: ABS (2007).

Table 26.5 shows the median price for houses increased 7.2% in the 12 months to December 2010, while units increased 13.3%, a trend consistent in other markets with activity in the resource sector.



**Table 26.5 Median house, unit and land prices in the study area (Dec 2009 to Dec 2010)**

	<b>Q4 2010</b>	<b>Change from 12 Months Previous</b>	<b>Change from 5 Years Previous</b>
Houses	\$385,000	7.2%	67.4%
Units	\$340,000	13.3%	106.1%
Vacant urban Land	\$180,000	0.0%	74.8%

Source: REIQ (2011).

The main driver behind growth in house prices and rents in the study area has been by increased first homebuyer activity and investors responding to news about major projects.

The Gladstone Region Social Infrastructure Strategic Plan (GRC et al., 2010) identified the impacts to the housing market by major projects with residents incurring potentially unsustainable increased living costs.

Housing production rates in the study area have steadily climbed due to the number of lots being approved since 2006. The Gladstone Regional Council has approved the release of up to 4,000 residential lots to meet the anticipated population increase and to encourage development of residential accommodation in the medium term (also see Chapter 27, Economics).

The range of temporary accommodation options in the study area includes hotels, motels and serviced apartments. Tourism Queensland data for 2010 shows that, for the year ending June 2010, there was a relatively low occupancy rate of 48.6%, down 13.1% from the previous 12 months suggesting there was a lot of temporary accommodation available. However, more recent consultation for the SIA reported an apparent surge in occupancy due to a number of major projects starting in the region.

An estimated 943 social housing dwellings exist in the Gladstone Regional Council area, 860 located in Gladstone, 71 in Calliope and 12 in Miriam Vale. A total of 75 applicants were recorded on the social housing register. Research undertaken for the Gladstone Regional Council identified a need for transitional housing within the region so that people in crisis and in boarding houses can secure long-term housing. The research also notes that housing suitable for extended families, Indigenous people, single men and young people needs to be increased.

### **Income and Employment**

In 2006 (ABS, 2007), median household weekly incomes varied across the study area with Miriam Vale (\$638) recording a median household income significantly below that of the other three statistical local areas and that of Queensland (\$1,033). Calliope Part A recorded the highest median household income (\$1,378), followed by Gladstone city (\$1,189) and then Calliope Part B (\$993). These figures suggest households in Calliope Part B and Miriam Vale may be more vulnerable to escalating living costs than households located within the other two statistical local areas.

More recent estimates of average incomes suggest that there is also a large disparity in average wages across industries in the study area. While estimated average income in the study area (\$1,125) was higher than Queensland as a whole (\$987), some industries had low estimated income as detailed in Table 26.6.

**Table 26.6 Estimated average individual weekly income by industry in Gladstone and Queensland, 2010**

Industry	Gladstone	Queensland
Health care and social assistance	\$774	\$895
Agriculture, forestry and fishing	\$742	\$734
Arts and recreation services	\$571	\$683
Retail trade	\$549	\$611
Accommodation and food services	\$450	\$540

The manufacturing industry was the biggest provider of employment in the study area followed by construction and retail industries. Manufacturing was the leading industry of employment in all statistical local areas with the exception of Miriam Vale, where construction was the leading employer. The industry most underrepresented as a share of employment was health care and social assistance, which accounted for 6% of employment in the study area, compared to 10.5% in Queensland as a whole.

The study area also had high proportions of resident technician and trade workers (22%), machinery operators and drivers (14%), and labourers (13%), compared to Queensland as a whole, reflecting the dominance of manufacturing and construction. Collectively, approximately 49% of the study area workforce was employed in these occupations. The prevalence of such occupational skills suggests that the study area has the capacity to provide some of the labour force required for project construction and operation.

## Education

The study area recorded a lower level of educational attainment than the Queensland average in 2006, while in Miram Vale and Calliope Part B fewer than 33% of people reported they had finished year 11 or 12 compared to a Queensland rate of almost 50%. A contributing factor may be the prevalence of opportunities for apprenticeships and traineeships in the study area. This assumption is supported by the rate of attainment of post school qualifications that was skewed towards certificates rather than higher level academic qualifications. Post secondary qualifications were lower in the study area with 6.9% of people having a bachelors degree or higher compared to 13.1% for Queensland.

## Indigenous Profile

This brief summary of key demographic characteristics has been articulated in recognition that Indigenous people are a uniquely important stakeholder. In the study area, 1,575 people identified themselves as Indigenous (3.1% of the population) with approximately 68% residing in Gladstone city.

Median income for Indigenous households in all statistical local areas in the study area was lower than non-Indigenous households, although higher in Gladstone city and Calliope Part A than for Queensland as a whole. This suggests Indigenous people in the study area are more financially secure than those in other parts of Queensland.

Of the total workforce of 548 Indigenous people in the study area, approximately 71% are located in Gladstone city, with a high unemployment rate of 20.4%. The high unemployment rate suggests an opportunity exists for Indigenous residents to benefit from major projects in the study area that provide Indigenous employment.

Attainment of educational qualifications by the Indigenous population was generally lower than the non-Indigenous population across all statistical local areas in the study area, with 23.8% having completed Year 12 or equivalent.

More than one-third of the Indigenous population in the study area were renting in the private market in 2006, leaving the Indigenous population potentially vulnerable to changes in housing affordability due to lower household income levels.

### **Socioeconomic Disadvantage**

ABS measures disadvantage by the index of relative socioeconomic disadvantage (SEIFA index) derived from a range of census data indicators. In 2006, Miriam Vale received a high SEIFA rating with a high level of relative disadvantage, ranked in the lowest 19% of all statistical local areas in Queensland. Calliope Part B was marginally less disadvantaged ranked in the lowest 27% in the state, with Gladstone ranked just below the state average and Calliope Part A being amongst the least disadvantaged communities in the state (65%) (ABS, 2006).

The Gladstone Regional Social Infrastructure Plan (GRC et al., 2010) identified that an unequal distribution of the study area's industrial growth has led to gains by some groups, such as those directly employed in major projects, but has had a negative impact on lower socioeconomic groups.

### **Community Health**

A health impact assessment was undertaken for the project by Arup Pty Ltd, and the full results of this assessment are presented in Appendix 27, Health Impact Assessment.

In general, the health status in the Gladstone region is comparable with that in Queensland and Australia, with regard to life expectancy, rate of disease and mental health, behavioural problems and mood disorders. Residents within the study area do display higher rates of risk factors such as smoking, alcohol consumption and obesity, than the Queensland and Australian averages.

The most common mosquito borne disease in Gladstone is Ross River fever, and Gladstone has one of the highest notification rates for this disease in Queensland. There is also the potential for cases of dengue fever to occur in Gladstone, spreading south from northern Queensland.

The existing health facilities in the region are generally considered adequate for the existing population (based on consultation with local health stakeholders). There is a Queensland health hospital in Gladstone, able to perform simple surgery and Rockhampton hospital is the main regional facility. There is also a private hospital in Gladstone.

There are community health centres in Gladstone City, Miriam Vale and Agnes Water. The number of health specialists per capita in Gladstone is approximately half the national average; however, there are a number of visiting specialists and higher level services are provided in Rockhampton. The number of General Practitioners (GPs) appears adequate, according to the

Vann, B., et al.,(2009) although, after-hours, weekend and bulk billing services are not sufficient, which places pressure on the Gladstone Hospital emergency department.

Population growth is expected to place pressure on health resources within Gladstone and the surrounding region in particular specialists required to service future growth in the population.

## **Safety and Security**

Safety and security is an important aspect of a cohesive community. Consultation identified some concerns in the community about the safety of the LNG industry in the study area, particularly associated with increased shipping movements and consequential effects on maritime safety.

## **Crime**

Levels of crime in the study area are consistent with other areas in Queensland. Categories of crime against an individual were generally consistent with or lower than the state average, with no distinct link between the development of major projects in the study area and higher rates of crime. The Gladstone Police Service has confirmed that overall rates of domestic violence are consistent with towns such as Bundaberg and Rockhampton.

## **Transport, Access and Connectivity**

Residents in the study area have a high dependency on private cars. Transport to work by car is the main mode of travel. Between 2.8% (Calliope Part B) and 6.9% (Gladstone city) of households do not possess a car, compared to a Queensland rate of 7.9%.

The study area contains high quality inter-regional rail and bus services linking Gladstone to other urban centres across Queensland. There is no local passenger rail service and the public transport network within the study area is limited. Buslink Queensland provides a 10-route urban passenger bus service operating in Gladstone, between the city and Boyne Island, Tannum Sands, Awoonga Dam, Calliope Part A and Benaraby. Taxi services are limited to Gladstone city.

## **Social Infrastructure**

Social infrastructure and services allow communities to access education, keep healthy and participate in a range of social and recreational activities. Regional social infrastructure includes community facilities, services and networks, which help individuals, families, groups and communities meet their social needs.

Key regional community facilities and services are primarily located in Rockhampton, approximately 110 km north of Gladstone. Community facilities and services are predominantly focussed within the Gladstone CBD, with relatively poor provision of facilities and services in other suburbs. There is a reasonable level of social infrastructure provision in the outlying townships where many small centres provide a level of service provision higher than the total population catchment would potentially demand. Small rural or coastal localities have limited social infrastructure.

An established medical and health services sector exists within the study area, with two hospitals located in Gladstone providing limited specialist services, an outpatients department and a day surgery unit. Gladstone Hospital has 69 beds and an emergency unit with short term call availability of 70%. Queensland Ambulance Service handle most of the emergency trips and works closely with rescue helicopters based at Rockhampton and Mackay and with the Royal Flying Doctor Service fixed-wing aircraft, also based at Rockhampton.

Two police stations are located in Gladstone city and one in Calliope, with one police officer for every 450 people, a rate higher than the state average. The local police service reported that staffing levels are currently adequate but, as the region continues to grow, additional resources will be required. A permanent fire station exists in Gladstone city, with auxiliary stations located in Calliope and Miriam Vale. Eight state emergency services units are located across the Gladstone Regional Council area providing a high level of coverage across the region. The Central Queensland State Emergency Services regional headquarters is located in Rockhampton.

Educational infrastructure is concentrated in Gladstone. Limited high school options exist in either Miriam Vale or Calliope Part B. Educational facilities in the study area include:

- Seventeen kindergartens and preschools.
- Twenty primary schools.
- Four secondary schools (three in Gladstone and one at Tannum Sands).
- Five combined primary and secondary schools (at Burua and Mount Larcom, and three in Gladstone).
- Three tertiary campuses (all in Gladstone).

The study area is serviced by community centres, libraries and youth facilities as well as sporting and recreational facilities providing formal and informal opportunities for sporting and recreational pursuits. Major recreational facilities include the Gladstone Entertainment Centre, Tanyella Recreation Centre, the Gladstone Aquatic Centre and the Harbour City Indoor Sports Centre. Popular open space areas include Gladstone Marina Parklands, Tondoon Botanic Gardens, Tannum Sands Millennium Esplanade and Clinton Park.

Boating and fishing are very popular recreational pursuits, particularly in and around Gladstone. Boating and fishing competitions and harbour focussed events are held throughout the year and attract residents from across the study area and the central Queensland region. These include the Brisbane Gladstone Yacht Race, the Observer Boyne Tannum HookUp and the Harbour Festival.

Community networks include clubs and groups active throughout the region such as the Lions Clubs and Conservation Volunteers, youth organisations (e.g., Scouts and Girl Guides) and clubs with a particular emphasis on aquatic activities such as fishing, boating and sailing.

Overall, additional social infrastructure, particularly at the regional and district level is required to meet the increasing demands of high levels of forecast population growth.

### **26.3.2 Local and Regional Towns**

This section provides an overview of the main urban centres and localities within the study area.

#### **Gladstone City**

Gladstone is the largest urban centre in the region and the closest population centre to the project. The city is likely to provide many of the services to the construction workforce outside of those available in the construction camps.

Key population and demographic characteristics for Gladstone include the following:

- The Gladstone population was 33,000 in 2009.
- It is a young population with a median age of 32 years, four years lower than for Queensland.
- The higher labour force participation rates suggest limited unutilised capacity in the local workforce.
- Manufacturing and construction provide the main employment industries.
- Technicians and trade workers and machinery operators are the most prevalent occupations.
- High median household income reflects the higher levels of workforce participation.

- High school completion rates are low and a high proportion of people possess trade certificates.
- High rates of homes purchase and rental reflect a degree of community mobility and the younger age of the community.

### **Calliope**

Calliope is located on the Dawson Highway, approximately 25 km south of Curtis Island. Key population and demographic characteristics for Calliope include:

- The population of Calliope was 2,133 in 2009.
- The population is young with a median age of 33 years driven by a high proportion of people aged 14 years or younger.
- A high level of workforce participation contributes to relatively high household incomes.
- Manufacturing and construction are the main industries of employment and high proportions of people are employed as technicians, tradesmen, machinery operators and drivers; these are professions that require trade certification.
- High proportion of people buy their own home (over 50% of all households).

### **Mount Larcom**

Mount Larcom is a small community of approximately 258 people (2009) approximately 25 km west of Gladstone. Key population and demographic characteristics for Mount Larcom include:

- The population of the town is predominantly older than the population of the study area, with a median age of 42 years, (almost 10 years older than for Gladstone city).
- The lower labour force participation rate reflects the older population of the town who are more likely to have retired.
- Construction is the main industry of employment in the town with one in five workers employed in the industry, with technicians and trades workers predominant.
- Median household incomes are relatively low.
- High-school completion levels are low compared to Queensland as a whole.
- Home ownership rates are high.

### **Boyne Island and Tannum Sands**

Boyne Island and Tannum Sands are twin towns located to the southeast of Gladstone.

- The towns had a combined population of 7,826 people in 2006.
- Boyne Island and Tannum Sands recorded a young population with a median age of 34 years.
- The towns have a relatively high median household income.
- Labour force participation rate is high.
- Manufacturing the main industry of employment followed by construction with technician and trades workers predominant.
- High-school completion levels are low compared to the Queensland average.

- The rate of households owning or purchasing their own home is high.

### **Southend**

Southend is a small community of approximately 100 dwellings and is the only residential community located on the southern tip of Curtis Island.

Of the 100 dwellings, only a small number are permanently occupied, with the remainder generally comprising holiday houses for residents in Gladstone or the wider region. Consultation found that approximately 20 to 40 people live in Southend during the week, increasing to more than 100 people at weekends and holidays.

The community includes an accommodation lodge that also serves as a general store, a take-away store and a fuel outlet. Southend is a popular spot for outdoor recreational pursuits such as fishing, crabbing and bush walking. A regular ferry service operates between Southend and Gladstone that is also used by people wishing to access the national park.

### **26.3.3 Community Values**

Community values and aspirations relevant to the assessment include:

- Lifestyle and education opportunities. Many residents are attracted by employment opportunities and are highly appreciative of the lifestyle the region offers, including outdoors activities and education facilities that make the study area an attractive one for families, particularly those working within the resource sector.
- Recreational and environmental values. Boating and fishing activities are enjoyed by a large proportion of the community and are important to attracting and retaining people to work in the study area. Major project activities planned for the area, such as dredging by the Gladstone Ports Corporation, are viewed with some concern by residents, particularly if they impact on recreational activities.
- Contribution of industry. Some stakeholders expect that some facilities normally provided by government should now be provided by industry to offset the impact major projects have on the environment and the community.
- Increased services. Some residents of the study area expressed a desire to improve accessibility to key social services and retail opportunities and reduce reliance upon other cities such as Rockhampton or Brisbane for the availability of such services.

### **26.3.4 Community Issues**

The community had a range of concerns and issues, which need to be considered in context with their values and aspirations when assessing the impact of projects in the study area. The consultation processes completed as part of the EIS identified key community issues as follows:

- Challenges of growth and growing inequality. Pressures on existing community services and infrastructure with flow-on effects to the region's 'relaxed, sporty, out-doors lifestyle'. Uncontrolled growth was perceived to create inequality between higher-paid industrial and construction sectors compared with lower-paid service sectors. The current upward trend in housing costs is leading to reduced standards of living and, in the worst cases, displacement of existing households unable to pay higher rents. The community does hold an overall positive outlook despite the challenges of growth associated with major projects planned for the region.

- Inability to influence decisions. The community is concerned that the Queensland Government is more interested in economic growth than balancing liveability and environment, leading to feelings of disempowerment and a lack of opportunities to contribute to decision making.
- Tension between industrial development and environmental amenity. Community members generally accept the industrial nature of the study area although express a growing desire to maintain the current environment and lifestyle. Controlling some of the negative impacts of development, such as diminished air quality, was seen as an important step.
- Concerns about the safety of LNG processes and management of the project workforce. Some residents expressed concerns about the safety of the LNG industry and the potential for accidents either at the LNG plant or in the process of shipping LNG. A further safety concern related to the presence of a large transient workforce in the study area and the potential for resultant law-and-order issues if this workforce is not properly managed.
- Strain on workers and their families. Some concerns were expressed as to the impact of the increased prevalence of shift work in the study area. A perception was held by some members of the community that shift work has a negative effect on family life due to the high-work demands made on employees causing tension within families and potentially leading to domestic violence.

## 26.4 Workforce Profile

This section provides an overview of the construction, operation and decommissioning workforces required for the project, proposed strategies for sourcing and mobilising the workforce, and the proposed accommodation for the workforces at each phase of the project.

### 26.4.1 Construction Workforce

Construction is expected to require a peak workforce of 3,500 workers in 2016 for construction of trains 1 and 2 of the LNG plant. The peak construction period for trains 3 and 4 in 2024 will require an estimated 2,300 workers.

Construction of trains 1 and 2 will commence in 2014, along with the associated feed gas pipeline and marine facilities, with the initial four-year construction phase expected to be completed by 2018. The workforce profile presented in Figure 6.13 provides an indicative schedule of the construction and operations workforce from 2014 to 2032. The construction timeline for trains 3 and 4 commencing in 2024 is only indicative at this stage, and dependent on future market conditions and a separate financial investment decision.

In addition to the main construction workforce, it is expected there will be an additional FIFO workforce of up to 215 people present during the construction phase of the project, working on the following components:

- Tunnel workforce of up to 100 people.
- Feed gas pipeline workforce of up to 75 people.
- A dredging workforce of between 20 and 40 people.

Table 26.7 provides an estimate of the local and non-local workers in the peak construction workforce.



**Table 26.7 Estimate of local and non-local workers in the peak construction workforce**

<b>Worker Type</b>	<b>Not Local (No.)</b>	<b>Local (No.)</b>	<b>Local (%)</b>
LNG construction workforce	2,400 to 2,850	150 to 600	5% to 20%
Engineering, procurement and construction (EPC)	332	18	5%
Arrow Energy	135	15	10%
Feed gas pipeline, tunnel and dredging	215	0	0%
<b>Total</b>	<b>3082 to 3532</b>	<b>183 to 633</b>	<b>4.9% to 17%</b>

Arrow Energy is committed to providing local employers and contractors with opportunities to obtain employment on the project and proposes to implement a range of initiatives to facilitate local participation.

Arrow Energy has conducted an analysis of the local Gladstone workforce and determined it has the potential capacity to provide between 5% and 20% of the construction workforce required for the project. Local employees are defined here as those residing in the study area prior to the commencement of the construction phase of the project. On this basis, the project is expected to provide employment to up to 600 local construction workers during the peak construction phase. In addition, Arrow Energy expects that 5% of the EPC staff will be local and 10% of Arrow Energy management staff will be from Gladstone. This may provide positions for up to a further 33 local workers.

The majority of non local workers will be sourced within Queensland as the first preference, with the remainder being from other parts of Australia. Dependent upon labour market conditions, there may be a need to source some workers from overseas in instances where there is insufficient skilled labour available within Australia to meet project needs. Table 26.8 provides a general overview of the skills base requirements for the construction workforce.

**Table 26.8 Indicative skills base for construction workforce**

<b>Occupation Type</b>	<b>Total Workforce (%)</b>
Civil engineering – tanks	15%
Civil engineering – marine	10%
Other civil works (early works, buildings, underground, site preparation)	30%
Mechanical	20%
Electrical and instrumentation	9%
Painting and insulation	6%
Management/others	10%

Arrow Energy estimates that there will be a maximum requirement of 3,318 non local workers during the peak construction period. Most of these workers will be FIFO and will reside in construction camps, which will limit the interaction that they have with the community. It is expected that, due to the following factors, only a small number of these workers will bring their families with them to reside in the region:

- The majority of workers will be engaged on contracts specifying their position is FIFO and single status.
- The relatively short term nature (typically 18 months) of individual positions on the project.

- The structure of shifts for the construction workforce that will be typically either two or three weeks on, then one week off.
- Visa restrictions associated with any internationally sourced members of the construction workforce.
- The structure of FIFO workers contracts discouraging them from pursuing accommodation outside the construction camps.

Consequently, it is estimated that only 87 members of the construction workforce, who choose to seek accommodation in the study area, will bring their families, with the remaining 380 workers being single and predominantly male due to the nature of the employment opportunities generated in the construction phase.

### **Construction Workforce Accommodation**

Construction camps for up to 3,500 people will be constructed by the project. The main accommodation facility will accommodate up to 2,500 workers and will be located at Boatshed Point on Curtis Island.

In addition, a temporary workers accommodation facility with a nominal capacity of 1,000 workers may be constructed on the mainland to facilitate additional accommodation should the construction camp on Curtis Island have insufficient capacity during periods of peak construction.

Prior to the construction camp becoming operational, between 200 and 300 workers will need to be accommodated on the mainland. Options that will be considered for the accommodation of these workers will include residential properties, third party provided construction camp facilities or another form of accommodation facilitated by the project, depending on accommodation availability.

Arrow Energy and EPC employees will not be accommodated in the construction camps. It is estimated by Arrow Energy that 10% of the non local EPC staff will relocate to the study area with their families, with a further 40% of non local Arrow Energy staff also relocating to the study area with their families. The remainder of the non local EPC and Arrow Energy staff are to be engaged as singles.

Based on estimated local and non local workforce numbers, the demand for housing generated by the project construction workforce is up to 380 beds and 90 dwellings as outlined in Table 26.9 and Table 26.10.

**Table 26.9 Housing demand for singles**

<b>Worker Type</b>	<b>Not Local (No.)</b>	<b>Company Facilitated Communal Accommodation</b>
Construction workforce in construction camps	2,400 to 2,850	0
Feed gas pipeline, tunnel and dredging in construction camps or barges	215	0
EPC staff	332	299
Arrow Energy staff	135	81
<b>Total extra accommodation demand</b>	<b>-</b>	<b>380 beds</b>

**Table 26.10 Housing demand for families**

<b>Worker Type</b>	<b>Non Local Employees Living in Study Area (No.)</b>
Workers families – EPC (10%)	33
Workers families – Arrow Energy (40%)	54
<b>Total extra accommodation demand</b>	Up to 90 houses

The workforce profile, labour demand and construction camp design estimates are scaled from experience on previously executed LNG projects. During the front end engineering design (FEED) currently underway, the workforce profile and construction labour demand will be re-estimated following a bottom up activity analysis. This analysis may result in changes to the envisaged peak workforce demand and ramp-up profile. In parallel, Arrow Energy will consider a range of optimisations to house singlestatus workers to minimise community housing requirements, including:

- Accelerating, and/or enlarging, the Curtis Island construction camp.
- Accelerating construction of the temporary workers accommodation facility to meet initial housing needs and reduce peak housing demand.
- Investigating alternative accommodation facilities to meet the project housing demand.
- Slowing the ramp up of personnel to better match accommodation supply.
- Firming up the family status of Arrow Energy construction and operations housing strategy.

Arrow Energy will present updated workforce profiles, including ramp-up and construction phasing, and an update on options being considered for the company facilitated communal accommodation for single status workers as part of the supplementary report to the EIS.

The tunnel workforce is anticipated to be accommodated on the mainland. Options that will be considered for the accommodation of these workers will include residential properties, third partyprovided construction camp facilities, another form of accommodation facilitated by the project or a temporary workers accommodation facility, depending on accommodation availability. The dredge workforce will be housed on board the dredge vessel.

The feed gas pipeline workforce is expected to be accommodated in a separate construction camp associated with the construction of the gas pipeline assessed as part of the Arrow Surat Pipeline project.

It is anticipated that the full 380-bed demand for singles housing will be met through the use of company facilitated communal housing, which may be met directly by the project, either through the development of purpose built accommodation or through agreements with third party providers. As such, the impact of the project on existing housing in the study area will be limited to up to 90 dwellings required for families.

### **Construction Workforce Transportation**

Workers located in the temporary workers' accommodation facility will commute to the launch site by bus, while local residents may use private vehicles or a bus service provided. FIFO workers accommodated at the Curtis Island construction camp will require transit to and from Gladstone Airport. Schedules will be arranged for dedicated bus services to meet flights.

Two mainland launch site options are currently under consideration – launch site 1 at Calliope River and launch site 4N, at the north side of the Western Basin Reclamation Area. The location

site for the transfer of personnel in the early phases of the project (until the launch site facility is fully commissioned) is still to be determined, with Gladstone Marina and Auckland Point among the options being considered.

### Shift Arrangements

The expected shift arrangements of the construction workforce are detailed in Table 26.11.

**Table 26.11 Summary of the construction workforce**

<b>LNG Plant Workforce</b>	
Rotational roster	Non local workers: two weeks on and one week off or three weeks on/one week off (FIFO). Local workforce: Monday to Friday
Working hours (start/end times for shifts)	Typically 7.00 a.m. to 7.00 p.m. However, there may be project requirements for night work when modules arrive on vessels, during concrete pours and other construction requirements. There is potential for staggered shifts as per the ferry movements.
Transport of staff housed in the mainland camp or on FIFO shift rotation to Curtis Island by local staff	Bus and/or private vehicle to mainland launch site. Ferry to personnel transfer facility at Boatshed Point. Bus to construction camp or construction site.
<b>Feed Gas Pipeline Workforce</b>	
Working hours (start/end times for shifts)	6.00 a.m. to 6.00 p.m.
Transport of workforce to construction site	Feed gas pipeline construction personnel will be bussed from the mainland construction to the tunnel site and to the personnel wharf for the Curtis Island section.
<b>Tunnel Workforce</b>	
Working hours	24 hours a day.
Transport of workforce to construction site	Bus from temporary workers accommodation facility to tunnel worksite.
<b>Dredging Workforce</b>	
Working hours	24 hours a day.
Transport of workforce to construction site	Assumed that dredging workforce will be accommodated on board the dredge vessel.

### 26.4.2 Operational Workforce

The operational workforce will gradually increase in line with the completion of the trains comprising the LNG plant. Train 1 is expected to commence operations in 2017 followed by train 2 in 2018. An ongoing workforce of approximately 450 personnel will be required, comprising 250 staff and 200 contractors, to support the operation of the facility.

Subject to market conditions and a financial investment decision, at that time, train 3 is expected to begin operating in 2024, with train 4 expected to follow in 2025. For full 4 train operation, the workforce will peak at approximately 600 workers with approximately 400 staff and 200 contractors.

A breakdown between the local and non local workers in the operation workforce is detailed in Table 26.12.

**Table 26.12 Estimate of local and non local workers in the operation workforce**

Worker Type	Trains 1 and 2			All trains		
	Total Workforce	Local	Non local	Total Workforce	Local	Non-local
Arrow Energy staff	250	75	175	400	120	280
Contractors	200	80	120	200	80	120
<b>Total</b>	<b>450</b>	<b>155</b>	<b>295</b>	<b>600</b>	<b>200</b>	<b>400</b>

Arrow Energy expects that approximately 30% of this operational workforce will be sourced locally, with approximately 40% of operational contractors also being sourced locally. This would provide approximately 155 local people employed during operation of trains 1 and 2, and increasing to 200 for operation of trains 3 and 4.

The operations workforce will comprise four main groups:

- LNG facility operations, maintenance, laboratory, security and safety.
- Administration, finance, human resources and business support services.
- Community relations.
- Engineering – mechanical, civil, electrical and instrumentation, training, information technology and building services.

The project will require workers across a variety of occupations. Table 26.13 provides an overview of the types of jobs that the project is expected to generate for Arrow Energy's operational staff workforce. These estimates are not inclusive of the 200 contractor positions.

**Table 26.13 Indicative skills base for Arrow Energy's operational staff workforce**

Occupation Type	Total Workforce (%)
Operations	46%
Electrical and other trades	18%
Maintenance	9%
Engineering	6%
Supply chain	6%
Human resources	5%
Health and safety	3%
Security	3%
Management	2%
Administration	1%
Marine operations	1%

## Operational Workforce Transport

The operational workforce will be transported either by private vehicle or bus to the mainland launch site and will travel by ferry to Curtis Island (see Table 26.14).

**Table 26.14 Summary of the operational workforce**

<b>Operations – LNG Plant</b>	
Working hours (operational, security, maintenance).	Shift patterns to be determined – 8-hour and 12-hour shift rotations over 24 hours are being considered.
Transport to Curtis Island.	Bus and/or private vehicle to mainland launch site and then via ferry to personnel transfer facility at Boatshed Point.
<b>Operations – Planned and Major Maintenance Activities</b>	
Working hours	Planned maintenance: 200 personnel for three weeks. Major maintenance: 300 to 500 personnel for approximately three weeks. Planned 10-hour working days, 7 days/week. If need arises, 24 hours/7 days a week on shift basis for both planned minor and major plant maintenance.

Planned maintenance of the plant will occur every six months and will require approximately 50 additional personnel and periodically will require up to 350 personnel. These maintenance activities will require a period of approximately three weeks to complete.

### **Operational Workforce Accommodation**

During the operation of stage1 (trains 1 and 2), 295 non local operational positions will be generated consisting of 175 Arrow Energy staff and 120 contractor positions. Arrow Energy estimates that 70% of the non local Arrow Energy staff will relocate to the study area with their families, while the balance, along with the contractor positions, will be single status. This will result in a demand for an estimated 175 beds and 130 houses. In addition, another 50 beds for single status will be required for the regular (six monthly) maintenance workforce.

It is anticipated that the full demand for 225 beds will be met through the use of company facilitated accommodation, either through the development of purpose built housing or through agreements with third party providers. This housing is expected to be provided outside the existing housing stock so as to minimise impact on the local housing market.

The periodic maintenance workforce of up to 350 people utilising FIFO workers is expected to be accommodated in a combination of local housing and temporary accommodation.

### **Decommissioning Workforce**

The predicted operational life of the LNG plant is 25 years. The plant may be able to operate beyond 25 years, depending on the availability of gas and future market demands.

Detailed planning for decommissioning will be refined during the life of the project. All plant and equipment on the LNG plant site, including the LNG trains, tanks, jetty and supporting infrastructure will be removed. Approximately 500 employees would be required as part of the decommissioning workforce for a period of approximately one year.

## **26.5 Issues and Potential Impacts**

This section describes the potential social impacts arising from project construction and operation. Direct and indirect impacts are described, including adverse and beneficial, on the social values of the study area that have the potential to affect the existing social environment. The key impact aspects discussed in this section are:

- Population growth.
- Property and land use.
- Amenity.

- Housing and accommodation.
- Employment and training.
- Business/local business opportunities.
- Social and community infrastructure.
- Recreation.
- Transport and access.
- Community health and wellbeing.
- Community values.
- Indigenous people.

### **26.5.1 Population Growth**

Changes in population during the construction and operation phases of the project are described in this section. These changes may have subsequent implications for housing and accommodation, social and community infrastructure and facilities and community values.

#### **Construction**

A maximum of 3,318 non local workers will be present in the study area during the workforce construction peak in 2016. The majority of these workers will be FIFO and resident in construction camps. Most FIFO workers will have minimal opportunity to interact with the wider community outside of their project role.

Of the 467 workers that are expected to live outside of the construction camps, it is anticipated that 87 of these workers will relocate to the study area to live with their families during the construction phase.

Based on an assumed family size of four (two children and one spouse), this is anticipated to lead to a total population increase in the study area community of approximately 729 people (including workers and their families) during construction. This is equivalent to 1.2% of the 2009 population of the study area.

#### **Operation**

Approximately 30% of the Arrow Energy operations workforce and 40% of contractors are assumed to be local to the study area. This may result in 295 non locals relocating to the study area during the operation of trains 1 and 2 increasing to 400 non locals during the operation of trains 3 and 4. Arrow Energy expects that all non local contractor staff will be FIFO single status and will not relocate to the study area with their families.

Arrow Energy expects that 70% of non local Arrow Energy staff may relocate to the study area with their families, with the balance being FIFO single status. Based on an assumed family size of four (two children and one spouse), this may result in approximately 543 people relocating to the study area during the operation of trains 1 and 2, increasing to 868 during the operation of trains 3 and 4.

A periodic maintenance workforce will temporarily increase the population of the study area by 50 people every six months and up to 350 people every three years for major maintenance. This population increase will be short term occurring over approximately three weeks.

A summary of the population impacts associated with the project is provided in Table 26.15.

**Table 26.15 Summary of estimated permanent population effects**

	<b>Construction</b>	<b>Operation</b>	<b>Maintenance</b>
Total peak workforce	3,715	Trains 1 and 2: 450 Trains 3 and 4: 600	50 every 6 months 350 every 3 years
Workers to relocate to study area	467 (87 with families)	Trains 1 and 2: 175 Trains 3 and 4: 105	0
Family members	261	Trains 1 and 2: 368 Trains 3 and 4: 220	0
<b>Total persons</b>	<b>728</b>	<b>868</b>	<b>0</b>

The aging local population will be offset by families relocating to the area for the project due to an increase in the number of school-age and working-age people.

The majority of workers who relocate with their families are expected to reside in Gladstone to access education, child care, sport and recreation and health and medical services. If workers choose to live in towns rather than Gladstone, the demographic profile of these smaller population centres will potentially change.

The ability of the region to attract and retain young people could be improved through the employment and training opportunities associated with the project, as well as gaining skills in the construction industry. Access to appropriate skilling and employment programs prior to construction is essential to positive outcomes in this aspect.

Employment opportunities generated by the project are likely to be skewed towards males, with operation positions, in particular, potentially filled by overseas workers where skills are not available within Australia.

Other employers hiring non-local workers to meet labour shortages or backfill positions could also potentially lead to population growth. The project is following a number of major projects in the study area so this potential impact is expected to be minimal.

## **26.5.2 Property and Land Use**

The Gladstone State Development Area, on the southwest coast of Curtis Island, is intended for LNG production and export. Other areas of significance on Curtis Island include conservation areas, a national park and other reserves. Southend is the only residential community on the island, located on the southern tip approximately 9 km east-northeast from the project site.

The proposed LNG site and adjoining Curtis Island Environmental Management Precinct has been subject to grazing by cattle, feral horses and pigs resulting in degraded ecosystems (see Chapter 30, Land Use and Planning). Access to the LNG site is currently limited and would be restricted once the LNG construction commences.

Once the Curtis Island camp is at full capacity, the mainland temporary workers accommodation facility options (i.e., TWAF 7 or TWAF 8) may be required. The location of TWAF 7 is proposed for the west of Gladstone city on the site of a former ash pond. TWAF 8 is proposed to be located on agricultural land at Targinnie. These sites would be reinstated to their current use, or for other use in line with the relevant land use policies.

Movements of heavy vehicles and road and intersection upgrades during construction in some locations could lead to temporary disruption of access to private property. Impacts are likely to be minimal and temporary and will be managed through consultation with property owners.



### **26.5.3 Amenity**

Construction noise, dust and increases in construction traffic on local roads, including heavy vehicles, will be the main impacts on local amenity during construction, with visual impacts associated with the LNG plant potentially occurring over the long term.

Modelling of emissions from the project indicate infrequent impacts to Gladstone city (see Chapter 21, Air Quality). Existing community concerns about air quality in the study area will result in sensitivity to any adverse changes, actual or perceived, to air quality from the project.

The visual amenity at tourist lookouts including two islands in Port Curtis, the water and the summit of Mount Larcom, will be impacted by the project (see Chapter 23, Landscape and Visual). Overall, the relative visual amenity impacts will be reduced as a result of the project due to its proximity to other LNG plants on Curtis Island and the presence of heavy industrial development within the Gladstone region.

Concerns were raised during community consultations about the potential noise impacts associated with the project during construction and operation, in particular, for residents in Southend. Noise modelling identified that, by implementing appropriate acoustic treatments, the evening and night-time noise levels at the nearest sensitive receptors would be below sleep disturbance criteria (see Chapter 22, Noise and Vibration). No impacts are expected on amenity from vibration during construction or operation. Consultation and communication with residents in close proximity to the project will assist in mitigating potential impacts on amenity due to changes, either actual or perceived, in noise levels throughout the life of the project.

### **26.5.4 Housing and Accommodation**

The availability of housing and accommodation is currently constrained due to the numerous major projects being developed simultaneously in the study area (see Chapter 32, Cumulative Impacts). Members of the community that are particularly vulnerable to negative effects associated with increased housing costs include young people, those on pensions and allowances, single-parent households and people employed in lower-paid jobs.

Elevated demand is currently placing upward pressure on rental and purchase costs while the market takes time to meet demand through an incremental increase in housing supply. By creating additional employment opportunities in the study area, the project has the potential to contribute to pressures on housing availability and affordability. The project housing strategy employed by Arrow Energy to address impacts on housing and accommodation will consider the housing market at the time when impacts will occur and determine the most appropriate form of intervention.

An assessment of the effects of the project on housing in the study area throughout the construction and operation phases is outlined below.

#### **Construction**

The construction camp on Curtis Island and, if required, the mainland temporary workers' accommodation facility will accommodate 87.4% of the non local construction workforce who will operate on a FIFO basis. The workforce for the construction of the feed gas pipeline and tunnel and dredging activities will be accommodated in mainland construction camps or on board dredging vessels.

Members of the construction workforce not accommodated in the construction camps will be those from the Arrow Energy (135 non local personnel) and EPC management staff (332 non local personnel) workforces. It is anticipated that this will occur as follows:

- A total of 90% (299 personnel) of the EPC non local workforce, are expected to be single status and will be accommodated in company facilitated accommodation.
- The remaining 10% of the non local EPC workforce (33 personnel) are expected to relocate to the study area with families and will generate demand for 33 houses.
- A total of 60% (81 personnel) the non local Arrow Energy workforce, are expected to be single status and will be accommodated in company facilitated accommodation.
- The remaining 40% of the Arrow Energy workforce (54 personnel) are expected to relocate to the study area with families and will generate demand for 54 houses.

It is therefore anticipated that the construction workforce of the project will generate demand for a total of 380 beds and up to 90 dwellings. The 380 beds will be provided through Arrow Energy facilitated communal accommodation and subsequently there will be no impact upon the local housing market. Supply of the required 90 dwellings will be delivered through the project accommodation strategy, which will assess the state of the market to meet this project-generated demand and make the required market interventions to minimise adverse impacts upon the community.

Prior to the construction camp becoming operational, between 200 and 300 workers will need to be accommodated on the mainland. Options that will be considered for the accommodation of these workers will include residential properties, third party provided construction camp facilities or another form of accommodation facilitated by the project, depending on accommodation availability. Should current proposals for third party provided temporary workers' villages in the Gladstone region materialise, the potential use of these facilities is expected to limit the impact on short term accommodation.

The tunnel workforce is anticipated to be accommodated on the mainland. Options that will be considered for the accommodation of these workers will include residential properties, third-party-provided construction camp facilities, another form of accommodation facilitated by the project or temporary workers' accommodation facilities, depending on accommodation availability. The dredge workforce will be housed on board the dredge vessel.

The feed gas pipeline workforce is expected to be accommodated in a separate construction camp associated with the construction of the gas pipeline assessed as part of the Arrow Surat Pipeline project.

## **Operation**

When the project is fully operational, 400 non local operational positions will be generated consisting of 280 Arrow Energy staff and 120 contractor positions. Arrow Energy estimates that up to 70% (136 personnel) of non local Arrow Energy staff will relocate to the study area with their families, generating a total demand of up to 130 houses. This is the maximum anticipated housing demand generated by the project and the project housing strategy will consider the housing market at the time when this impact will occur and implement appropriate interventions that minimise negative effects on local housing availability and affordability.

During Stage 1, the 120 operational contractor positions along with the remaining 55 Arrow Energy permanent staff members are expected to be single-status positions. In addition, another 50 beds for single status will be required for the regular (six monthly) maintenance workforce. Accommodation of this component of the operations workforce will not impact upon the local housing market as the project will facilitate housing either through the direct development of purpose built accommodation or provision through a third party provider.

In addition to the permanent workforce, short term accommodation will be periodically required for the larger maintenance workforce. While the utilisation of temporary accommodation such as hotels, motels and caravan parks would provide a financial benefit to providers, there could be some negative effects on the tourist sector. Should current proposals for third party provided temporary workers villages in the Gladstone region materialise, the potential use of these facilities is expected to limit the impact on short term accommodation.

### **26.5.5 Employment and Training**

Employment and training related impacts relate to direct increases in employment opportunities, creation of training opportunities, higher incomes and potentially, reduced training opportunities in other industries.

Up to 3,715 direct construction jobs and up to 600 direct jobs during operation will be generated by the project. It is anticipated that between 5% and 20% of the construction workforce may be sourced locally depending upon factors including how the timing of construction relates to other major projects presently being constructed in the region. Approximately 30% of the operations staff and 40% of the contractors required during operation are anticipated to be sourced from the local region.

The project will provide improved training opportunities for school leavers, lower-skilled workers and trainees during construction and operation facilitated by Arrow Energy in partnership with industry and government employment and skilling programs. The creation of skilled employment opportunities in specialised technical fields supporting LNG operations could encourage Central Queensland University to make such courses available to students at the Gladstone campus.

The increased demand for skilled labour generated by the project is likely to contribute to higher wage incomes in the study area both through the direct employment of local people and through demand driven escalating labour costs. Higher labour and accommodation costs and potential skills shortages may result in trainers needing to be sourced outside of the study area to backfill existing local positions or positions being left open due to the inability to attract or retain qualified staff.

### **26.5.6 Business and Local Business Opportunities**

Existing businesses in the study area may have opportunities to provide goods and services directly to the project. New businesses are likely to move to the study area (at least temporarily) to support the construction phase of the project. The potential loss of staff to the project may limit some businesses from taking up contract opportunities.

The regional labour markets could be affected by loss of skilled workers to the project, affecting service provision for communities within the study area, both affecting the cost of services, and businesses abilities to meet demand.

Local tourism operations are likely to benefit from population growth associated with the project and subsequent increased demand for services.

### **26.5.7 Social and Community Infrastructure**

This section details the likely impact to both social and community infrastructure through an increase in demand due to population growth associated with the project.

#### **Health and Social Services**

The health impact assessment undertaken for the project (see Appendix 27, Health Impact Assessment) found that workers living within the study area will place additional demand on

medical and associated services. The reliance upon existing medical services by the construction workforce will be reduced through the supply of emergency health care on Curtis Island. Other health related services such as physiotherapy, sexual and mental health services may need to be accessed in Gladstone and may experience greater demand. Construction and operation employees and their families permanently residing in the study area will contribute to an increase in demand for health and social services.

By continuing to place pressure on housing stock and the cost of living, the project will contribute to a continued shortage of entry level police, council officers, teachers and other workers providing social services, translating into a loss of the level of services available locally.

The project may lead to an increase in the overall range of services and retail opportunities provided in the study area through its contribution to population growth.

### **Educational Services**

Arrow Energy has estimated that 467 (380 on single status in company facilitated communal accommodation, and 87 on family status living within the community) workers will relocate to the study area during construction with 87 of these bringing their families. This will result in an estimated 729 people (workers and families) entering the study area, potentially increasing demand for child care, kindergartens, primary and secondary school, as well as TAFE or university.

During operation, it is expected that between 175 and 280 workers could relocate to the study area, with 123 to 196 of these bringing their families, resulting in an estimated increase of between 244 (trains 1 and 2) and 392 (all trains) dependent children or students in the study area. While the public school system currently has capacity for an additional 300 to 450 students, the cumulative demand placed on schools by all projects could mean the capacity may be exceeded.

### **Sporting and Recreational Facilities**

Members of the workforce and their families residing on the mainland will utilise existing formal and informal recreational facilities, having the potential to diminish access or enjoyment for existing users. The presence of an additional ongoing population may support the creation of additional formal and informal recreational facilities, increasing the diversity of those currently available for the community.

## **26.5.8 Recreation**

The project could present a number of potential impacts to local recreational activities and pursuits, as discussed in the following sections.

### **Water Based Recreation**

Facilities will be developed in the harbour during construction, including jetties and MOFs. Dredging activities will also take place. These activities will most likely impact local recreational fishers as the areas will be inaccessible for recreational use. Facilities such as the Calliope boat ramp will be temporarily unavailable to local boating and fishing users at certain times throughout construction.

Congestion emanating from increased shipping movements in the harbour due to construction activities could also impact recreational boat users and create a perceived safety risk with changed harbour conditions.

Exclusion zones placed around jetties and LNG tankers will impact the ability of recreational boats to use the waters adjacent to Curtis Island during operation. The exclusion zones will be localised

to the facilities and the LNG ships, and will not include the main channels and the fixed safety zones will not impede the passage of recreational boats, including between South Passage Island and the terminal jetty on Curtis Island.

Fishing and boating currently occurs in some of the areas that will be impacted by the safety zones. The placement of exclusion zones in the harbour is expected to have a minimal impact on existing recreational uses, even when the cumulative impacts of other projects in the region are considered due to their localised nature.

### **Land Based Recreation**

During construction, the majority of the workforce will not have access to the study area during shifts and recreational facilities will be provided for workers on Curtis Island.

The workforce, and their families, residing on the mainland will utilise existing community and social infrastructure for recreational purposes, such as parks, sporting ovals, the swimming pool, cycle ways and walking tracks. This increased use is expected to have a small impact on these facilities and existing residents' enjoyment of them.

During operation, the demand for these facilities is expected to increase although with minimal impact. Population growth associated with the operation workforce may lead to higher demand for recreational facilities and services and an increase in the availability of such facilities.

## **26.5.9 Transport and Access**

This section details the potential impacts to transport and access to property and various locations within the study area associated with the project, as well as cumulatively in light of other projects in the area.

### **Traffic and Transport**

The increase in traffic associated with the Arrow LNG Plant, along with the cumulative impacts of other projects is likely to be of concern to the community. Increased truck and private traffic movements may increase the risk profile of some existing roads, as well as perceived safety concerns that the community may hold. Community members may become unwilling to use particular roads or travel to various locations leading to impacts on vulnerable groups such as school children or the elderly who predominantly travel by foot.

Proposed mitigation measures to offset the potential traffic and transport risks are detailed in the transport impact assessment (see Chapter 28, Traffic and Transport).

### **Property Access**

Existing land uses at the project site on Curtis Island and the proposed TWAF and launch sites on the mainland will change, and public access to these areas will be restricted. The site for the LNG plant on Curtis Island was designated by the Queensland Government in 2008 for LNG production and is currently unutilised, having previously supported the grazing of cattle. The TWAF 7 site is on the former Gladstone Power Station ash pond and currently does not support any formal use; however, it is utilised by local residents for informal recreation. The TWAF 8 site is on private land, which, until recently, has been used for the grazing of cattle. Launch site 1 is located on the former Gladstone Power Station ash pond site and is currently unutilised. Launch site 4N is on reclaimed land developed by Gladstone Ports Corporation. The nature of these sites means their development for project purposes will have a negligible effect on public access and use. Following construction, the TWAF sites will be reinstated to their former use or for another use consistent with land-use policies.

Access to private property may be temporarily disrupted in some locations during construction due to the movement of heavy equipment and works associated with the upgrading of roads and intersections and the construction of the feed gas pipeline. These impacts are temporary and impacts are likely to be minimal.

### **26.5.10 Community Health and Wellbeing**

The good health of communities has both physical and mental elements, and can be measured against various indicators including socioeconomic disadvantage, amenity, access to facilities (examined in previous sections) and crime and safety.

Shift work has been perceived as potentially having a negative influence on family life due to long working hours leading to tension and dissatisfaction in the home. As the resident workforce of Gladstone is highly orientated towards shift work with a high proportion of the workforce employed in manufacturing and construction occupations, it is not expected that the project will have any particular effect in this regard.

The presence of the project workforce in the community, particularly throughout construction, could promote a perception of diminished community safety. The prevalent demographic characteristics of the workforce (male dominated with a younger average age) mean there is potential for an increase in some criminal behaviour such as assault and drug and alcohol related crimes. The construction workforce will primarily be FIFO and residing on Curtis Island with strict behavioural protocols in place. Very limited opportunities will exist for interaction of the workforce with the community and local residents are unlikely to feel as though the project has resulted in any diminishment of community safety.

Community perceptions of crime and public safety can be heavily influenced by the media and external measures. The construction of such a large facility relatively close to residential areas has the potential to be perceived as a safety risk, regardless of the actual risk associated with the project.

The project has the potential to impact values of the Gladstone region relating to air quality, noise and visual amenity, which may affect human health. Impacts on these values are assessed in Chapter 21, Air Quality, Chapter 22, Noise and Vibration, and Chapter 23 Landscape and Visual. The potential for the increase in the rate of vector borne disease is discussed in Chapter 18, Freshwater Ecology.

The impacts from the project on community health are generally around lifestyle related health issues, such as alcoholism, obesity, smoking, poor nutrition, substance abuse and sexual health. Other potential issues are linked to impacts upon mental health. These impacts are assessed in full in the health impact assessment undertaken for the project (see Appendix 27, Health Impact Assessment). No high risk health related impacts were identified, largely due to confinement of construction workers to camps where they will have limited interaction with the wider community.

Impacts on health infrastructure in the Gladstone region are summarised in Section 26.5.7 and described in full in the health impact assessment undertaken for the project (see Appendix 27, Health Impact Assessment).

### **26.5.11 Community Values**

This section outlines a range of community values, which are held by communities within the study area that will potentially be impacted by the project, both positively and negatively.

## **Increased Services**

The population increase associated with the project and other projects could lead to an increase in the overall range of services and retail opportunities available in the study area. This is likely to be perceived as a benefit with people presently having to travel to Rockhampton or Brisbane to access some services.

## **Health and Safety**

Gladstone city prides itself on being family friendly and safe. The majority of the construction workforce will be located on Curtis Island with a roster that will limit interaction with the community. Upon the completion of their shift, workers will be transported directly to the airport to meet a connecting flight to their point of origin. This will reduce the likelihood workers can engage in antisocial behaviour. During operation, the non-transient nature of the workforce will reduce the likelihood of antisocial behaviour.

## **Safety of the LNG Plant**

Some concerns exist in the study area about the safety of the LNG plant and the potential for accidents. The risk to community safety is minimal although there is still likely to be community concern through construction and operation of the project. Cumulatively, the presence of up to four plants and the requisite shipping will likely increase the level concern over this risk.

## **Income Disparity**

The project in isolation, and cumulatively, is likely to cause an increase in income disparity in the study area. Paired with increased housing costs, this may lead to divisions between those who enjoy high wages and can afford good lifestyles, and those on low or middle incomes. This may result in a reduction in community cohesion.

## **Management of Environmental Issues**

The project will result in the clearing of part of Curtis Island and works within the harbour such as dredging. These activities are likely to be of concern to people within the study area and potentially further afield, particularly if the works are perceived to impact on dolphins, dugongs and fish or other important natural assets, such as seagrass or mangroves. The community's sensitivity will be reduced by activities that will take place prior to the project commencing, such as the port's dredging program and other LNG projects. Recognising that the study area is an industrial precinct, activities that balance industrial development with environmental protection, are likely to be well received.

## **Management of Social Issues**

The community in the study area is concerned about the pressures on housing and the provision of social infrastructure. Any project that is perceived to worsen this is likely to create significant concern. Of particular concern is the management of cumulative impacts, with limited discrimination between the four LNG proponents on Curtis Island. During the construction phase, the project will take a collaborative approach to managing cumulative impacts with other projects and stakeholders.

The potential exists for the workforce in the construction and operation phases not respecting the values held by the local Indigenous community, particularly those workers coming from outside the study area.

## **Volunteering**

The study area, like any other community, relies on volunteers to run many of the clubs and associations and to be involved in community life. During construction, the project may lead to

some reduction to the levels of volunteering. This is most likely to occur where people leave employers and move to longer shifts. The influx of new residents into the region will mean that there are more people potentially available and willing to volunteer and will stimulate greater activity in existing clubs and associations.

### 26.5.12 Indigenous People

The Indigenous community is vulnerable to changes in housing costs, with over half of Indigenous households renting in 2006. Household incomes were also lower for Indigenous people in all towns and localities in the study area except Miriam Vale (which reported low median incomes for both Indigenous and non-Indigenous people).

The project provides an opportunity for members of the Indigenous community to gain employment, as long as relevant training is provided. Cumulatively, all the projects are likely to present a number of employment opportunities, which will benefit this small community. The Arrow LNG Plant also presents an opportunity to encourage existing Indigenous businesses to secure contracts giving them the opportunity to expand and in turn reduce unemployment further in the Indigenous community.

### 26.5.13 Summary of Impacts and Opportunities

Table 26.16 provides a summary of the impacts and opportunities that have been identified as part of this assessment. Population growth and demographic change have not been included in this table as these are triggers for the positive and social impacts identified below.

**Table 26.16 Summary of social impacts and opportunities**

Social Impact	Description	Phase	Nature	Significance
<b>Property and Land Use</b>				
Changes to land uses	Existing land uses at the TWAF and project site on Curtis Island will cease.	Construction and ongoing	Negative	Moderate
Reduced access to private property	There may be some temporary loss of access as a result of construction traffic or activities.	Construction	Negative	Low
<b>Amenity</b>				
Visual Impact	The project will impact on existing visual amenity, although diminished by the presence of other industrial facilities.	Construction and operation	Negative	Moderate
Noise and vibration impacts	There will be increase noise although not be sufficient to create sleep disturbance.	Construction and operation	Negative	Moderate
Changes in air quality	The project will impact on air quality very infrequently, a potential source of concern for the community.	Construction	Negative	Moderate



**Table 26.16 Summary of social impacts and opportunities (cont'd)**

Social Impact	Description	Phase	Nature	Significance
<b>Housing and Accommodation</b>				
Increased housing costs	The project will result in a small increase in demand for housing stock (90 during construction and 130 during operation), which will reduce the availability of existing accommodation. This may be sufficient to sustain housing costs growth occurring under previous projects.	Construction and operation	Negative	High
Reduced availability of hotel/motel accommodation	High utilisation of temporary accommodation may impact on businesses or other users who will find it more difficult to access temporary accommodation.	Construction	Negative	Low
Impact on property values	Increased demand for housing as a result of the LNG industry will increase property values. Arrow LNG Plant follows the early projects and is likely to only sustain existing price increases. This will make it harder for first home buyers to purchase property but benefit those who are seeking to sell their dwellings.	Construction and operation	Neutral	Low
<b>Employment and Training</b>				
Increased local employment	During construction, up to 633 workers will be local (equivalent to 2% of the 2006 workforce). During operation, up to 200 workers will be local.	Construction and operation	Positive	High
Increased local training opportunities	The project will provide training opportunities for students through Arrow Energy's graduate program, scholarships, vacation employment and school-based training. Employees working directly for Arrow Energy will also potentially be able to benefit from internal training, vocational/trade training and specialist training. Arrow Energy staff and contractors may take on apprentices and trainees providing opportunities for younger people.	Construction and operation	Positive	High
Increased local employment opportunities with non-LNG employers	The project will create additional positions in other businesses that service the project, expand to cater to the increased population or back-fill positions. Continued increased patronage of existing hotels/motels is likely to contribute to local employment and benefit the financial wellbeing of business operators in the hospitality industry.	Construction and operational	Positive	High

**Table 26.16 Summary of social impacts and opportunities (cont'd)**

Social Impact	Description	Phase	Nature	Significance
<b>Business and Local Business Opportunities</b>				
Ability for local business to benefit from the additional trade	Existing businesses have the potential to provide goods and services directly to the project. While they may have already increased their staffing to do this for other projects, the Arrow LNG Plant presents an opportunity to maintain or increase the work they can do for the industry.  Some businesses ability to benefit from the project will be constrained due to an inability to compete on wages or higher living costs.	Construction and operation	Positive	High
<b>Social and Community Infrastructure</b>				
Increased demand on existing social infrastructure and services	The small proportion of workers living in the study area outside of construction camps (and their families) will place increased demand on social infrastructure and services (e.g., medical, educational).	Construction and operation	Negative	Moderate
Reduced availability of staff at existing social infrastructure	By placing limited pressure on housing stock, the project will place some pressure on affordable housing limiting the ability of entry-level police, council officers, teachers and other workers to reside in the area.	Construction and operation	Negative	Moderate
Increased demand on formal and informal recreational facilities.	Workers and their families based on the mainland will place increased demand on formal and informal recreational facilities.	Construction and operation	Negative	Moderate
<b>Recreation</b>				
Loss of recreational opportunities	The project will have a limited impact on recreational boating and related activities in the harbour.	Construction and operation	Negative	High
<b>Transport and Access</b>				
Increases in public risk as a result of increased traffic, people and the project.	There may potentially be an increase in the level of risk resulting from increased traffic movements.  This increased risk will also extend to the harbour, with changed harbour conditions and congestion increasing the likelihood of accidents.	Construction and ongoing	Negative	Moderate

**Table 26.16 Summary of social impacts and opportunities (cont'd)**

Social Impact	Description	Phase	Nature	Significance
<b>Community Health and Wellbeing</b>				
Strain on workers and their families	Shift work is perceived by some stakeholders to cause domestic violence but the chance of domestic violence being aggravated by shift work will be minimised by the proposed Monday to Friday shift. However, the FIFO component of the workforce will be subject to two weeks on site, potentially placing a strain on their relationship with their families.	Construction and ongoing	Negative	Moderate

## **26.6 Avoidance, Mitigation and Management Measures**

Arrow Energy has developed avoidance, mitigation and measures to address the identified social impacts of the project. These measures are set out in the Social Impact management Plan (SIMP) developed for the project (Attachment 7, Social Impact Management Plan) and are also presented in this section.

Measures have been informed by the results of consultation and are designed to protect social values and maximise the positive social effects associated with the project. Further details on the timeframes for implementation of the measures and the party responsible for implementation, are provided in Attachment 7, Social Impact Management Plan. Arrow Energy will implement the mitigation measures and action plans set out in the SIMP.

### **26.6.1 Property and Land Use**

In response to potential impacts on property and land use in the study area:

- Arrow Energy will consult with landholders in close proximity to construction works in advance of works. [C26.59]

### **26.6.2 Amenity**

In response to potential impacts on community amenity:

- Arrow Energy will publically release information on how environmental impacts are being offset by the project. [C26.60]
- Arrow Energy will communicate information about measures to reduce the impact on air quality through the Arrow Energy website. [C26.68]
- Details of measures to address impacts on visual amenity will be communicated on the Arrow Energy website. [C26.69]
- Details of measures to address noise impacts will be available on the Arrow Energy website. [C26.70]

### **26.6.3 Housing and Accommodation**

In response to potential impacts on housing and accommodation in the study area, Arrow Energy will:

- Continue to liaise with other proponents to determine cumulative workforce housing requirement. Use house price and rental data from the Real Estate Institute of Queensland's Queensland Market Monitor and Department of Communities Housing Market Report to determine whether the private market is able to provide sufficient dwellings in the local area for the construction and operation workforces. [C26.01]
- Identify viable housing options for housing the non local construction workforce likely to reside outside of the construction camps, minimising sourcing housing in the private rental market for non permanent staff unless vacancy rates increase to 3% or higher. Possible options could include:
  - Provide rental guarantees or other incentives to private investors to encourage the construction of new housing stock, which can be used by project staff and remain available for the wider community following the end of the construction phase.
  - Encourage all non local employees to live in company facilitated housing or TWAFs, unless they have families or other circumstances that make this impractical.
  - Provide accommodation advice services for workers and their families. [C26.02]
- Continue to engage with the Office of the Coordinator-General and other proponents to identify cooperative strategies that address cumulative housing impacts. [C26.03]
- Collect data on where workers are residing and whether they have a family with them. Determine the level of local employment and the likely number of non local workers and their families seeking accommodation in the study area. [C26.04]
- Continue to provide data to state and local government to facilitate the creation of a common data set across all major projects. The data collected will be in the format already agreed between existing proponents and the Office of the Coordinator-General. [C26.05]
- Identify preferred approach for facilitation of up to 90 houses during the construction phase and increasing up to 130 houses for long term housing for the non local operational workforce (at Stage 1) through the project accommodation strategy. The strategy should assess the state of the market to meet this project generated demand and make the required market interventions to minimise adverse impacts upon the community. [C26.06]
- Identify preferred approach for facilitation of 380 beds in company facilitated accommodation for construction management (Arrow Energy and contractor) single status workers and 225 beds for operational workers (at Stage 1) through the project accommodation strategy. [C26.07]
- Identify opportunities to bring forward facilitation of housing intended for the operations workforce that can be used for the construction workforce. [C26.08]
- Provide information on the Arrow Energy website on actions taken to meet project housing needs and key data on workforce numbers and approximate numbers housed within the community. [C26.09]

With respect to temporary accommodation, Arrow Energy will:

- Collaborate with other proponents in the region and identify opportunities to share temporary accommodation where possible for the construction and maintenance workforces. [C26.10]

- Inform the tourist industry and other peak business bodies of anticipated time frames for peak temporary accommodation demand. [C26.11]

Specifically relating to housing affordability in the study area, Arrow Energy will:

- Work with the Urban Land Development Authority (ULDA) to identify opportunities in the study area to bring additional affordable housing to market for existing residents. [C26.12]
- Work with the state government, the GRC and the Indigenous community to identify opportunities to provide assistance to not for profit housing providers to support the Indigenous community. [C26.13]
- Provide \$6.5 million or in kind support of the same value to other non-government providers of social housing. [C26.14]
- Provide information on the Arrow Energy website on actions taken to support affordable housing initiatives to offset housing impacts. [C26.15]
- Provide \$1 million in financial assistance to the GRC for emergency rental assistance. [C26.16]

#### **26.6.4 Employment and Training**

In response to potential impacts the project may have on employment and training, Arrow Energy will:

- Identify the range of skills required for the labour force and undertake a gap analysis against existing skills availability. Where gaps exist in consultation with the Department of Education and Training, identify the method or strategy through which these skills will be filled, e.g., FIFO/DIDO or training. [C26.34]
- Determine how to maximise local employment opportunities and develop a recruitment plan to identify what positions will be targeted without negatively impacting on the availability of local services. [C26.35]
- Develop a policy that facilitates equal opportunity for all suitably qualified persons. [C26.36]
- Where appropriate, identify opportunities where training provided by the project or other training providers will be able to meet skills gaps in the community for the project to assist in maximising local employment opportunities. [C26.37]
- Develop a policy identifying training pathways for students and school leavers to assist students in gaining employment upon graduation. This will be done in consultation with the Schools and Industry Network (SAIN), Education Queensland Industry Partnership (EQIP) and the Queensland Minerals and Energy Academy (QMEA). Where relevant training programs have been initiated by other proponents, Arrow Energy will consider coordinating support with these where appropriate. [C26.38]
- Undertake regular reviews of labour requirements and current skills sets to ensure that training strategies meet these needs. [C26.39]
- Arrow Energy will work with group training organisations and encourage contractors to recruit and retain apprentices or trainees during operations. Arrow Energy will sponsor group training positions during the operations stage of the project. [C26.40]

- The following existing programs will have positions reserved for suitably qualified students and school leavers from the Gladstone region: [C26.41]
  - Graduate Program (engineering, planning, social and environmental).
  - Scholarships.
  - Vacation Employment.
  - School Based Training.
- The following Arrow Energy programs will be expanded to suitably qualified local employees: [C26.42]
  - Executive and Management Development Programs.
  - External Education Program.
  - Vocational/Trade Training.
  - Specialist Training.
- Arrow Energy will work with Skills Queensland to deliver work readiness and skills development training programs for vulnerable local people such as the long term unemployed or under skilled, in order to assist them to gain employment. [C26.43]

### **26.6.5 Business and Local Business Opportunities**

In response to impacts of the project on local businesses, Arrow Energy will:

- Develop a Local Industry Participation Plan (LIPP) in consultation with DEEDI and consistent with the Australian Government Australian Industry Participation Plan. [C26.44]
- Provide QMI Solutions with the information they require to assist local businesses improve their skills base and tailor their operations to meet the project's need. [C26.45]
- Develop processes to ensure local business opportunities are considered in project procurement practises. These processes will allow competitive local business be given fair and reasonable opportunities to provide goods or services to the project. [C26.46]
- Encourage contractors to source local goods and services where possible. [C26.47]
- Encourage businesses, who provide goods and services to the project, to consider Indigenous procurement in order to maximise Indigenous employment opportunities. [C26.48]
- Arrow Energy will continue to engage with key business bodies regarding appropriate opportunities for local businesses to supply goods and services to the project. [C26.49]
- Facilitate the communication of the Local Procurement Policy to local service providers. This will involve ongoing communication of project procurement requirements, regular project updates during construction, overview of goods and services packages and supply chain. This will be communicated through initial procurement information sessions in Gladstone for potential suppliers and ongoing on the Arrow Energy website. [C26.50]
- Participate in existing programs that provide technical assistance and briefings to potential local and regional businesses about opportunities and requirements (e.g., Gladstone Region Leaders in Business – Speakers Series and the Gladstone Tender Readiness Program). Briefings will contain information on management systems and other requirements. [C26.51]
- Collaborate with the existing job service that has been set up by other proponents for local businesses and use this to advertise for local positions. This will allow applicants to choose between industry and non industry jobs. [C26.52]

- Provide information to the TAFE system to inform the specialised small business solutions programs on what is required to provide goods and services to the LNG industry. [C26.53]

### **26.6.6 Social and Community Infrastructure**

In relation to the potential impacts of the project on social and community infrastructure in the study area, Arrow Energy will:

- Expand the opportunities available for the region under the Brighter Futures program and the Social Investment Plan. [C26.17]
- Publically release details of the Brighter Futures program for Gladstone on the Arrow Energy website. This will include information on criteria for funding, funds expended, processes for applying and how often funding will be available for applications. [C26.26]
- Design and construct the workers camp to have sufficient social and recreational facilities to cater for recreational, fitness and entertainment requirements. [C26.18]
- Consult with the GRC and the Gladstone Region LNG Community Consultative Committee (RCCC) to identify which social, community or recreational infrastructure is being directly impacted by the project and to what extent. Liaise with the relevant body, for example the Gladstone Foundation, to coordinate efforts across all proponents and identify projects that may provide an equivalent offset or mitigation of impacts. [C26.20]
- Continue to provide state and local government departments responsible for educational, health and other social infrastructure with forecasts of workforce numbers and projected families to assist in their future service planning. This information will be provided in an agreed format that will allow these departments to plan for cumulative population change. [C26.24]
- Post details on the Arrow Energy website of projects which receive funding or in kind support to offset or mitigate direct project impacts. [C26.25]

### **26.6.7 Recreation**

With respect to impacts on recreation, Arrow Energy will:

- Ensure that there are no ongoing restrictions on the Calliope River boat ramp or Gladstone Marina during the operation of the project. [C26.21]
- Prohibit non local construction workers and operators from engaging in fishing, crabbing or boating in any exclusion zone. [C26.22]
- Prohibit all FIFO workers (with the exception of traditional owners) from fishing, crabbing and boating in the Gladstone Regional Council area, whilst on shift/living in the construction camps. [C26.23]

### **26.6.8 Transport and Access**

With respect to social impacts relating to transport and access, Arrow Energy will make:

- Details of the approved traffic management plans will be made available on the Arrow Energy website. [C26.56]

Chapter 28, Traffic and Transport, of the EIS provides detailed information on transport and access mitigation and management measures for the project.

### **26.6.9 Community Health and Wellbeing**

In relation to community health and wellbeing, Arrow Energy will:

- In accordance with project requirements, an emergency management plan will be developed that will cover joint emergency response planning in collaboration with emergency service providers and local neighbours (e.g., in response to boating or traffic accidents). [C26.54]
- Ensure monitoring results of workplace health and safety are communicated to the public and to the RCCC as part of Arrow Energy's annual reporting. [C26.55]
- Continue to liaise with Maritime Safety QLD regarding their safety education campaign for boat users and anglers. [C26.57]
- Collaborate with other proponents to coordinate communications and responses to safety concerns such as increased activity in Gladstone Harbour or other activities associated with the LNG industry. [C26.58]
- Implement a community safety awareness program covering project activities in conjunction with industry and government partners. [C26.61]
- Complement the induction and welcome kit provided at induction (in the community investment and wellbeing action plan). Non local employees will also be provided with relevant information on sexual health and fatigue management at induction. [C26.62]
- Develop an employee wellbeing program that monitors the mental and physical health of employees and contractors. Information on support services to be provided on induction with updates provided at regular intervals. This program should allow for monitoring employee wellbeing with the potential to undertake surveys to measure progress. [C26.63]
- Provide an onsite health service for the workforce on Curtis Island and will liaise with emergency services and Queensland Health in the planning of this facility. [C26.66]

### **26.6.10 Indigenous People**

Arrow Energy will introduce a range of management measures to support the Indigenous community including:

- Identify the most appropriate methods to recruit and retain Indigenous Australians. This will be done in consultation with DEEDI, Traditional Owners and other relevant Indigenous community representatives. [C26.27]
- For underemployed or unemployed Indigenous people, identification of apprenticeships or traineeships that could be made available. Skills set summaries for these positions will be provided to work ready programs to allow them to tailor their training. These roles will be quarantined for successful Indigenous participants in the work ready programs. [C26.28]
- Identify the most appropriate opportunities for Indigenous businesses to competitively tender to provide goods or services to the project during the operations stage. Send information about these opportunities to the relevant businesses, or business groups. Arrow Energy website. [C26.29]
- Provide assistance, such as business mentoring, to Traditional Owners and other interested members of the Indigenous community with developing business opportunities and capacity alignment with Arrow Energy's Indigenous Engagement team. Examples of the type of activities that occur as part of this assistance include:



- Identification of opportunities to allow joint partnering.
- Briefings on what business systems and insurances are required to work on the project.
- Information on government programs that exist to help Indigenous businesses.
- Information on how to pool resources across businesses to tender on larger parcels of work.

The Arrow Energy procurement team and the officer responsible for Indigenous Engagement will provide this assistance. [C26.30]

- Require major contractors to develop a plan that will clearly identify Indigenous opportunities (employment and business) for the project. [C26.31]
- An Arrow Energy officer will be made responsible for Indigenous engagement to encourage participation and integration of Indigenous employees and track their welfare. [C26.32]
- Arrow Energy will implement an Indigenous cultural awareness program for construction and operation staff and contractors. The workforce will be exposed to the program during induction. [C26.33]
- Arrow Energy will support programs that contribute to the health and wellbeing of Indigenous employees. [C26.67]

### **26.6.11 Community Values**

With respect to managing potential impacts on community values, Arrow Energy will:

- A project code of conduct, based on Arrow Energy's existing Code of Conduct and 'drug and alcohol' policy will cover workforce behaviour while on shift or on site. This code will be made available to the community on the website. FIFO workers will be bound by these while in transit to and from the project as well as on shift. [C26.64]
- Arrow Energy will explore the opportunity to stagger rostering with other proponents to avoid staff from all LNG projects passing through Gladstone simultaneously. [C26.65]
- Develop and provide workers with an induction and welcome kit which includes a statement of community expectations for new arrivals. Where FIFO workers come from overseas, ensure they are provided with an adequate Australian cultural awareness briefing and information on how to undertake day to day activities, for example banking or shopping. [C26.19]

### **26.6.12 Coordination and Liaison**

Several actions in the SIMP relate to coordinating and liaising with relevant organisations to address cumulative impacts on social values. Cumulative social impacts are discussed in Chapter 32, Cumulative Impacts, and the following measures addressing cumulative impacts are included here to present the full set of actions set out in the SIMP:

- Continue to participate in the Industry Leadership Group for CSG Resource Projects. [C26.71]
- Participate in the existing RCCC for Gladstone. [C26.72]
- Participate in CSG Industry Monitoring Group established by APLNG and QCLNG. [C26.73]
- As per the community investment and wellbeing plan liaise with the relevant body that can coordinate investment efforts across all proponents. [C26.74]

- As per the housing and accommodation plan, continue to engage the Office of the Coordinator General to manage housing and accommodation across the industry. [C26.75]
- As per the workforce and training plan, continue to work with existing training providers to coordinate assistance for relevant training programs. [C26.76]
- As per the local content and investment plan, collaborate with the job service established by other proponents for local businesses. [C26.77]

## 26.7 Significance of Residual Impacts

Table 26.17 provides a summary of the likely residual impacts of the project once the measures and actions have been implemented (as identified in Section 26.6 and Attachment 7, Social Impact Management Plan).

All of the residual social impacts that had a high significance are positive and include employment creation, training and business opportunities. No highly significant residual negative impacts remain after implementation of the SIMP.

**Table 26.17 Residual impacts**

Impact Category	Residual Impact	Nature	Significance
Property and land use	The project site will not be available for alternative land uses for the life of the project.	Neutral	Moderate
Amenity	Prior to the operation of the LNG plant, there may be some concerns about the impact it will have on amenity.	Negative	Low
Housing and accommodation	Previous increases in housing costs will be sustained during the initial operation period.	Negative	Moderate
	There will be increased utilisation of temporary accommodation if alternative third-party-provided construction camps can be provided at the ramp-up period of construction.	Neutral	Low
	The availability of affordable housing will increase through support provided by Arrow Energy.	Positive	Moderate
Employment and training	It is estimated 633 positions during the peak construction period will be filled by local workers. It is estimated 200 positions will be filled by local workers during operation.	Positive	High
	Additional employment will be created through roles in contracting companies and other businesses that provide goods and services to the project.	Positive	High
	Additional training opportunities will be made available to the local community.	Positive	Moderate
Business and local business opportunities	Local businesses will have the opportunity to bid on project components.	Positive	High
	There will be continued high staff turnover at some local businesses during construction.	Negative	Moderate
	If temporary construction camps can't be used during the initial ramp-up period of the project, the reduced availability of temporary accommodation (hotels and motels) may impact on the tourism industry as well as other users of temporary accommodation.	Negative	Low

**Table 26.17 Residual impacts (cont'd)**

<b>Impact Category</b>	<b>Residual Impact</b>	<b>Nature</b>	<b>Significance</b>
Social and community infrastructure	There will be a small increase in the utilisation of social and community infrastructure during construction and a moderate increase during operation.	Neutral	Moderate
Recreation	There will be a small reduction in water-based recreational opportunities with key areas uncompromised.	Negative	Moderate
Transport and access	There will be a diminished level of community concern over construction traffic.	Negative	Low
Community values	There will likely still be limited concerns about the safety of the industry during construction and how environmental impacts will be managed.	Negative	Low
Employment and training	There will be improved employment outcomes in the Indigenous community.	Positive	Moderate
	There will be the opportunity for Indigenous businesses to benefit, improving outcomes for the Indigenous community as a whole.	Positive	Moderate
Indigenous people	There will be improved employment outcomes in the Indigenous community.	Positive	Moderate
	There will be the opportunity for Indigenous businesses to benefit, improving outcomes for the Indigenous community as a whole	Positive	Moderate

## 26.8 Inspection and Monitoring

The SIMP has been developed in accordance with the Queensland Sustainable Communities Policy and articulates action plans addressing each of the following key impact areas:

- Housing and accommodation.
- Community investment and wellbeing.
- Indigenous engagement.
- Workforce and training.
- Local content and investment.
- Community health and safety.
- Community amenity.
- Cumulative impacts.

Section C of the SIMP provides details on the monitoring, reporting and review processes for each of these action plans. These processes aim to determine whether the specific actions contained in the action plans are meeting identified targets (see Attachment 7, Social Impact Management Plan).

## 26.9 Commitments

The measures (commitments) that Arrow Energy will implement to manage social impacts are set out in Table 26.18.

**Table 26.18 Commitments: Social**

No.	Commitment
C26.01	Continue to liaise with other proponents to determine cumulative workforce housing requirement. Use house price and rental data from the REIQ's Queensland Market Monitor and Department of Communities Housing Market Report to determine whether the private market is able to provide sufficient dwellings in the local area for the construction and operation workforces.
C26.02	Identify viable housing options for housing the non local construction workforce likely to reside outside of the construction camps, minimising sourcing housing in the private rental market for non permanent staff unless vacancy rates increase to 3% or higher. Possible options could include: <ul style="list-style-type: none"> <li>• Provide rental guarantees or other incentives to private investors to encourage the construction of new housing stock, which can be used by project staff and remain available for the wider community following the end of the construction phase.</li> <li>• Encourage all non local employees to live in company facilitated housing or TWAFs unless they have families or other circumstances that make this impractical.</li> <li>• Provide direct and indirect investment in the housing market.</li> <li>• Provide accommodation advice services for workers and their families.</li> </ul> Common with Chapter 27, Economics.
C26.03	Continue to engage with the Office of the Coordinator-General and other proponents to identify cooperative strategies that address cumulative housing impacts.
C26.04	Collect data on where workers are residing and whether they have a family with them. Determine the level of local employment and the likely number of non local workers and their families seeking accommodation in the study area. Common with Chapter 27, Economics.
C26.05	Continue to provide data to state and local government to facilitate the creation of a common data set across all major projects. The data collected will be in the format already agreed between existing proponents and the Office of the Coordinator-General.
C26.06	Identify preferred approach for facilitation of up to 90 houses during the construction phase and increasing up to 130 houses for long term housing for the non local operational workforce (at Stage 1) through the project accommodation strategy. The strategy should assess the state of the market to meet this project generated demand and make the required market interventions to minimise adverse impacts upon the community. Common with Chapter 27, Economics.
C26.07	Identify preferred approach for facilitation of 380 beds in company facilitated accommodation for construction management (Arrow Energy and contractor) single status workers and 225 beds for operational workers (at Stage 1) through the project accommodation strategy. Common with Chapter 27, Economics.
C26.08	Identify opportunities to bring forward facilitation of housing intended for the operations workforce that can be used for the construction workforce. Common with Chapter 27, Economics.
C26.09	Provide information on the Arrow Energy website on actions taken to meet project housing needs and key data on workforce numbers and approximate numbers housed within the community. Common with Chapter 27, Economics.
C26.10	Collaborate with other proponents in the region and identify opportunities to share temporary accommodation where possible for the construction and maintenance workforces. Common with Chapter 27, Economics.
C26.11	Inform the tourist industry and other peak business bodies of anticipated time frames for peak temporary accommodation demand. Common with Chapter 27, Economics.
C26.12	Work with the Urban Land Development Authority (ULDA) to identify opportunities in the study area to bring additional affordable housing to market for existing residents. Common with Chapter 27, Economics.

**Table 26.18 Commitments: Social (cont'd)**

No.	Commitment
C26.13	Work with the state government, the GRC and the Indigenous community to identify opportunities to provide assistance to not for profit housing providers to support the Indigenous community. Common with Chapter 27, Economics.
C26.14	Provide \$6.5 million or in-kind support of the same value to other non government providers of social housing. Common with Chapter 27, Economics.
C26.15	Provide information on the Arrow Energy website on actions taken to support affordable housing initiatives to offset housing impacts. Common with Chapter 27, Economics.
C26.16	Provide \$1 million in financial assistance to the GRC for emergency rental assistance. Common with Chapter 27, Economics.
C26.17	Expand the opportunities available for the region under the Brighter Future's program and the Social Investment Plan.
C26.18	Design and construct the workers camp to have sufficient social and recreational facilities to cater for recreational, fitness and entertainment requirements.
C26.19	Develop and provide workers with an induction and welcome kit, which includes a statement of community expectations for new arrivals. Where FIFO workers come from overseas, ensure they are provided with an adequate Australian cultural awareness briefing and information on how to undertake day to day activities, for example banking or shopping.
C26.20	Consult with the GRC and RCCC to identify which social, community or recreational infrastructure is being directly impacted by the project and to what extent. Liaise with the relevant body, for example the Gladstone Foundation, to coordinate efforts across all proponents and identify projects that may provide an equivalent offset or mitigation of impacts.
C26.21	Ensure that there are no ongoing restrictions on the Calliope River boat ramp or Gladstone Marina during the operation of the project.
C26.22	Prohibit non local construction workers and operators from engaging in fishing, crabbing or boating in any exclusion zone.
C26.23	Prohibit all FIFO workers (with the exception of traditional owners) from fishing, crabbing and boating in the Gladstone Regional Council area, whilst on shift/ living in the construction camps.
C26.24	Continue to provide state and local government departments responsible for educational, health and other social infrastructure with forecasts of workforce numbers and projected families to assist in their future service planning. This information will be provided in an agreed format that will allow these departments to plan for cumulative population change.
C26.25	Post details on the Arrow Energy website of projects which receive funding or in kind support to offset or mitigate direct project impacts.
C26.26	Publically release details of the Brighter Future program for Gladstone on the Arrow Energy website. This will include information on criteria for funding, funds expended, processes for applying and how often funding will be available for applications.
C26.27	Identify the most appropriate methods to recruit and retain Indigenous Australians. This will be done in consultation with DEEDI, Traditional Owners and other relevant Indigenous community representatives.
C26.28	For underemployed or unemployed Indigenous people, identify apprenticeships or traineeships that could be made available. Skills set summaries for these positions will be provided to work ready programs to allow them to tailor their training. These roles will be quarantined for successful Indigenous participants in the work ready programs.
C26.29	Identify the most appropriate opportunities for Indigenous businesses to competitively tender to provide goods or services to the project during the operations stage. Send information about these opportunities to the relevant businesses, or business groups. Arrow Energy website.

**Table 26.18 Commitments: Social (cont'd)**

No.	Commitment
C26.30	<p>Provide assistance, such as business mentoring, to Traditional Owners and other interested members of the Indigenous community with developing business opportunities and capacity alignment with Arrow Energy's Indigenous Engagement team. Examples of the type of activities that occur as part of this assistance include:</p> <ul style="list-style-type: none"> <li>• Identification of opportunities to allow joint partnering.</li> <li>• Briefings on what business systems and insurances are required to work on the project.</li> <li>• Information on government programs that exist to help Indigenous businesses.</li> <li>• Information on how to pool resources across businesses to tender on larger parcels of work.</li> </ul> <p>The Arrow Energy procurement team and the officer responsible for Indigenous Engagement will provide this assistance.</p>
C26.31	Require major contractors to develop a plan that will clearly identify Indigenous opportunities (employment and business) for the project.
C26.32	An Arrow Energy officer will be made responsible for Indigenous engagement to encourage participation and integration of Indigenous employees and track their welfare.
C26.33	Arrow Energy will implement an Indigenous cultural awareness program for construction and operation staff and contractors. The workforce will be exposed to the program during induction.
C26.34	Identify the range of skills required for the labour force and undertake a gap analysis against existing skills availability. Where gaps exist in consultation with the Department of Education and Training identify the method or strategy through which these skills will be filled, e.g., FIFO/DIDO or training. Common with Chapter 27, Economics.
C26.35	Determine how to maximise local employment opportunities and develop a recruitment plan to identify what positions will be targeted without negatively impacting on the availability of local services. Common with Chapter 27, Economics.
C26.36	Develop a policy that facilitates equal opportunity for all suitably qualified persons.
C26.37	Where appropriate, identify opportunities where training provided by the project or other training providers will be able to meet skills gaps in the community for the project to assist in maximising local employment opportunities. Common with Chapter 27, Economics.
C26.38	Develop a policy identifying training pathways for students and school leavers to assist students in gaining employment upon graduation. This will be done in consultation with SAIN, EQIP, Education Queensland and QMEA. Where relevant training programs have been initiated by other proponents, Arrow Energy will consider coordinating support with these where appropriate. Common with Chapter 27, Economics.
C26.39	Undertake regular reviews of labour requirements and current skills sets to ensure that training strategies meet these needs.
C26.40	<p>Arrow Energy will work with group training organisations and encourage contractors to recruit and retain apprentices or trainees during operations.</p> <p>Arrow Energy will sponsor group training positions during the operations stage of the project.</p>
C26.41	<p>The following existing programs will have positions reserved for suitably qualified students and school leavers from the Gladstone region:</p> <ul style="list-style-type: none"> <li>• Graduate Program (engineering, planning, social and environmental).</li> <li>• Scholarships.</li> <li>• Vacation Employment.</li> <li>• School Based Training.</li> </ul>
C26.42	<p>The following Arrow Energy programs will be expanded to suitably qualified local employees:</p> <ul style="list-style-type: none"> <li>• Executive and Management Development Programs.</li> <li>• External Education Program.</li> <li>• Vocational/Trade Training.</li> <li>• Specialist Training.</li> </ul>

**Table 26.18 Commitments: Social (cont'd)**

No.	Commitment
C26.43	Arrow Energy will work with Skills Queensland to deliver work readiness and skills development training programs for vulnerable local people such as the long term unemployed or under skilled, in order to assist them to gain employment. Common with Chapter 27, Economics.
C26.44	Develop a Local Industry Participation Plan (LIPP) in consultation with DEEDI and consistent with the Australian Government Australian Industry Participation Plan.
C26.45	Provide QMI Solutions with the information they require to assist local businesses improve their skills base and tailor their operations to meet the project's needs.
C26.46	Develop processes to ensure local business opportunities are considered in project procurement practises. These processes will allow competitive local business be given fair and reasonable opportunities to provide goods or services to the project.
C26.47	Encourage contractors to source local goods and services where possible.
C26.48	Encourage businesses who provide goods and services to the project to consider Indigenous procurement in order to maximise Indigenous employment opportunities.
C26.49	Arrow Energy will continue to engage with key business bodies regarding appropriate opportunities for local businesses to supply goods and services to the project.
C26.50	Facilitate the communication of the Local Procurement Policy to local service providers. This will involve ongoing communication of project procurement requirements, regular project updates during construction, overview of goods and services packages and supply chain. This will be communicated through initial procurement information sessions in Gladstone for potential suppliers and ongoing on the Arrow Energy website.
C26.51	Participate in existing programs that provide technical assistance and briefings to potential local and regional businesses about opportunities and requirements (e.g., Gladstone Region Leaders in Business – Speakers Series and the Gladstone Tender Readiness Program). Briefings will contain information on management systems and other requirements.
C26.52	Collaborate with the existing job service that has been set up by other proponents for local businesses and use this to advertise for local positions. This will allow applicants to choose between industry and non industry jobs.
C26.53	Provide information to the TAFE system to inform the specialised small business solutions programs on what is required to provide goods and services to the LNG industry.
C26.54	In accordance with project requirements an emergency management plan will be developed that will cover joint emergency response planning in collaboration with emergency service providers and local neighbours (e.g., in response to boating or traffic accidents).
C26.55	Ensure monitoring results of workplace health and safety are communicated to the public and to the RCCC as part of Arrow Energy's annual reporting.
C26.56	Details of the approved traffic management plans will be made available on the Arrow Energy website.
C26.57	Continue to liaise with Maritime Safety QLD regarding their safety education campaign for boat users and anglers.
C26.58	The project will collaborate with other proponents to coordinate communications and responses to safety concerns such as increased activity in Gladstone Harbour or other activities associated with the LNG industry.
C26.59	Arrow Energy will consult with landholders in close proximity to construction works in advance of works.
C26.60	Arrow Energy will publically release information on how environmental impacts are being offset by the project.
C26.61	Implement a community safety awareness program covering project activities in conjunction with industry and government partners.
C26.62	Complementing the induction and welcome kit provided at induction (in the community investment and wellbeing action plan), non local employees will also be provided with relevant information on sexual health and fatigue management at induction.

**Table 26.18 Commitments: Social (cont'd)**

No.	Commitment
C26.63	Develop an employee wellbeing program that monitors the mental and physical health of employees and contractors. Information on support services to be provided on induction with updates provided at regular intervals. This program should allow for monitoring employee wellbeing with the potential to undertake surveys to measure progress.
C26.64	A project code of conduct, based on Arrow Energy's existing Code of Conduct and 'drug and alcohol' policy will cover workforce behaviour while on shift or on site. This code will be made available to the community on the website. FIFO workers will be bound by these while in transit to and from the project as well as on shift.
C26.65	Arrow Energy will explore the opportunity to stagger rostering with other proponents to avoid staff from all LNG projects passing through Gladstone simultaneously.
C26.66	Arrow Energy will provide an onsite health service for the workforce on Curtis Island and will liaise with emergency services and Queensland health in the planning of this facility.
C26.67	Arrow Energy will support programs that contribute to the health and wellbeing of Indigenous employees.
C26.68	Arrow Energy will communicate information about measures to reduce the impact on air quality through the Arrow Energy website.
C26.69	Details of measures to address impacts on visual amenity will be communicated on the Arrow Energy website.
C26.70	Details of measures to address noise impacts will be available on the Arrow Energy website.
C26.71	Continue to participate in the Industry Leadership Group for CSG Resource Projects.
C26.72	Participate in the existing RCCC for Gladstone.
C26.73	Participate in CSG Industry Monitoring Group established by APLNG and QCLNG.
C26.74	As per the community investment and wellbeing plan liaise with the relevant body that can coordinate investment efforts across all proponents.
C26.75	As per the housing and accommodation plan, continue to engage the Office of the Coordinator-General to manage housing and accommodation across the industry.
C26.76	As per the workforce and training plan, continue to work with existing training providers to coordinate assistance for relevant training programs.
C26.77	As per the local content and investment plan, collaborate with the job service established by other proponents for local businesses.