



SOCIAL IMPACT MANAGEMENT PLAN

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SUPPLEMENTARY REPORT TO THE EIS



Bowen Gas Project SREIS

AUSTRALIA



Social Impact Management Plan

May 2014
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Arrow Energy Pty Ltd

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ABBREVIATIONS

Abbreviation	Description
AIPP	Australian Industry Participation Plan
BIBO	bus-in, bus-out
CCR	Central Control Room
CGPF	central gas processing facility
CHRC	Central Highlands Regional Council
COB	Central Operating Base
CSG	coal seam gas
DATSIMA	Department of Aboriginal and Torres Strait Islander and Multicultural Affairs
DEEWR	Department of Employment, Education and Workplace Relations
DETE	Department of Education, Training and Employment
DSDIP	Department of State Development, Infrastructure and Planning
EIS	Environmental Impact Statement
ELAM	Emergency Long Term Accommodation Moranbah
ERP	estimated resident population
FCF	field compression facility
FEED	front end engineering and design
FIFO	fly-in, fly-out
FTE	full-time equivalent
GFC	global financial crisis
ha	hectare
IAHT	Isaac Affordable Housing Trust
ICN	Industry Capability Network
ILUA	Indigenous Land Use Agreement
IRC	Isaac Regional Council
JTA	JTA Australia Pty Ltd
km	kilometre
km ²	square kilometres
LAIP	Local Area Infrastructure Program
LNG	liquefied natural gas
ML/d	megalitres per day
MSHS	Moranbah State High School
NNM	not normally manned
NRW	non-resident workers
OESR	Office of Economic and Statistical Research
OH&S	Occupational Health and Safety
PAA	Priority Agricultural Area
PLA	Priority Living Area
Project (the)	Bowen Gas Project
QMEA	Queensland Mining and Energy Academy
QRC	Queensland Resources Council
RCCC	Regional Community Consultative Committee
RO	reverse osmosis
SAT	School-based Apprenticeship and Training
SIA	Social Impact Assessment
SIMP	Social Impact Management Plan
SIS	Surface-In-Seam
SREIS	supplementary report to the EIS
ToR	Terms of Reference
TWAF	temporary workforce accommodation facility
WTF	water treatment facility

1 SOCIAL IMPACT MANAGEMENT PLAN

The preparation of a draft Social Impact Management Plan (SIMP) was a requirement of the Terms of Reference (ToR) for the Arrow Energy Pty Ltd (Arrow) Bowen Gas Project (the Project) Environmental Impact Statement (EIS). The draft SIMP was developed in accordance with the guidelines issued by the Queensland Government, i.e. Social Impact Assessment: Preparing a Social Impact Management Plan, September 2010 (DIP, 2010), which were current at the time the ToR were issued.

In July 2013 the Queensland Government issued an updated Social Impact Assessment Guideline (DSDIP, 2013) that directed proponents to consider priority areas of community and stakeholder engagement; workforce management; housing and accommodation; local business and industry content; and health and community wellbeing. Accordingly, this SIMP update has been structured to include five key action plans (aligned with the Arrow Surat Gas Project SIMP and the Arrow LNG Plant SIMP) and to reflect Arrow's existing community relations processes and procedures as well as the Company's approach towards social investment (i.e. the Brighter Futures Program).

The SIMP is intended to support ongoing management of the potential social impacts of the Project. In recognition of the changing nature of impacts over the life of the Project, the SIMP Action Plans will be adaptive and reassessed at regular intervals. Benchmarks will be established and monitored continuously throughout implementation and the management plan adapted as required. It is anticipated that a review of the SIMP will be undertaken following each release of new census data (five yearly) and monitored in conjunction with annual Bowen Basin non-resident workforce (NRW) updates (produced by the Queensland Government Statistician) to proactively identify any sudden or unexpected changes in the social environment or impacts.

Arrow is committed to the effective implementation of the action plans, and to on-going engagement with stakeholders including the Office of the Coordinator-General, state agencies, local governments and key community groups.

1.1 Update to the SIMP

This SIMP update has been prepared to reflect Arrow's commitment to social performance and incorporate the findings of the supplementary Social Impact Assessment (Appendix M) of the SREIS. The supplementary SIA (Social Technical Report (Appendix M) of the SREIS) validates impacts identified in the EIS and identifies any potential changes to impacts on local and regional communities due to updates to the project description presented in the EIS, or the availability of updated socio-economic and demographic information since the EIS SIA (Social Technical Report (Appendix U)) was prepared in late 2012. It also examined changes to the policy and regulatory environment, relevant to the management of social impacts, which have occurred since the preparation of the EIS. The supplementary SIA should be viewed in conjunction with this report.

The supplementary SIA determined that changes in key socio-economic and demographic indicators that have occurred in the social baseline of relevance to the Project relate to population (both residential and non-residential workers in the area); housing costs (both purchase and rental) and affordability trends; and labour market status, particularly the level of unemployment in the current economic climate. It examined the most recent statistical data

available from Government and private sources to establish the current status of these parameters and assess the degree of change since the publication of the EIS for public comment.

1.2 Project Summary

1.2.1 Project Proponent

Arrow is an integrated energy company with interests in coal seam gas (CSG) field developments, pipeline infrastructure, electricity generation and a proposed liquefied natural gas (LNG) project. Arrow has interests in more than 65,000 km² of petroleum tenures, mostly within Queensland's Surat and Bowen basins. Elsewhere in Queensland, the company has interests in the Clarence-Moreton, Coastal Tertiary, Ipswich, Styx and Nagoorin Graben basins.

Arrow's petroleum tenures are located close to Queensland's three key energy markets; Townsville, Gladstone and Brisbane. The Moranbah Gas Project in the Bowen Basin and the Tipton West, Daandine, Kogan North and Stratheden projects in the Surat Basin near Dalby comprise Arrow's existing CSG production operations. These existing operations currently account for approximately 20% of Queensland's overall domestic gas production.

Arrow supplies gas to the Daandine, Braemar 1 and 2, Townsville and Swanbank power stations which participate in the National Electricity Market. With Arrow's ownership of Braemar 2 and the commercial arrangements in place for Daandine and Townsville power stations Arrow has access to up to 600 MW of power generation capacity.

Arrow and its equity partner AGL Energy have access rights to the North Queensland Pipeline which supplies gas to Townsville from the Moranbah Gas Project.

Arrow is currently proposing to develop the Arrow LNG Project, which is made up of the following aspects:

- Arrow LNG Plant – the proposed development of an LNG Plant on Curtis Island near Gladstone, and associated infrastructure, including the gas pipeline crossing of Port Curtis;
- Surat Gas Project – the upstream gas field development in the Surat Basin, the subject of this assessment;
- Arrow Surat Pipeline Project – (formerly the Surat Gladstone Pipeline), the 450 km transmission pipeline connects Arrow's Surat Basin CSG developments to Gladstone;
- Bowen Gas Project – the upstream gas field development in the Bowen Basin; and
- Arrow Bowen Pipeline – the transmission pipeline which connects Arrow's Bowen Basin CSG developments to Gladstone.

1.2.2 *Project Description*

The Project area currently covers an area of approximately 8,000 km² within Arrow's gas exploration and production acreage, approximately 200 km south west of Mackay, with the bulk of the area extending from approximately 100 km north of Moranbah to approximately 100 km south of Moranbah. Figure 1-1 shows the area of the Bowen acreage included in the Bowen Gas Project EIS (area highlighted in orange).

1.2.2.1 *Development Region*

The Bowen Asset Development area has been subdivided into nine development regions enabling a phased approach to exploration, appraisal, piloting and development (Figure 1-2).

Field development has resulted in the overall project development area being separated into 33 smaller drainage areas. Across the lifecycle of the Project, the planning basis is that two central gas processing facilities (CGPFs) will be installed, which will both treat the gas for pipeline specification and treat the produced water for onward use. One CGPF will serve the drainage areas in the North, whilst the second will service the Drainage Areas in the South of the basin.

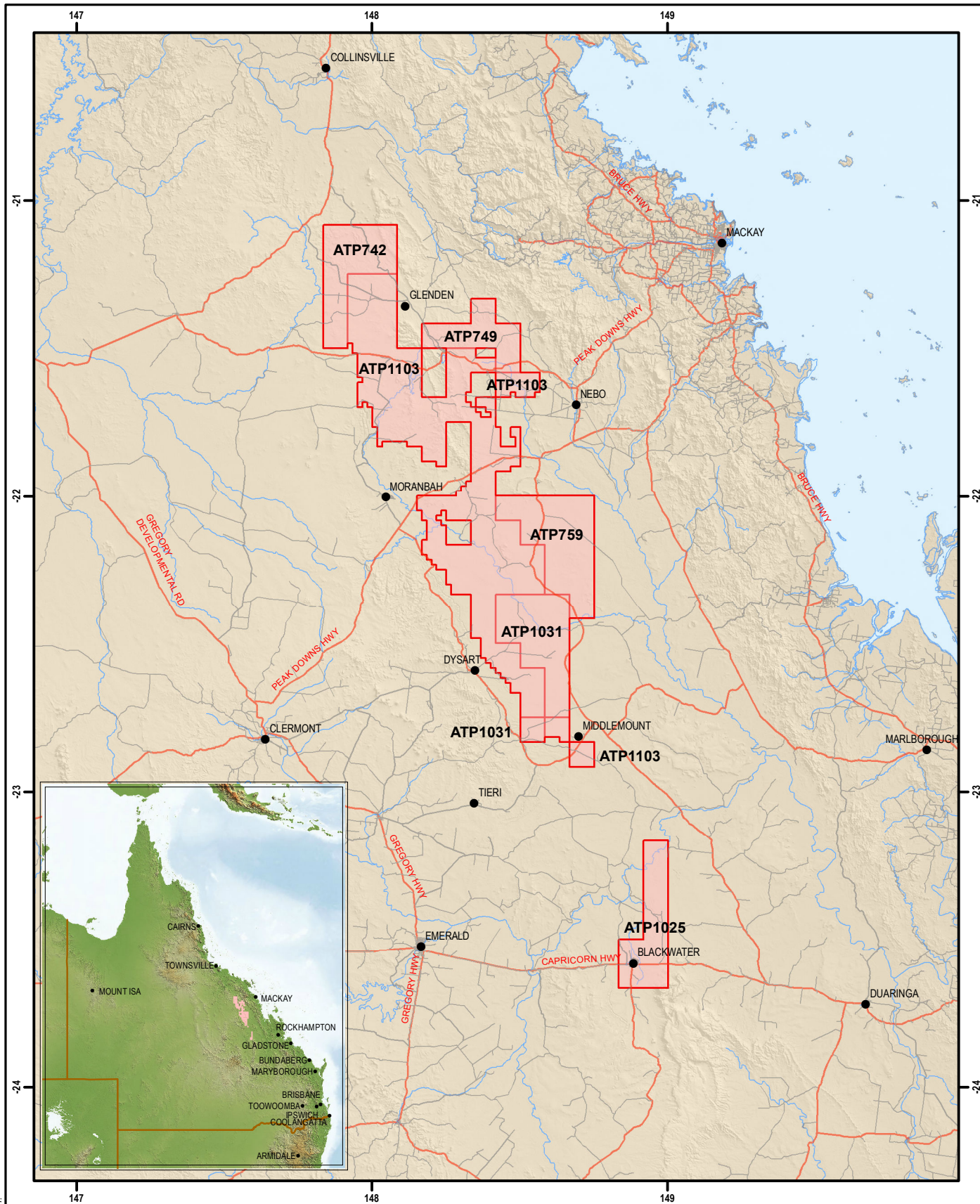
Figure 1-3 below is a map of the Bowen EIS area showing the 33 drainage areas as circles. Each of these circles represent an approximate 6 km radius catchment area for gathering well production (gas and water) to surface production facilities located at or near the centre of the circle. Each of these centrally located surface production facilities is a field compression facility (FCF).

Facilities to be constructed within the drainage areas include: wells; wellhead facilities; low pressure water and gas gathering systems; FCFs (to boost the gas pressure for export to the CGPF); water transfer stations (to pump the water for export to the CGPF); water treatment facilities (WTFs); medium pressure infield pipelines (to transport the gas from the FCF to the CGPF); and infrastructure required for power distribution.

The first development phase of the Project targets the highest confidence regions. It is currently expected that 17 drainage areas will be developed during Phase 1 (year 0 to year 5 of production). In addition, both CGPFs and their co-located WTFs will also be developed in Phase 1.

Eleven additional drainage areas are expected to be developed during Phase 2 (year 6 to 10 of production) with the remaining five drainage areas being developed in Phase 2+ (Year 11 onwards). This includes the potential of a third WTF to be constructed near Blackwater. Figure 1-3 also shows the currently expected development sequence.

It should be noted that the layout of the drainage areas is a preliminary layout for the SREIS Reference Case, and may be revised as understanding matures. Indeed, as studies progress and more exploration, appraisal, pilot and production data becomes available, it is possible that development emphasis will shift to other areas within the Project area, and/or that the currently proposed development sequence will change. However, any such alternative or additional areas will likely be developed in a similar manner and using the same or similar facilities building blocks as described herein.



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BOWEN GAS PROJECT SREIS

BOWEN GAS PROJECT AREA



SOCIAL IMPACT MANAGEMENT PLAN

Figure: 1-1

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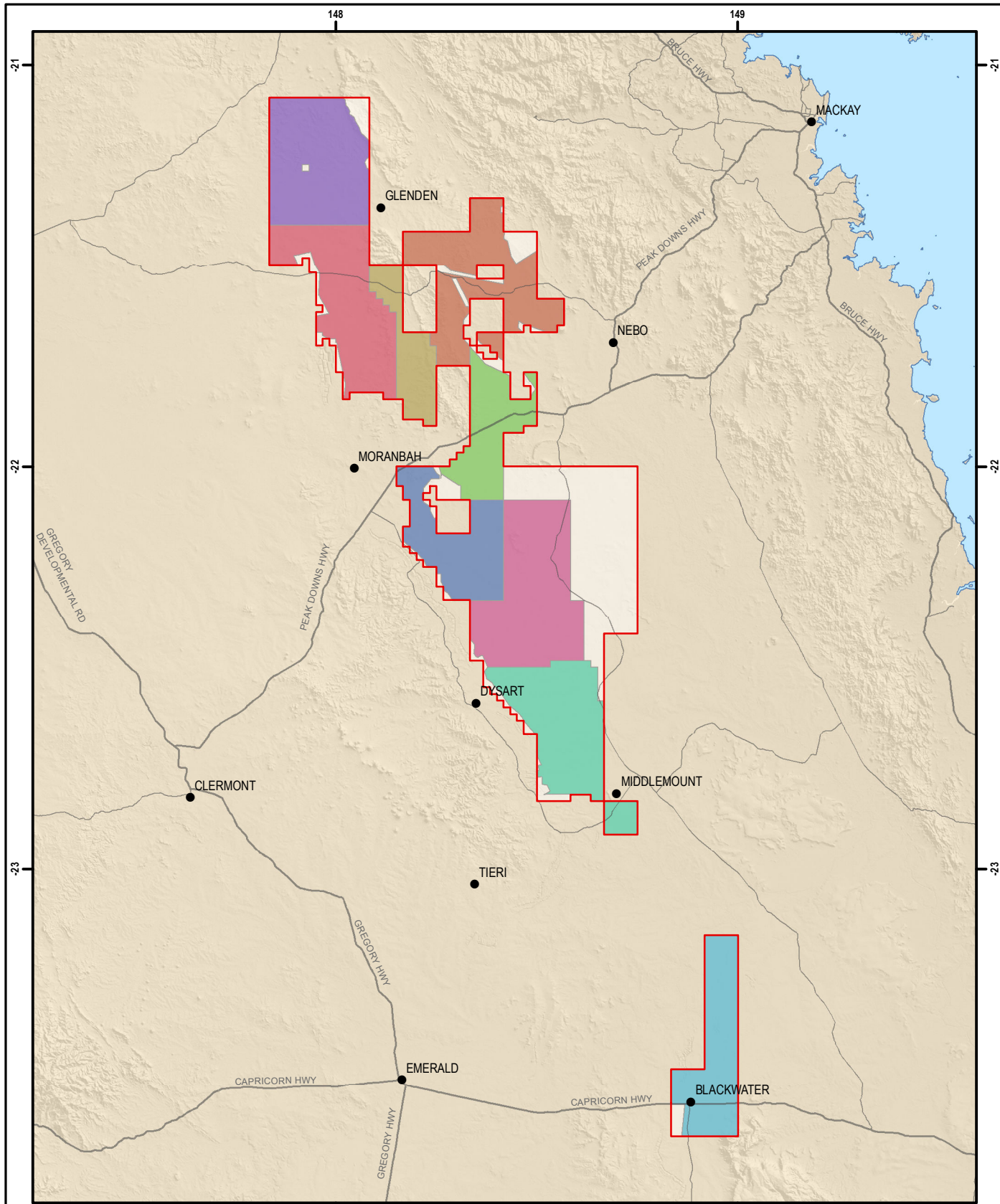
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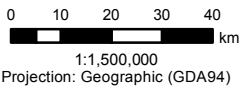
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Bowen Gas Project Tenements

Development Region

- | | |
|--|--|
| Greater Blackwater | Greater South Walker |
| Greater Bowen East | Greater Sutor Creek |
| Greater Peak Downs | Greater Picardy |
| Greater Coxendean | Greater Ellensfield |

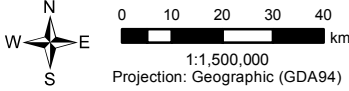
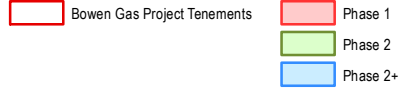
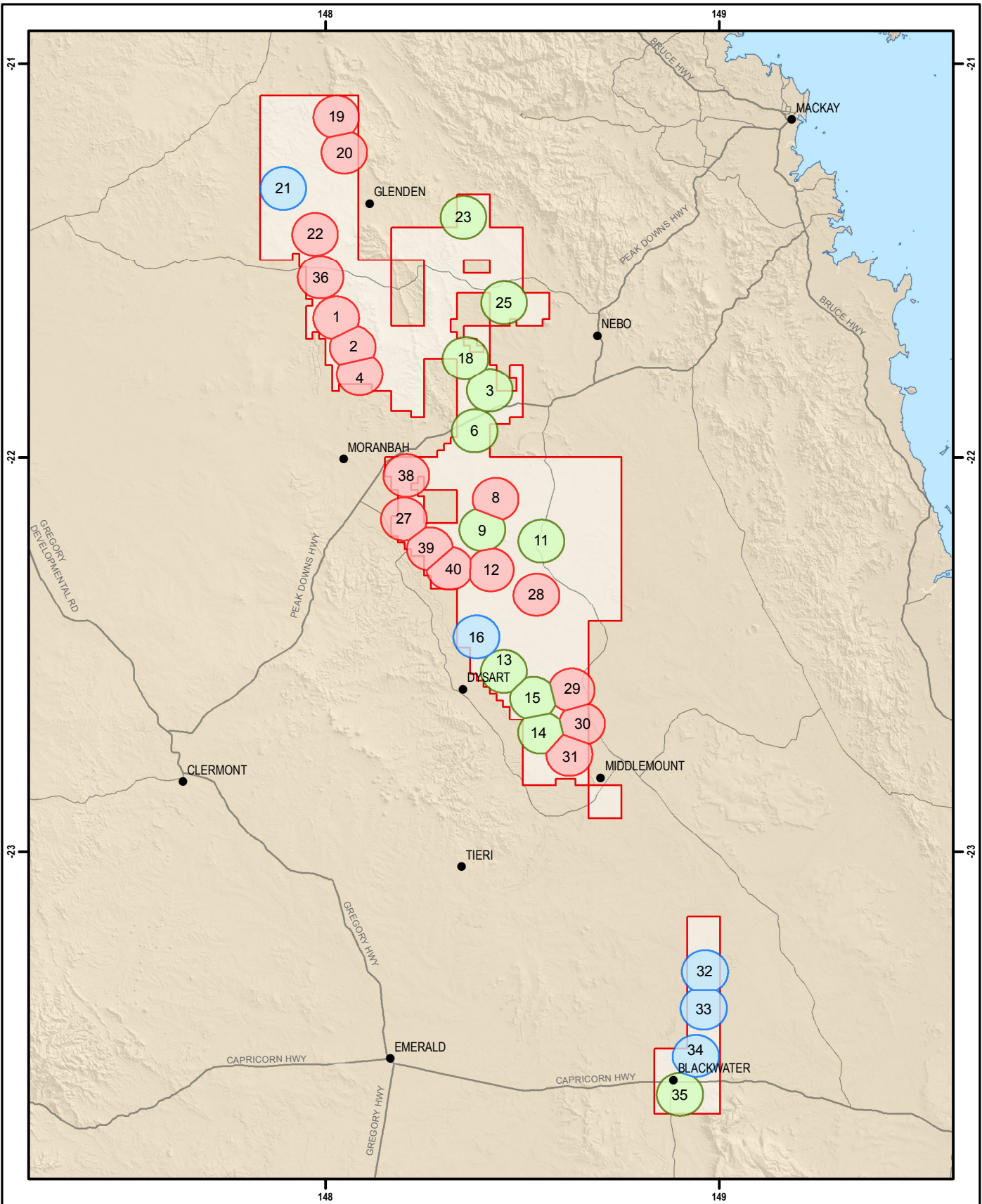
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BOWEN GAS PROJECT SREIS

BOWEN GAS DEVELOPMENT REGIONS



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BOWEN GAS PROJECT SREIS

BOWEN GAS DRAINAGE AREAS

1.2.2.2 Wells

The wells planned to be drilled as part of the Project may be classified in two categories:

- Production wells: the majority of the wells planned to be drilled as part of the development are production wells; and
- Groundwater monitoring wells: required as part of Arrow's environmental management.

In most cases, wells are designed for a 15 to 30 year lifespan with production expected to decrease after peak rate is achieved following initial dewatering. Wells will remain in production until they reach abandonment stage as defined by economic criteria. At this stage, all production equipment will be removed from the well, and 'plugging and abandonment' activities will be conducted in accordance with Arrow Standards and government regulations (at present, *Code of Practice for Constructing and Abandoning Coal Seam Gas Wells in Queensland, Edition 2.0, October 2013* (NRM, 2013)).

In the region of 4,000 production wells will be drilled throughout the Project area over the approximately 35-40 year life of the Project to maintain gas feed to the LNG plant.

1.2.2.3 Low Pressure Flow Lines and Trunklines (gathering systems)

Separate gas and water flow lines (pipelines that connect the wells to trunklines) and trunklines (pipelines that connect the flow lines to the FCFs) will be used to transport gas and water from the wells to compression facilities

Low pressure flow lines and trunklines will be installed using a mix of typically 63 mm to 630 mm high-density polyethylene (HDPE) pipe. The minimum depth of burial to top of pipe will be 750 mm. The final depth of burial will be agreed with the landowner to minimise disruption to other land uses and risk of damage to infrastructure.

1.2.2.4 Field Compression Facilities

Due to the low wellhead pressures in the Bowen basin, FCFs will be installed to boost the gas pressure to enable the transportation of the gas over longer distances. FCFs will also include a water transfer station to facilitate transfer of water from FCF to FCF en route to a CGPF. Control of the FCFs will be managed centrally from the Brisbane Central Control Room (CCR) on a 24/7 full time basis. The FCFs will therefore incorporate a high level of monitoring, automation and communications and will be designed for minimal operator intervention.

As currently envisaged, FCFs will be of skid based modular construction to minimise onsite construction and periods of disturbance. It is also anticipated that electrical power will be reticulated to FCFs from the central location, which will be the CGPFs for the Phase 1 of the development and strategic FCFs for subsequent phases.

1.2.2.5 Medium Pressure Infield Pipelines

Medium pressure Infield pipelines receive gas from an FCF at medium pressure for transport to a CGPF. They will be constructed of carbon steel and have a minimum depth of burial to top of pipe of 1,000 mm. The final depth of burial will be agreed with the landowner to minimise disruption to other land uses and risk of damage to infrastructure.

1.2.2.6 *Central Gas Processing Facilities*

At a CGPF, gas is received from the medium pressure infield pipelines. The gas is compressed to reach high pressure and dehydrated to achieve sales specification and discharged to the Arrow Bowen Pipeline via a pipeline lateral. Additionally, a WTF to treat associated water is also located at the CGPF. CGPFs will be remotely operated with Operations and Maintenance personnel accommodated in purposely built villages, generally within 45 minutes journey time.

As currently envisaged, CGPFs will be of a skid based modular construction to minimise onsite construction and periods of disturbance. It is expected that CGPFs will be connected to the High Voltage National Electricity grid, however, in case grid connection cannot be achieved on time, temporary Power Generation Facilities may also be included at the CGPF's, which will provide power to the facility and associated FCFs. At the co-located WTF produced water is collected, treated and then stored onsite for distribution to the end user, which may include irrigation, mine wash water, water utility company, power station cooling water or town water supply.

1.2.2.7 *Water Treatment Facility*

Produced water from each gas region will be directed, after degassing, to a feed water dam adjacent to each WTF. From the feed water dam, water will be transferred into the pre-treatment stage of the WTF. Reverse osmosis (R.O.) technology is currently being considered as the most appropriate treatment process coupled with some form of suitable pre-treatment such as membrane or media filtration and hardness removal. Treatment will produce appropriate quality water for beneficial reuse and will be stored in treated water dams prior to being distributed to customers in the local area.

Brine from the WTF will be discharged into concentrated brine dams where salt will concentrate through the evaporation process before it is beneficially reused or disposed of in registered landfills.

1.2.2.8 *Supporting Infrastructure and Logistics*

The development of the Project, which will require supporting infrastructure to operate the various extraction, gathering and production facilities, will occur over a large and diverse area. Where existing infrastructure is not in place, additional supporting infrastructure will be constructed to facilitate Project development requirements. The main supporting infrastructure for the Project is expected to include:

- Depots;
- Telecommunications;
- Roads; and
- Construction Workforce and Operations Workforce accommodation.

Arrow has established a framework to guide the selection of sites for production wells and production facilities and routes for gathering lines and pipelines. The framework will also be used to select sites for associated infrastructure such as access roads and construction camps. Environmental and social constraints to development that have been identified through

the EIS process coupled with the application of appropriate environmental management controls will ensure that protection of environmental values (resources) is considered in Project planning. This approach will maximise the opportunity to select appropriate site locations that minimise potential environmental and social impacts.

1.2.3 Social and Cultural Area of Influence

The SIA study area (the study area) includes the land and communities within the Project development area and a number of towns in its vicinity. These towns herein, called the 'communities of interest', are:

- Moranbah;
- Dysart;
- Glenden;
- Middlemount;
- Nebo; and
- Blackwater.

The study area is located within the Central Highlands Regional Council (CHRC) and Isaac Regional Council (IRC)¹. Figure 1-1 shows the location of the study area, including the Project development area and the communities of interest.

1.2.4 Social Profile

The key parameters of interest in the social profile of the Project area communities include population, both residential and non-residential workers in the area; housing costs (both purchase and rental) and affordability trends; and labour market status, particularly the level of unemployment in the current economic climate.

1.2.4.1 Population

Table 1-1 and Figure 1-4 present the estimated resident population (ERP) and full-time equivalent (FTE) population estimates for the communities of interest as at 30 June 2012.

Table 1-1 Population Estimate for Communities of Interest

	ERP-June 2012	OESR June 2012 NRW estimate	SREIS FTE estimate	NRW / ERP %
Moranbah	8,990	4,585	13,575	51
Dysart	3,280	2,365	5,645	72
Glenden	1,340	535	1,875	40
Middlemount	1,960	2,110	4,070	108
Nebo	495	555	1,050	112
Blackwater	5,235	1,885	7,120	36

Source: Government Statistician: Bowen Basin Population Report 2012.

¹ Part of the Whitsunday Regional Council area overlaps with the Project tenement; however, no communities are within the overlap area.

Figure 1-4 Estimated Resident Population and Non-resident Workers On-shift - Project Area Towns - 30 June 2012

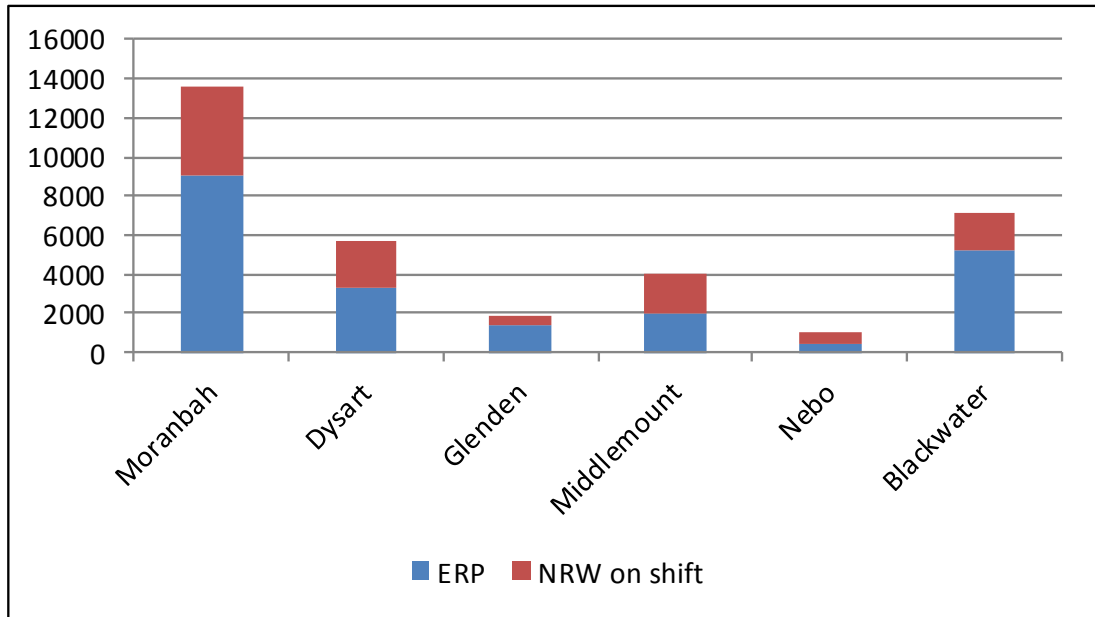
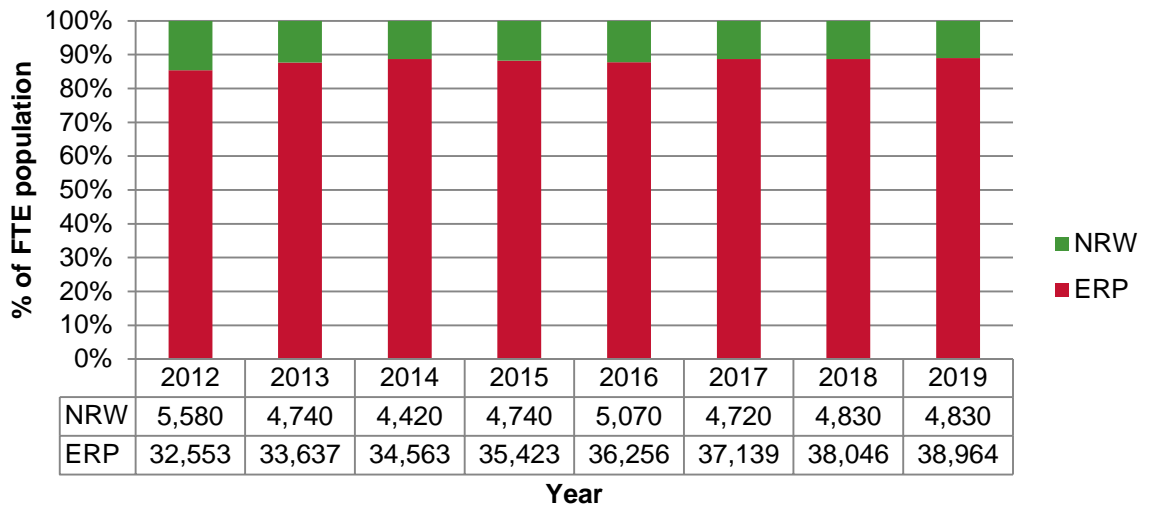


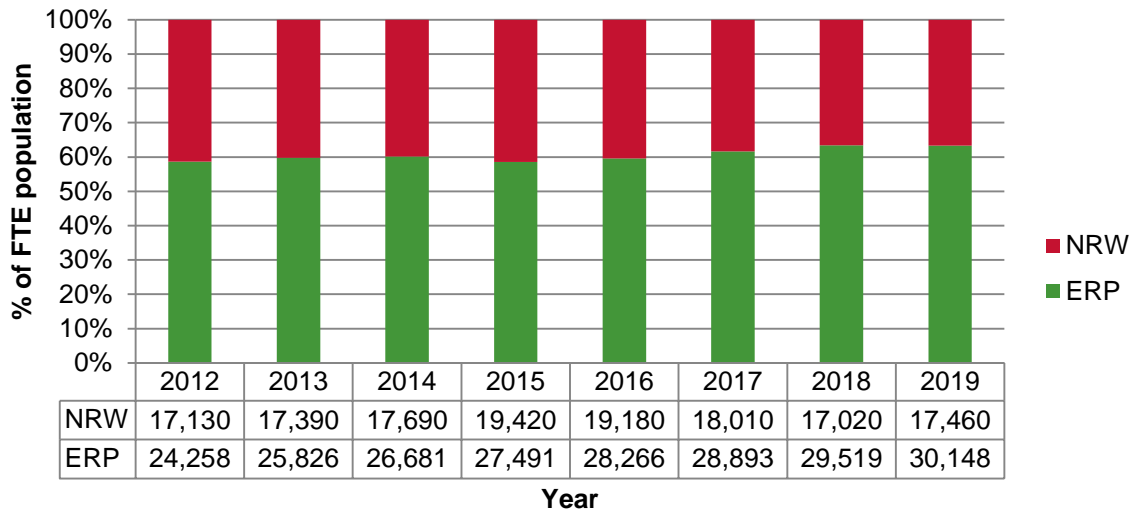
Figure 1-5 and Figure 1-6 present the ERP and NRW population projections through to 2019 for both the CHRC and IRC areas. These projections from the Queensland Government Statistician include the Arrow Bowen Pipeline Project but not the Bowen Gas Project and indicate a slight rise in the ERP as a proportion of the FTE population.

Figure 1-5 Central Highlands Regional Council Population Projections



Source:
 Queensland Government Statistician (2013), Bowen and Galilee Basins non-resident population projections, 2012–13 Series C
 Queensland Government Statistician (2011), Queensland Government population projections, 2011 edition, (medium series)

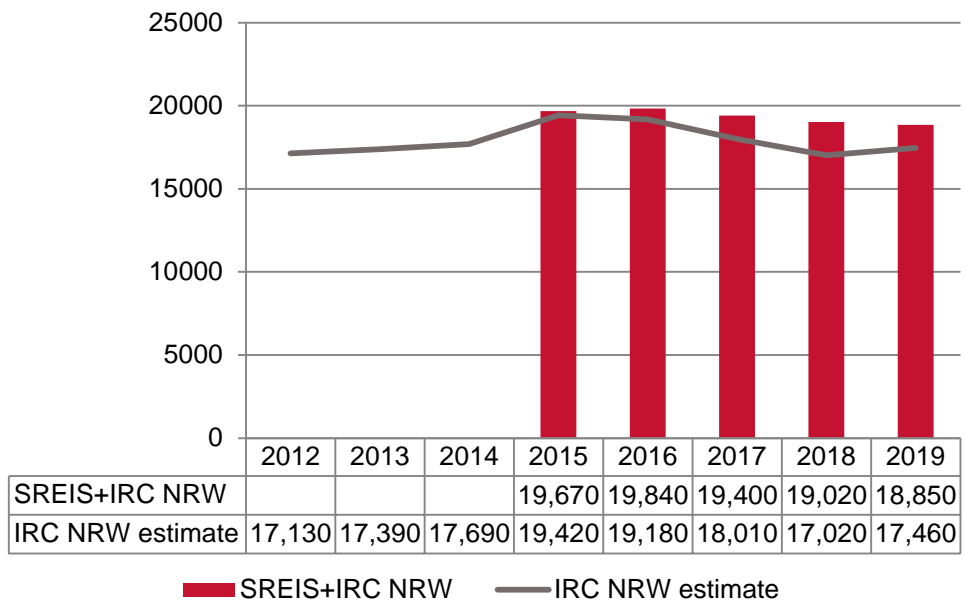
Figure 1-6 Isaac Regional Council Population Projections



Source:
 Queensland Government Statistician (2013), Bowen and Galilee Basins non-resident population projections, 2012–13 Series C
 Queensland Government Statistician (2011), Queensland Government population projections, 2011 edition (medium series)

Figure 1-7 indicates the estimated increase in NRW in the IRC area due to the Project, compared to the projected level of NRW

Figure 1-7 SREIS NRW Estimates Compared to NRW Projections



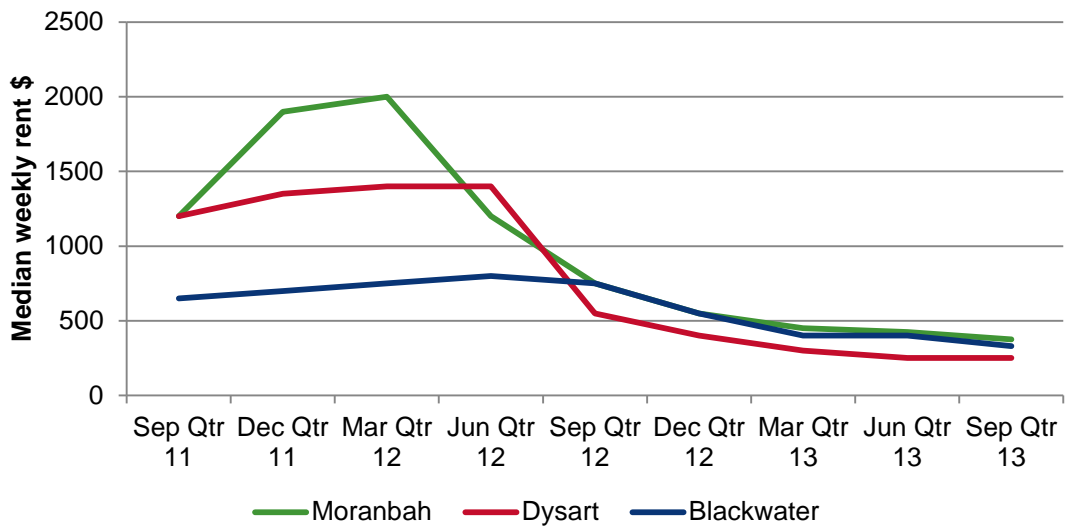
Source:
 Queensland Government Statistician (2013), Bowen and Galilee Basins non-resident population projections, 2012–13 Series C; Arrow workforce estimates

1.2.4.2 Housing Costs and Affordability

Housing costs, and consequently the affordability of housing, have altered significantly following the decline in economic conditions in the coal mining sector since July 2012. Figure 1-8 shows the dramatic decline in median weekly rents for a three bedroom house in the towns of Moranbah, Dysart and Blackwater in the Project area. Data is not available for Glenden or Middlemount.

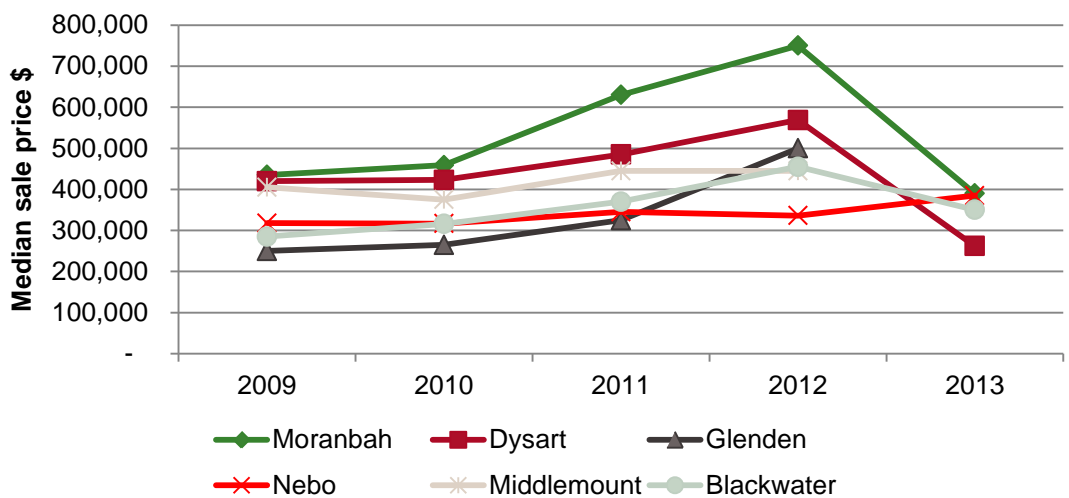
Figure 1-9 shows the median sale prices for houses in Project area townships for the past four years, with the steep decline in prices between 2012 and 2013 being evident. The indicative influence on housing affordability in Moranbah and Blackwater are assessed in the following sections.

Figure 1-8 Median Weekly Rent in Project Area Townships



Source: Residential Tenancies Authority (2013)

Figure 1-9 Median House Sale Prices in Project Area Towns



Source: Property Data Solutions (2013)

1.2.4.3 Moranbah Affordability Assessment

Key indicative data on housing in Moranbah include:

- Sale and rental prices:
 - Over the past five years, the median sale price of vacant urban land in Moranbah increased by 80%. More recently, median sale prices have increased from \$195,000 in 2010 to \$270,000 in 2011, before dropping to \$204,000 in 2012 and rising to \$228,500 in 2013 (Price Finder, 2013);
 - The median cost of purchasing a house in Moranbah rose to unsustainable levels in 2012 (approximately \$750,000) prior to dropping substantially (around 48%) in 2013 to approximately \$400,000; and
 - Median weekly rents for new bonds for a 3 bedroom house have decreased substantially over the past eighteen months, falling from around \$2,000 to \$400.
- Rental and home purchase affordability (see Table 1-2):
 - The median house price is affordable for households earning a median income in Moranbah (by at least \$100,000); however, households in the bottom 22% of households by income would find the median house price unaffordable;
 - Home purchase affordability (using the median multiple measure) in 2012 was approximately 5.2, which was higher than the 'sustainable' median multiple (3.0)². The median multiple has fallen to 2.7 in 2013 due to the decrease in median sale prices; and
 - The median rental cost for new rentals in the region is unaffordable for households in the bottom 10% of the income distribution. The median rent of a three bedroom house at \$400 per week in the region is only affordable for households earning more than \$70,000 per year.
- Rental vacancy:
 - Indications are that the rental vacancy rate is in the order of six percent.

It is emphasised that this assessment is indicative, rather than definitive, serving to highlight a recent improvement in housing affordability. The housing market in Moranbah is quite volatile and subject to significant swings depending on the state of the coal mining industry, and there are also significant market interventions in the Moranbah housing market through Economic Development Queensland and housing investment through conditions imposed on mining developments. As a result, the impact of these interventions on housing affordability in the longer term is uncertain and will benefit from on-going monitoring.

² The median gross household income for all households divided by median detached house sale price

Table 1-2 Moranbah Housing Affordability Assessment

Max. affordable rental per week	Income distribution Moranbah	Affordable house purchase price
More than \$750 per week	\$2,500+/w(\$130,000+/y) 59.6% of total households	\$548,000+
\$750 per week	\$1,500-\$2,499/w (\$78,000-\$130,000/y) 15.2% of total households	\$548,000
\$450/week	\$1,000-\$1,499/w (\$52,000-\$78,000/y) 5.7% of total households	\$329,000
\$300/week	\$600-\$999/w (\$31,200-\$52,000/y) 3.6% of total households	\$220,000
\$180/week	\$0-599/wk (\$0-31,200/y) 3.8% of total households	\$131,500

Median Rental Cost \$400/wk

Median House Price \$450,000

Median income = \$145,000

Table 1-3 Moranbah Median Multiple Assessment

	2009	2010	2011	2012	2013
Moranbah	435,000	459,000	630,000	750,000	390,000
Median multiple	3.0	3.2	4.3	5.2	2.7

Moranbah median income = \$145,000, ABS 2011

Blackwater Affordability Assessment

Key indicative data on housing in Blackwater include:

- Sale and rental prices:
 - Over the past five years, the median sale price of vacant urban land in Blackwater increased by 60%. More recently, median sale prices have increased from \$120,000 in 2010 to \$212,000 in 2011, to \$310,000 in 2012 before dropping to \$151,000 in 2013 (Price Finder, 2013);
 - The median cost of purchasing a house in Blackwater rose significantly from 2009 to 2012 (up 60% to approximately \$455,000) prior to dropping substantially (around 23%) from 2012 to approximately \$350,000 in 2013; and
 - Median weekly rents for new bonds for a 3 bedroom house have decreased substantially over the past twelve months, falling from around \$750 to \$350.
- Rental and home purchase affordability (see Table 1-4):
 - The median house price is affordable for households earning a median income in Blackwater (by at least \$100,000); however, households in the bottom 20% of households by income would find the median house price unaffordable;

- Home purchase affordability (using the median multiple measure) in 2012 was approximately 3.3, which is in the order of the ‘sustainable’ median multiple (3.0); and
 - The median rental cost for new rentals in the region is unaffordable for households in the bottom 15% of the income distribution. The median rent of a three bedroom house at \$400 per week in the region is only affordable for households earning more than \$70,000 per year.
- Rental vacancy:
 - Indications are that the rental vacancy rate is in the order of five percent.

As Project development in Blackwater is proposed from 2028 onwards (15 years hence), housing market impacts will have to be re-assessed closer to that period. The indications are that any housing market impacts would be limited due to the limited extent of gas field and facility development proposed, as well as the proposed land and housing development underway currently through Economic Development Queensland.

Table 1-4 Blackwater Housing Affordability Assessment

Max. affordable rental per week	Income distribution Blackwater	Affordable house purchase price
More than \$750 per week	\$2,500+/w(\$130,000+/y) 54.2 % of total households	\$548,000+
\$750 per week	\$1,500-\$2,499/w (\$78,000-\$130,000/y) 16.6 % of total households	\$548,000
\$450/week	\$1,000-\$1,499/w (\$52,000-\$78,000/y) 6.4 % of total households	\$329,000
\$300/week	\$600-\$999/w (\$31,200-\$52,000/y) 4.2 % of total households	\$220,000
\$180/week	\$0-599/wk (\$0-31,200/y) 6.4 % of total households	\$131,500

Median Rental Cost \$400/wk

Median House Price \$350,000

Median household income = \$140,000

Table 1-5 Blackwater Median Multiple Assessment

	2009	2010	2011	2012	2013
Blackwater	285,000	316,000	370,000	455,000	350,000
Median multiple	2.0	2.3	2.6	3.3	2.5

Blackwater median income = \$140,000, ABS 2011

1.2.4.4 Employment

Media reports and statements from coal industry peak bodies indicate that there have been significant job losses in the coal industry. Project area labour market data for the June Quarter 2013 is shown in Table 1-6, with the trend in unemployment shown in Figure 1-10, indicating the sharp rise in unemployment between June 2012 and June 2013 to levels in excess of those following the global financial crisis (GFC). Although the rise in unemployment appears

dramatic, the communities in the Project area have retained unemployment rates below that of national and State average.

Figure 1-11 indicates that the labour force has continued to grow in the Project area following the GFC, particularly in the Belyando and Emerald areas, with only a slight hiatus in the immediate years following the GFC.

Table 1-6 Project Area Labour Market Data, June Quarter 2013

Statistical Local Area	Unemployed	Labour force	Unemployment rate
Belyando (S)	130	7,872	1.7
Broadsound (S)	70	4,643	1.5
Duaringa (S)	170	5,040	3.4
Emerald (S)	300	10,718	2.8
Nebo (S)	21	1,759	1.2
Peak Downs (S)	50	2,283	2.2

Source: Department of Employment (2013)

Figure 1-10 Project Area Unemployment Trend

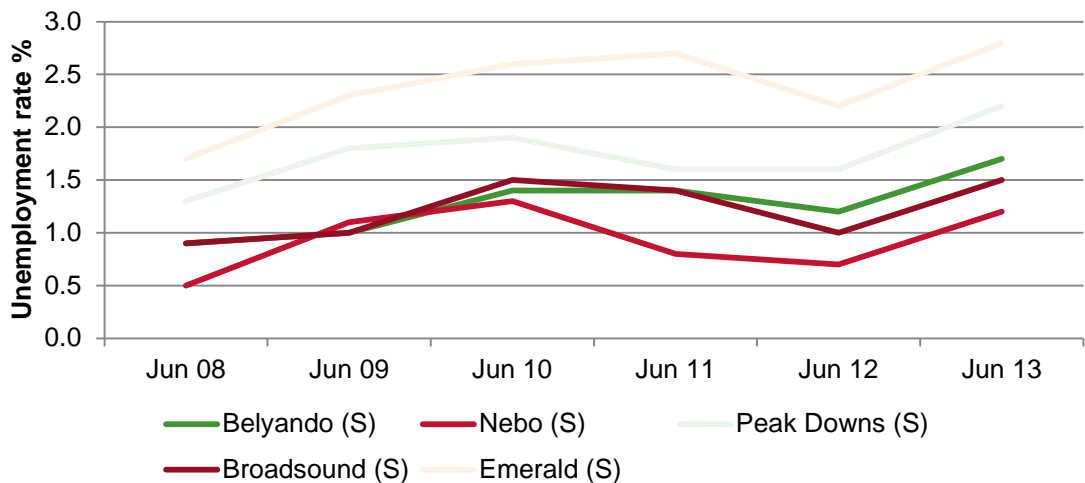
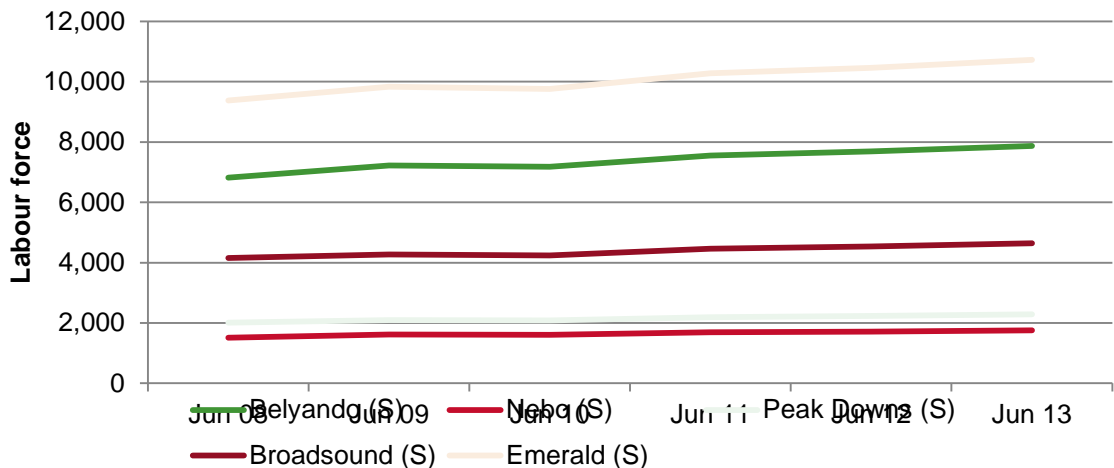


Figure 1-11 Project area Labour Force Growth



1.2.4.5 Summary

In summary, a review of recent information in key social baseline areas indicates that:

- The Project will contribute to a slight increase in the number of NRW over the projected level in the Project area;
- There has been an improvement in the level of housing affordability in Project area towns during 2013, however the sustainability of this improvement will depend on economic conditions in the coal mining sector and their influence on new mine development or expansions in the area; and
- The labour force in the area is likely to continue to grow, possibly with some growth in unemployment levels, though the levels will still be lower than broader regional and State levels indicating continuing tight labour markets, particularly for skilled workers.

1.2.5 Policy and Regulatory Environment

1.2.5.1 Gas Fields Commission

The *Gasfields Commission Bill 2012* was introduced in the Queensland Parliament on 27 November 2012 to establish the commission as an independent statutory body. On 17 April 2013, the Bill was debated and passed in the Queensland Parliament with support across the parliamentary spectrum, and the commission commenced operations on 1 July 2013. The purpose of the commission is 'to manage and improve sustainable co-existence between landholders, regional communities and the onshore gas industry in Queensland', recognising the importance of both agriculture and the onshore gas industry to Queensland's economy. The Commission's role, powers and functions pursuant to the *Gasfields Commission Act 2013* include:

- Reviewing legislation and regulation;
- Obtaining and publishing factual information;
- Identifying and advising on coexistence issues;
- Facilitating better relationships and resolving issues;
- Promoting scientific research to address knowledge gaps; and
- Making recommendations to government and industry.

The commission has developed six priority portfolios areas to guide its efforts in managing and improving coexistence among stakeholders. These portfolios, aligned with the experience and expertise of the six commissioners, are:

- Community and Business;
- Gas Industry Development;
- Land Access;
- Local Government and Infrastructure;
- Science and Research; and
- Water and Salt Management.

A Portfolio Plan has been developed detailing commissioner responsibilities and key actions for 2013-14 (GasFields Commission, 2013). Key actions with respect to the management of potential social impact of the Project include:

- Establish and support the operation of the Gas Fields Commission Community Leaders Councils (South and North) as a formal mechanism for regional engagement;
- Engage and invite input from major regional community and social groups introducing the Commission and inviting them to contact it about any relevant issues;
- Provide oversight and guidance to the government in its implementation of the six point action plan for land access improvement;
- Establish ongoing program of engagement with local government contacts to identify trends and broker contacts or escalate issues to help achieve solutions; and
- Facilitate the development and delivery of region specific information packages on CSG water management and underground water information.

1.2.5.2 *Royalties for the Regions*

The Queensland Government has established a '*Royalties for the Regions*' initiative to support priority development projects in communities subject to the impacts of resource development projects. Over a four year period that started in 2012, the program will invest \$495 million in new and improved community infrastructure, roads and floodplain security projects in resource regions. In future years there will be an ongoing commitment of \$200 million each year.

The Dysart Medical Centre - a medical centre with three consulting rooms and two treatment rooms on Queensland Health land- received approval for \$750,000 funding under Round 1 of the initiative. The facility will house two general practitioners, two part-time practice nurses and visiting allied health specialists such as dentists, chiropractors and optometrists.

Applications for Round 2 of the initiative, focussing on '*supporting infrastructure projects that respond to critical community needs that have resulted from resource sector activity*', closed in August 2013.

1.2.5.3 *Regulatory Guidelines*

In July 2013 the State Government, through the Department of State Development, Infrastructure and Planning, released a suite of regulatory guidelines in relation to the assessment and management of the impacts of major resource projects. These included:

- Managing the impacts of major projects in resource communities;
- Preparing an environmental impact statement: Guideline for proponents; and
- Social impact assessment guideline.

The intent of these guidelines is to streamline the management of social impacts by clarifying the role of local government in the EIS process, and to respond to *economic and infrastructure impacts and opportunities* through greater coordination of agencies and the implementation of Local Area Infrastructure Programs (LAIPs) and the Royalties for the Regions program that focuses on managing cumulative impacts. The role of LAIPs is to prioritise core community and transport infrastructure, and to '*create the basis for aligning funding commitments whether*

from governments, industry or other sources'. They will also build on the engagement approach that underpins the Regional and Resource Towns Action Plans, with resource industry representatives invited to participate in their preparation.

The Royalty for the Regions program, while helping communities to better manage the cumulative impacts of resource sector projects, does not absolve proponents of the responsibility to address the direct impacts of projects, though it does allow resource proponents to make financial contributions directly to the program.

In addition and complementary to these guidelines, in March 2013 the Queensland Resources Council (QRC), with support from the Australian Petroleum Production and Exploration Association (APPEA) released the following code: *Queensland Resources and Energy Sector Code of Practice for Local Content (the Code)*. The Code is a 'voluntary' self-regulatory regime to 'provide full, fair and reasonable opportunity for capable local industry to compete for the supply of goods and services for significant projects'. Effective from 1 March 2013, the State government will seek commitments from project proponents as part of EIS approval that they will adhere to the Code. Those companies that commit in their EIS to adopt the Code for these projects will no longer be conditioned through the State government EIS approval processes to submit a Local Industry Participation Plan to the State government. The Code will be promoted and administered by the QRC who will consolidate individual company Code Industry Reports into an annual Code Effectiveness Report to be completed and provided to stakeholders, including State and local governments, by year end. The QRC has also committed to a formal review of the code by the end of 2015.

1.2.5.4 *Regional and Local Planning*

The draft *Central Queensland Regional Plan* was released for consultation at the end of June 2013, and forms part of the State government's new statutory regional planning agenda. The plan 'seeks to provide a policy response to resolve the competing state interests affecting the agricultural and resources sectors' and provide certainty for the future of towns in the region through the implementation of the following regional planning policies:

- Protect Priority Agricultural Land Uses within Priority Agricultural Areas (PAAs);
- Maximise opportunities for co-existence of resources and agricultural land uses within PAAs;
- Safeguard the areas required for the growth of towns through the establishment of Priority Living Areas (PLAs); and
- Provide for resource activities to locate within a PLA where it meets the communities' expectations as determined by the relevant local government.

A complementary *Central Queensland Economic and Infrastructure Framework* was also released to promote growth for the Central Queensland region by highlighting 'the economic potential of each region and a range of economic development opportunities aimed at encouraging private sector investment and participation in local business, industry and infrastructure projects'.

In March 2013 the State government released its *Regional and Resource Towns Action Plan* that 'identifies short-term initiatives and 'on the ground' projects to address local issues, such as housing availability and affordability'. Based on consultation with local governments and

other stakeholders in areas impacted by resource development, key issues were identified in particular for housing affordability and land supply, both for residential and industrial purposes. There are actions within the plan with relevance to the potential impacts of the Project, including the development of residential land within Moranbah, Dysart, Middlemount and Blackwater.

1.2.6 Stakeholder Engagement

Arrow, JTA Australia Pty Ltd (JTA) and URS carried out a range of consultation activities as part of the EIS process for the Project. Specifically, JTA was contracted to facilitate stakeholder engagement and community consultation activities.

Additionally, URS undertook specific consultation with key stakeholders as a central component of developing the SIA and SIMP.

The community events for the EIS carried out by Arrow and JTA occurred as follows:

- September and November 2010: Community information session in Moranbah, Middlemount and Blackwater;
- October 2011: Community information sessions in Glenden, Dysart, Moranbah and Middlemount;
- June 2012: Community information sessions in Moranbah, Dysart, Middlemount, Blackwater and Glenden; and
- Ongoing - Community engagement activities such as speaking engagements, information stalls etc.

Arrow held additional rounds of information sessions during the public exhibition of the EIS, including: a meeting with the IRC on 29 August 2013.

Consultation was undertaken with stakeholders in Moranbah, Dysart, Blackwater, Mackay and Rockhampton in May and June 2012 to gather qualitative information for the social baseline study and identify potential mitigations for the assessed social impacts. The engagement and consultation methodology was based on four broad priorities:

- Identification and management of stakeholders and relevant relationships;
- Selection of appropriate communication methods and processes to meet stakeholder needs and expectations;
- Compliance with the *Environmental Protection Act 1994*; and
- Fulfilment of the Project's ToR.

During preparation of the SREIS, Arrow and URS consulted with the IRC in Moranbah to clarify aspects of the revised project description and to discuss any particular concerns expressed by the council. Arrow maintains an office in Moranbah with a full-time Community Liaison Officer to address any queries or concerns expressed by landowners, local government representatives or members of the general public.

1.2.7 Proposed Workforce Profile

1.2.7.1 Construction

The daily construction manpower is expected to peak at around 2,450 personnel in 2018. From 2017 to 2019 the average daily workforce is expected to be over 1,000 personnel which coincides with the construction of the two CGPFs and the Phase 1 FCFs.

The average daily construction workforce will reduce to around 500 to 900 personnel from 2020, after which it will further reduce to 400 or less personnel from 2028 onwards.

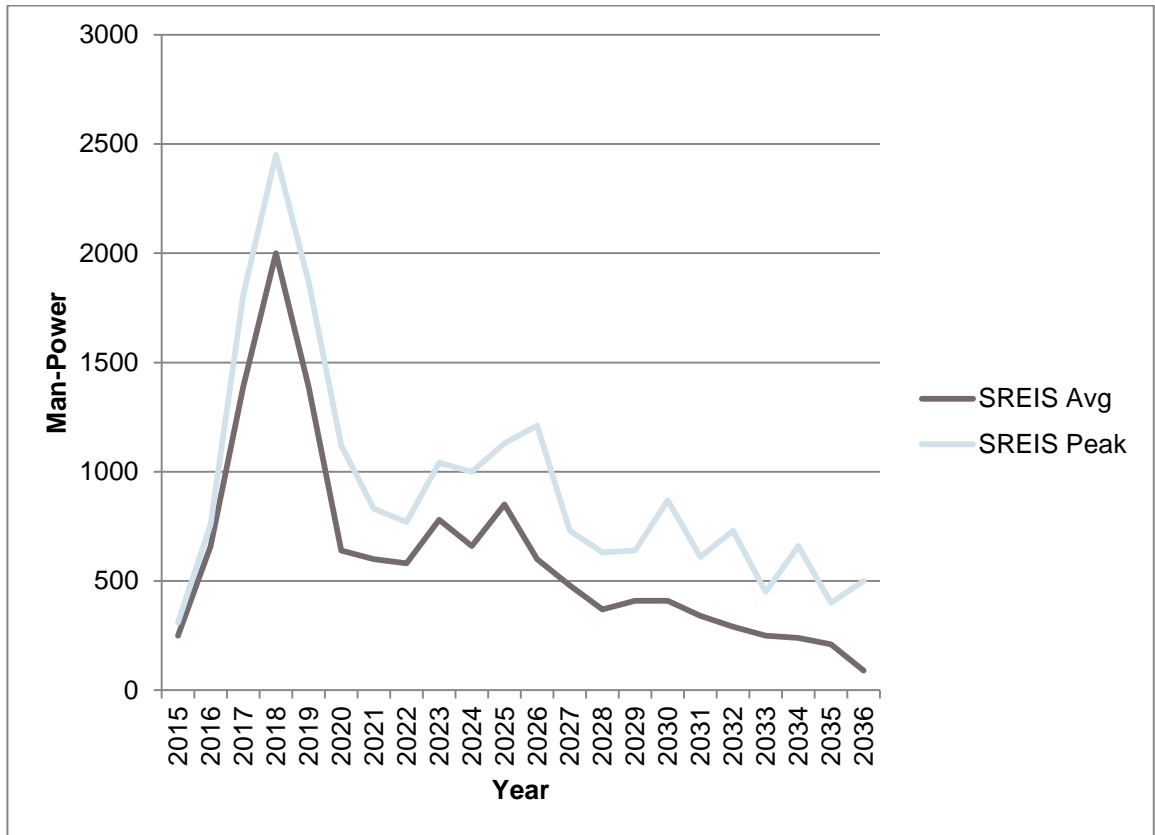
Construction workforce is summarised in Table 1-7 and shown in Figure 1-12.

Table 1-7 SREIS Estimated Construction Man Power

Year	Average Daily Man-Power	Peak Daily Man-Power	Year	Average Daily Man-Power	Peak Daily Man-Power
2015	250	310	2026	600	1210
2016	660	760	2027	480	730
2017	1390	1810	2028	370	630
2018	2000	2450	2029	410	640
2019	1390	1870	2030	410	870
2020	640	1120	2031	340	610
2021	600	830	2032	290	730
2022	580	770	2033	250	450
2023	780	1040	2034	240	660
2024	660	1000	2035	210	400
2025	850	1130	2036	90	500

Source: Arrow Energy Pty Ltd

Figure 1-12 Peak and Average Daily Construction Workforce



Arrow’s preference is to provide employment to people sourced locally; however, due to the high demand by mining companies and low unemployment rates, Arrow recognises that labour will likely need to be sourced from further afield. Arrow’s aim, in this regard, is to implement a hierarchy of preferred employment and contractor candidates based on the employees/contractors home or source location. The order of preference is as follows:

- Local;
- Regional (live within southern and central Queensland);
- National (live in Australia); and
- International (live outside Australia).

1.2.7.2 Operations

During operations, control of the Bowen CSG production facilities will be managed centrally from the Brisbane Central Control Room on a 24 hour / 7 day full-time basis. The surface facilities will have telemetry equipment for the transmission of signals to a central control room. To reduce Health, Safety, Environment and transportation risks, as well as labour cost, the wells will be highly automated to reduce the frequency and duration of direct intervention by operators. Operational data such as water flow, gas flow and valve positions will be transmitted such that the well can be observed, controlled and optimised remotely. The Project facilities will therefore incorporate a high level of monitoring, automation and communications. Not normally manned (NNM) operations are defined as those operations where operations staff are not permanently allocated to a specific facility, but allocated across a number of

facilities and visit a facility on an as needed basis for a specific purpose. The NNM philosophy is the long term operations intention for the Project, and will be implemented when commissioning has been completed and reliable steady state operations has been proven.

NNM facilities will require periodic visits (e.g. fortnightly for operators and quarterly for maintenance) to carry out inspections or other scheduled routine work activities. The introduction of the NNM concept is related to and associated with the “operations” of the CGPFs, FCFs, WTFs, wellheads, and gathering system.

Excluding workover crews, approximately 250 to 300 operations and maintenance personnel will be required for the Project operations, maintenance, support and administration teams (this excludes Arrow Brisbane based staff and field maintenance contractors). This peak is expected to be reached by 2028 and remain at plateau for approximately 13 years before starting to decline as gas is depleted. The workover crews (which include the well completion crews given that the same rigs will be used), are expected to range between 10 and 100 people over the life of the Project (averaging at around 65 personnel onsite at any given time). These are all assumed to be fly-in, fly-out (FIFO) and sourced from outside the region.

While the EIS reference case assumed that 10% of operational workers could be recruited locally, the SREIS case increased that level to 20% on the assumption that the cost of housing is moderating, there will be a higher level of desire to move out of coal mining employment, and that local government programs to attract workers to reside in the region are moderately successful. While up to 60 personnel may be recruited from within the Bowen Basin under those assumptions, for accommodation sizing it is assumed that they will all require camp accommodation due to the distance of facilities from towns and fatigue management constraints on daily travel from towns to facility sites. Hence each permanent camp will be sized to accommodate at least 150 personnel.

A summary of the operational workforce numbers and their residential status is given in Table 1-8 below.

Table 1-8 Operational Workforce Estimated Numbers and Residential Status

Project Case	2016	2020	2024	2028	2034	2041
SREIS	100	200	250	300	300	300
SREIS case local (assuming 20% from Bowen Basin, all with existing housing)	20	40	50	60	60	60
SREIS Operations FIFO numbers	80	160	200	240	240	240
In-migrants (Assume from 2020, 5% of FIFO workers elect to reside in Moranbah)	-	8	10	12	12	12
Population influx (assuming each worker has 1.6 dependents)	-	21	26	31	31	31

Source: Arrow Energy Pty Ltd

1.2.8 Existing Social Management Commitments and Activities

Arrow takes a proactive approach to enhancing communities as well as the management of potential adverse social impacts. Arrow’s principles on social responsibility include the following:

- Community Wellbeing - “Arrow is committed to protecting and promoting the social and environmental values of communities in which we live and work”;
- Community Investment – “Our long term success is closely linked to the social wellbeing of the communities where we work”;
- Community Engagement – “Arrow is committed to keeping the community informed about our existing and proposed coal seam gas activities”;
- Indigenous Relations – “Managing relationships with Aboriginal communities holding traditional connections or historical links to areas where we operate is as important to Arrow as managing our operations”;
- Local Business Development – “Arrow Energy works to maximise Australian industry participation by providing local companies with a full, fair and reasonable opportunity to engage in our project”;
- Local Recruitment – “For the Bowen Gas Project, Arrow aims to recruit locally where possible or encourage staff to relocate to the region”;
- Health and Safety – “Arrow employees are continually striving for zero harm in the workplace”; and
- Education and Training – “Arrow strives to develop the knowledge and skills base of staff through the delivery of a variety of training and development programs”.

A summary of Arrow’s existing and planned initiatives for social management are shown in Table 1-9.

Table 1-9 Summary of Arrow Initiatives for Social Management

Area	Arrow Initiatives
Stakeholder engagement	<ul style="list-style-type: none"> • Ongoing program of stakeholder engagements; • Stakeholder engagement program to incorporate development of SIMP; • Land Liaison Officers; 1800 free call number and info@arrow.com.au; • Stakeholder committees; and • Constructive Community Engagement policy
Grievance management	<ul style="list-style-type: none"> • Complaints Management System – records and tracks grievances; • Land Liaison Officers; and • 1800 free-call number and info@arrow email address
Landholder relations	<ul style="list-style-type: none"> • <i>Sustainable Development</i> and <i>Constructive Community Engagement</i> policies – set out protocols for fostering positive relationships with landholders and the wider community; • Land access rules; and • Land Liaison Officers.

Area	Arrow Initiatives
Regional social planning	Participants in regional bodies and task forces including – Bowen Basin Community Engagement Network and the Rental Affordability Taskforce, Surat Basin Engagement Committee, and Industry taskforce on skill development and workforce availability.
Employment and training	<ul style="list-style-type: none"> • Preferential local employment; and • Various vocational and specialist training programs; traineeships; graduate development program; school based training programs.
Local Business development	<ul style="list-style-type: none"> • Australian Industry Participation Plans (AIPP); • Business vendor register (including use of Industry Capability Network); and • Local supplier information sessions – communicate opportunities to supply goods and services and provide assistance on meeting Arrow tender requirements.
Indigenous participation	<ul style="list-style-type: none"> • Aboriginal and Torres Strait Islander Action Plan (encompassing an Aboriginal and Torres Strait Islander Employment Strategy and an Aboriginal and Torres Strait Islander Business Development and Employment Strategy) - identifies strategies relating to Indigenous employment and enterprise opportunities; and • Reconciliation Action Plan.
Community Investment	Brighter Futures Program – community investment program – focussing on health and safety; education; environment.
Workforce Behaviour	Code of Conduct, Life Saving Rules and disciplinary procedures.

The following programs are currently being implemented in the Moranbah area:

Brighter Futures

Arrow acknowledges it has a shared responsibility with government, and society more broadly, to help facilitate the development of strong and sustainable communities. It is committed to managing the residual social impacts of its activities that cannot be avoided or sufficiently minimised and to contributing to the social and economic wealth of the communities in which it operates through its social investment program. This program is comprised of the Brighter Futures community funding, sponsorships and partnerships and has been running in Brisbane, Gladstone, Surat and Bowen Basins and its exploration tenements since 2011.

MSTEP

Arrow is partnering with Moranbah State High School (MSHS) and Simply Sunshine Childcare to deliver the Bright Kids after school care program. This innovative program provides a reliable long-term solution to the towns after school care shortage by integrating the delivery of the service with the school’s MSTEP Education Support and MSTEP Business programs. Senior students from MSHS assisted in the development, promotion and delivery of the facility and will continue to build on their learning by providing the staffing required to operate Bright Kids daily. As a result of this partnership Moranbah will now have a reliable long-term after

school care solution while students will have access to enhanced learning and a pathway to employment in the region.

University Education

Arrow is partnering with six Queensland universities (University of Southern Queensland, University of Queensland, Griffith University, Queensland University of Technology, James Cook University, and Central Queensland University) to provide a range of scholarships and financial support to Indigenous and non-Indigenous students across the state. This includes young people from our regions of operation, including the Bowen Basin.

Community Wellbeing and Safety

Arrow participates in bi-monthly meetings between the Queensland Police and other local proponents. The purpose of these meetings is to discuss safety concerns and challenges within the community. An Arrow representative also attends the Moranbah Community Health Partnership Group meetings which include all the key health and community workers in the region focussed on community services and wellbeing.

1.2.9 Potential Contribution to Regional Development

The draft *Central Queensland Regional Plan* was released for consultation at the end of June 2013, and forms part of the State government's new statutory regional planning agenda. The plan 'seeks to provide a policy response to resolve the competing state interests affecting the agricultural and resources sectors' and provide certainty for the future of towns in the region through the implementation of the following regional planning policies:

- Protect Priority Agricultural Land Uses within PAAs;
- Maximise opportunities for co-existence of resources and agricultural land uses within PAAs;
- Safeguard the areas required for the growth of towns through the establishment of Priority Living Areas; and
- Provide for resource activities to locate within a PLA where it meets the communities' expectations as determined by the relevant local government.

A complementary *Central Queensland Economic and Infrastructure Framework* was also released to promote growth for the Central Queensland region by highlighting 'the economic potential of each region and a range of economic development opportunities aimed at encouraging private sector investment and participation in local business, industry and infrastructure projects.

The *Mackay, Isaac and Whitsunday Regional Plan 2012* is the relevant planning instrument for the IRC area.

In March 2013 the State government released its *Regional and Resource Towns Action Plan* that 'identifies short-term initiatives and 'on the ground' projects to address local issues, such as housing availability and affordability'. Based on consultation with local governments and other stakeholders in areas impacted by resource development, key issues were identified in particular for housing affordability and land supply, both for residential and industrial purposes.

There are actions within the plan with relevance to the potential impacts of the Project, including the development of residential land within Moranbah, Dysart, Middlemount and Blackwater.

Arrow will work with the CHRC and IRC to ensure that action plans and other mitigation and enhancement measures identified through finalisation of the SIMP will align (where possible and appropriate) with regional development that is supported by these plans and the *Regional Planning Interests Bill 2013* that was introduced in Parliament on 20 November 2013. The bill will require resource activities authorised under resource acts and other regulated activities to align with the regional land use policies in the regional plans as well as other government policy.

1.3 Impact Assessment

Criteria were established through the impact assessment process to assess the consequence of the potential impacts. This then allowed the significance of potential impacts to be determined, based on the likelihood of the potential impact actually occurring and the associated consequences. The significance of each potential impact was rated as being of very high, high, medium or low significance.

Table 1-10 shows the potential impacts assessed and their associated significance.

Table 1-10 Potential Impacts Identified as Medium or Above Significance

Potential Impact	Phase	Pos/ Neg	Likelihood	Consequence	Significance
Impacts on Housing and Accommodation					
Increase in regional rental and property prices from speculative activity	Pre-construction Construction	Neg	Unlikely	Minor	Low
Reduction in availability of accommodation for low income and vulnerable groups	Operations		Unlikely	Minor	Low
Impacts on Employment, Skills and Business					
Training and skill development opportunities for the local population	Life of Project	Pos	Almost Certain	Minor	Medium
Improved retention of senior students to Year 12 in local high schools	Construction Operations	Pos	Unlikely	Moderate	Medium
Local business difficulties faced by operating in changed environment (increased costs, competition, and labour)	Construction	Neg	Unlikely	Moderate	Medium
Impacts on Land Use and Property					

Potential Impact	Phase	Pos/ Neg	Likelihood	Consequence	Significance
Impaired agricultural productivity	Pre-construction Operations	Neg	Unlikely	Moderate	Medium
Impacts on Community Values and Lifestyles					
Increased participation and support in the community (e.g. volunteers, involvement in sport and social organisations, support for local events)	Construction Operations	Pos	Possible	Moderate	Medium
On-going community disquiet related to an increase in proportion of NRW and associated NRW behaviour	Construction	Neg	Possible	Moderate	Medium
Impacts to Community Infrastructure and Services					
Increased demand on local medical centres/hospitals and emergency services	Construction Operations	Neg	Unlikely	Moderate	Medium
Heightened road safety risk	Construction Operations	Neg	Possible	Moderate	Medium
Community concern with local government financial liability for the upgrade and maintenance of local infrastructure	Pre-construction	Neg	Possible	Moderate	Medium
Impacts on Health, Safety and Environment					
Increased community anxiety in relation to potential health, safety and environmental effects of the Project	Life of project	Neg	Unlikely	Moderate	Medium

ACTION PLANS

Based on the results of consultation and key positive and negative social impacts identified for the Project and in consideration of the approach to impact management for the Arrow LNG Plant and the Arrow Surat Gas Project, Arrow has revised the Bowen Gas Project action plans and mitigation strategies in the light of the revised project description. In the revised action plans Arrow has included additional actions and strengthened several others to better capture their commitment to the community.

Recognising the value of collaboration and the cumulative nature of many of the impacts, Arrow seeks to promote an active and ongoing role for the community, local government and all levels of government throughout the construction, operation and decommissioning phases of the Project.

As such, each of these action plans identifies activities that will seek involvement from key stakeholders and other proponents in the region to ensure that resources can be pooled and efforts coordinated to address impacts and maximise the benefits of the Project for the community.

Each action plan below contains three sections:

- **Introduction** – the introduction explains the purpose of each plan, the underlying objectives and key stakeholders involved.
- **Impacts** – this section describes the impacts that the action plan is addressing. It contains information on the nature, phase, extent, duration, severity, likelihood and significance of each identified impact.
- **Mitigation actions** – this section details the mitigation actions that will be undertaken as part of the Project, responsible stakeholders for each and indicative timeframes.

These plans represent measures to be taken to establish appropriate systems and protocols for initiating and commissioning the Project. Once a contractor has been selected to undertake construction and operational activities, more detailed actions will be established in consultation with these parties. The method by which to measure progress against each target may also be altered.

2.1 Housing and Accommodation

Introduction					
Purpose	<ul style="list-style-type: none"> To manage any increased pressure placed by the Project on the regional housing market for renters and those seeking to purchase dwellings; and To manage any impact of increased utilisation by Project workers of temporary accommodation such as hotels, motels and serviced apartments. 				
Stakeholders	Arrow, IRC, Isaac Affordable Housing Trust, CHRC, Department of Housing and Public Works, Economic Development Queensland, ELAM (Emergency, Long Term Accommodation Moranbah), other non-government service providers.				
Scope	All actions in the housing and accommodation plan cover Arrow employees and contractors during the construction and operations stages.				
Impacts					
<i>Impact</i>	<i>Nature</i>	<i>Phase</i>	<i>Likelihood</i>	<i>Consequence</i>	<i>Significance</i>
Increase in regional rental and property prices from speculative activity	Negative	Construction Operation	Unlikely	Minor	Low
Reduction in availability of accommodation for low income and vulnerable groups	Negative	Construction	Unlikely	Minor	Low
Mitigation					
<i>Mitigation actions</i>				<i>Responsibility</i>	<i>Timeframes</i>
Housing					
Develop an early works workforce accommodation strategy covering the period from construction commencement until final commissioning of the two regional construction camps. This strategy will identify options for accommodating all project workers who will need to be accommodated in the region prior to the establishment of the construction camps, utilising third party providers and avoiding residential properties to the extent possible.				Arrow	During front end engineering and design (FEED)
Ensure that temporary workforce accommodation facilities (TWAFs) have enough spare capacity to accommodate visiting workers to the extent required to avoid the placement of excessive demand hotel / motel accommodation that may displace visitors. Ensure that planning for the accommodation of project visitors recognises the commercial opportunity for the participation of local accommodation providers.				Arrow	During FEED
Participate in discussion forums with State government, councils, the building industry and other project proponents to contribute to the understanding of cumulative housing demands.				Arrow State Government	Ongoing

Monitor the number of Arrow workers moving into the local and regional area to ensure that the assumptions made with respect to employee influx are valid. If project-induced housing demand is demonstrated to be distorting the housing market, develop corrective actions in consultation with regional housing service providers.	Arrow	Ongoing during construction and operations
If required examine, in consultation with IRC, opportunities for investment in the Isaac Affordable Housing Trust as means to address housing availability and affordability issues in the region.	Arrow IRC IAHT	As required, based on monitoring results

2.2

Health and Community Wellbeing

Introduction					
Purpose	To manage impacts on existing social infrastructure, services and recreation; and To ensure that project activity does not impair, and to the extent possible contributes to an improvement in community health and wellbeing.				
Stakeholders	Arrow, IRC, CHRC, Economic Development Queensland, other non-government service providers.				
Scope	All actions in the health and community wellbeing plan cover Arrow employees and contractors during the construction and operations stages.				
Impacts					
<i>Impact</i>	<i>Nature</i>	<i>Phase</i>	<i>Likelihood</i>	<i>Consequence</i>	<i>Significance</i>
Increased participation and support in the community (e.g. volunteers, involvement in sport and social organisations, support for local events)	Positive	Construction Operations	Possible	Moderate	Medium
On-going community disquiet related to an increase in proportion of NRW and associated NRW behaviour	Negative	Construction	Possible	Moderate	Medium
Increased demand on local medical centres/ hospitals and emergency services	Negative and positive	Construction Operations	Unlikely	Moderate	Medium
Heightened road safety risk	Negative	Construction Operations	Possible	Moderate	Medium
Community concern with local government financial liability for the upgrade and maintenance of local infrastructure	Negative	Construction	Possible	Moderate	Medium
Increased community anxiety in relation to potential health, safety and environmental effects of the Project	Negative	Construction Operations	Unlikely	Moderate	Medium

Mitigation		
<i>Mitigation actions</i>	<i>Responsibility</i>	<i>Timeframes</i>
Social Investment Program		
<p>Arrow is committed to managing the residual social impacts of its activities that cannot be avoided or sufficiently minimised and to contributing to the social and economic wealth of the communities in which it operates through its social investment program (the Brighter Futures Program) that provides funding for community, sponsorships and partnership opportunities.</p> <p>Arrow will consult with local governments to seek their views on which social, community or recreational infrastructure in the IRC or CHRC is being directly impacted by the Project and to what extent. Arrow will also liaise with other project proponents and community organisations to coordinate social investment initiatives and identify opportunities to maximise overall investment effectiveness.</p> <p>Details of the Brighter Futures program for the Project area will be released on the Arrow website. This will include information on criteria for funding, funds expended, processes for applying for funding and how often funding will be available for applications.</p> <p>Information will also be provided on projects that receive funding or in kind support to offset or mitigate direct Project impacts.</p>	Arrow	Ongoing
<p>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.</p>	Arrow DSDIP IRC CHRC	Construction and 12 months after commencement of operations
Indigenous Engagement		
<p>Arrow will continue to consult with the appropriate Traditional Owners (TOs) in regards to Native Title and the management of Cultural Heritage.</p>	Arrow Traditional Owners	Ongoing
<p>Arrow will support programs that contribute to the health and well-being of Indigenous employees.</p>	Arrow	Ongoing

<p>Implement Arrow's Aboriginal and Torres Strait Islander Reconciliation Action Plan (RAP) which outlines Arrow's commitment to Indigenous Australians, working with Traditional Owners and negotiating Indigenous Land Use Agreements (ILUA's), around the four goals of:</p> <ul style="list-style-type: none"> • Relationships: effective internal and external relationships; • Respect: strive towards cultural competence to improve cultural sharing and knowledge and to demonstrate this through our actions, policies, practices and attitudes; • Opportunities: the full participation of Aboriginal and Torres Strait Islander people socially and economically; and • Tracking progress and reporting. <p>The RAP can be found on the Arrow website, www.arrowenergy.com.au.</p>	Arrow	Ongoing
Community engagement		
<p>Development and implementation of a Community Engagement Plan for the region that includes the provision of opportunities to receive and discuss community concerns, e.g. through the Arrow website, regional community information centres, 1800 free call number, info@arrow.com.au, etc. The Community Engagement Plan will include the ongoing provision of information on the construction program (including traffic and workforce management measures) and environmental management, and will be supported by regionally-based Community Officers. Land Liaison Officers will maintain close engagement with landholders to minimise the impacts of land access and adhere to the provisions agreed in the Conduct and Compensation Agreement.</p> <p>The Community Engagement Plan will also support the maintenance of a grievance mechanism for the community to register complaint/issue/comment/suggestions and for Arrow to provide a managed response and to initiate any required corrective action in a timely manner.</p>	Arrow	Ongoing
Community health and safety		
<p>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 traffic accidents or hazardous materials incidents). The planning will be undertaken in accordance with the requirements of the relevant codes and standards such as the National Standard for the Control of Major Hazard Facilities, the National Code of Practice and the <i>Dangerous Goods Safety Management Act 2011</i>.</p> <p>Emergency management planning will be undertaken in consultation with relevant Queensland government authorities and emergency services organisations (including the Department of Community Safety and Emergency Management Queensland, Queensland Ambulance Service, Queensland Fire and Rescue Service and Emergency Management Queensland).</p>	Arrow Emergency service providers Local Governments Landholders	Prior to construction
<p>Develop a public engagement campaign on the movements of heavy loads and oversize vehicles, including providing details of the approved traffic management plans on the Arrow website.</p>	Arrow	Ongoing during construction

Develop and implement traffic management plans that consider the requirements for: <ul style="list-style-type: none"> • Preferred routes for travel and measures to reduce the risk of accidents; • Road safety awareness initiatives for Project personnel and local residents; and • Procedure for notifying council and road authorities for any disruptions/road closures and load movements. 	Arrow	Ongoing during construction and operations as required
Ensure monitoring results of workplace health and safety are communicated to the public and to the RCCC as part of Arrow's annual reporting.	Arrow RCCC	Annually
Arrow will engage with landholders in proximity to construction works well in advance of works (typically 3 months)	Arrow RCCC	As required during construction
Community amenity		
To the extent possible, Arrow will encourage employees and contractors to engage and participate in local community activities (e.g. volunteer work, participation in clubs and organisations).	Arrow	Ongoing
As a component of planning for workforce accommodation, Arrow will consider opportunities for the enhancement and use of community facilities, including consideration of appropriate timing where feasible.	Arrow	Prior to construction
Ensure that all direct employees and contractors adhere to the workforce Code of Conduct and enforce disciplinary procedures for breaches of the code. Arrow will also provide evidence to support the active management of compliance to the Code to the RCCC on a regular basis and ensure that the code is made available to the community on the Project website.	Arrow	Ongoing following commencement of construction
Develop and provide new workers with an induction and welcome kit which includes a statement of community expectations. 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.	Arrow Local Governments	Contract award

2.3

Workforce Management

Introduction	
Purpose	<ul style="list-style-type: none"> • To maximise local employment and training opportunities; and • To provide employee facilities and conditions that maximise workforce productivity and avoid imposts on community facilities and services.
Stakeholders	Arrow, IRC, CHRC, Department of Education, Training and Employment, Queensland Police Service, Department of Health
Scope	All actions in the workforce management plan cover Arrow employees and contractors during the construction and operations stages.

Impacts					
<i>Impact</i>	<i>Nature</i>	<i>Phase</i>	<i>Likelihood</i>	<i>Consequence</i>	<i>Significance</i>
Training and skill development opportunities for the local population	Positive	Construction and operations	Almost Certain	Minor	Medium
Improved retention of senior students to Year 12 in local high schools	Positive	Operations	Unlikely	Moderate	Medium
Mitigation					
<i>Mitigation actions</i>				<i>Responsibility</i>	<i>Timeframes</i>
Temporary accommodation					
Ensure TWAFFs have sufficient social and recreational facilities to cater for resident's recreational, fitness and entertainment requirements.				Arrow	During FEED
Develop and provide new workers with an induction and welcome kit which includes a statement of community expectations. 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.				Arrow Local Governments	Contract award
Employee wellbeing					
Develop a workforce health management plan that includes provision of on-site health services for the workforce resident in TWAFFs, and first-aid and emergency response capabilities for all workers on site. Planning will include liaison with emergency services, Queensland Health and private medical providers to ensure that optimal use is made of both public and private health service facilities, and that public and private providers are made aware of the workforce numbers for planning purposes in a timely manner.				Arrow Emergency Services	Prior to construction
<p>A range of medical emergency facilities and resources will be made available in accordance with the minimum standards set out in the Shell Exploration and Production Medical Emergency Response Guidelines (2005). These will be detailed in the medical emergency response plan and include:</p> <p>An appropriately designed on-site medical facility;</p> <ul style="list-style-type: none"> • Trained medical personnel; • First aid equipment; • An appropriate method of transport from facility to shore; and • Remote medical support. <p>A detailed medical emergency response study will be undertaken to assess transport times between remote work sites and the nearest major medical centre to determine whether required response times can be met.</p>					

<p>Implement policies and programs to maintain the wellbeing of personnel, including:</p> <ul style="list-style-type: none"> • Provision of welfare and recreation facilities; • Provision of a counselling service (including drug and alcohol services*); • Implementation of a range of Arrow policies including the OHS Policy, Drug, Alcohol and Contraband Policy, Duty to Stop Work Policy and Fit for Duty Policy; • Enforcement of smoking regulations on site; • Restrictions on working hours to reduce worker fatigue; and • Provision of nutritionally balanced food to all personnel living within construction camps in line with guidance issued by Queensland Health. <p>*At all times Arrow's Drug, Alcohol and Contraband and Fit For Duty Policies will apply to the workforce whilst on Arrow sites and whilst engaged in Arrow work.</p>	Arrow	Prior to construction and ongoing
<p>Arrow will ensure that appropriate cultural heritage training will be delivered to all workers on the Project. Arrow is committed to providing a workplace where all personnel are treated fairly and with dignity and respect. To facilitate this, it has been mandatory since 2011 for all Arrow personnel (including contractors) to participate in Cultural Awareness Training within the first three months of employment or engagement by the company.</p>	Arrow	Ongoing
<p>Education and Training</p>		
<p>Identify the range of skill sets required for the labour force and make this information available to relevant agencies in a format consistent with the templates provided by Skills Queensland. Undertake a gap analysis against existing skills availability and identify, in consultation with relevant agencies, appropriate strategies to fill these gaps, e.g. FIFO / DIDO or training.</p>	Arrow DETE CSG/LNG Skills Taskforce	Contract award
<p>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.</p>	Arrow DETE CSG/LNG Skills Taskforce	Contract award
<p>Extend current Arrow support for education programs in the Surat Basin and Gladstone regions to the Project areas. Work with group training organisations and contractors to recruit and retain apprentices or trainees during operations. Partner with Moranbah State High School to deliver M-STEP Education support and M-STEP business programs (Bright Kids After School Care Program).</p>	Arrow	Prior to construction and ongoing

<p>Continue to work with industry groups that are focused on increasing the engagement of women in the industry and developing pathways for women to work in non-traditional roles. Arrow is already committed to:</p> <ul style="list-style-type: none"> • Attending the Women in Mining Industry network; and • Attending the quarterly meeting hosted by the University of Central Queensland 	Arrow	Ongoing
<p>Continue existing Arrow programs to provide entry level positions within the business and opportunities for women, young people and people with a disability. The programs currently operational are:</p> <ul style="list-style-type: none"> • Graduate Program. • Vacation Employment. • Indigenous Scholarships. • Traineeships. • Apprenticeships. 	Arrow	Ongoing
<p>Arrow 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.</p>	Arrow DETE Training providers	Ongoing
<p>Indigenous employment and training</p>		
<p>Implement Arrow's Aboriginal and Torres Strait Islander Reconciliation Action Plan (RAP), including those actions that focus on employment for Indigenous Australians, including:</p> <p>Recruiting and retaining Aboriginal and Torres Strait Islander staff.</p> <p>Connecting Aboriginal and Torres Strait Islander people with business and employment opportunities.</p> <p>Arrow has engaged in preliminary discussions with DSDIP, the Department of Aboriginal and Torres Strait Islander and Multicultural Affairs (DATSIMA) and DEEWR in relation to Indigenous employment, training and business development opportunities associated with the Project. The focus of these discussions has been on developing Indigenous employment within Arrow's supply chain.</p> <p>Actions being considered include:</p> <ul style="list-style-type: none"> • Identifying apprenticeships or traineeships that could be made available to Indigenous people. For underemployed or unemployed Indigenous people 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. • Identifying the most appropriate opportunities for Indigenous businesses to competitively tender to provide goods or services to the project during the operations stage. • Sending information about the opportunities identified above to relevant businesses, or business groups. 	Arrow TOs DATSIMA DETE	Prior to construction and ongoing

2.4 Local Content

Introduction					
Purpose	<ul style="list-style-type: none"> To assist local businesses to understand the requirements of supplying to the Project. To provide processes to support local businesses in competing for opportunities. 				
Stakeholders	Arrow, IRC, CHRC, Queensland Resources Council, Industry Capability Network, DSDIP, Chambers of Commerce				
Scope	All actions in the local content plan cover Arrow employees and contractors during the construction and operations stages.				
Impacts					
Impact	Nature	Phase	Likelihood	Consequence	Significance
Local business difficulties faced by operating in changed environment (increased costs, competition, and labour)	Negative	Construction and operations	Unlikely	Moderate	Medium
Mitigation					
Mitigation actions				Responsibility	Timeframes
General business					
Arrow will commit to adhere to the <i>Queensland Resources and Energy Sector Code of Practice for Local Content</i>				Arrow Coordinator- General EHP	Ongoing
Finalise and implement the AIPP, which provides detailed information about the strategies and approaches to be undertaken by Arrow to:				Arrow DETE	Within 3 months of FID
<ul style="list-style-type: none"> Encourage contractors to source local goods and services where possible; Encourage business to consider Indigenous procurement to maximise Indigenous employment opportunities; and Engage with key business bodies regarding appropriate opportunities for local businesses to supply goods and services to the Project. 					
The AIPP is being developed in consultation with the Federal government and the Coordinator General.					
Provide ICN Queensland and DSDIP with the information they require to assist local businesses improve their skills base and tailor their operations to meet the Project's needs.				Arrow ICN DSDIP	Within 3 months of FID Annually during construction

Arrow will encourage contractors to source local goods and services where possible, and will develop processes to ensure local business opportunities are considered in Project procurement practises. These processes will allow capable local business to be given fair and reasonable opportunities to compete for the supply of goods or services to the Project.	Arrow	Ongoing
Facilitate the communication of the Local Content Policy and Strategy to local service providers through ongoing engagement with key business bodies and participation in local business forums. 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 the Mackay/Isaac/Whitsunday and Central Highlands regions for potential suppliers and ongoing provision of information on the Arrow website.	Arrow DSDIP ICN	Within 3 months of FID for the information sessions Ongoing for information on the website
Indigenous business		
Ensure major contractors develop an Indigenous participation plan that clearly identifies Indigenous opportunities (employment and business) on the Project. Encourage businesses who provide goods and services to the Project to consider Indigenous procurement in order to maximise Indigenous employment opportunities.	Arrow Lower tier contractors	Prior to construction and ongoing
Continue the Arrow Whanu Binal project and provide assistance, such as business mentoring, to Traditional Owners and other interested members of the Indigenous community with developing business opportunities and capacity. Arrow's Whanu Binal project targets Indigenous businesses and helps them develop the capacity and capability to successfully tender for major projects, including Arrow projects. It also aims to help build the skills and knowledge of existing and potential workforces. Examples of the type of activities that occur as part of this Project include: <ul style="list-style-type: none"> • 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; and • Information on how to pool resources across businesses to tender on larger parcels of work. 	Arrow Traditional owner groups Indigenous Business Australia	Ongoing during construction, briefings every six months

2.5 Cumulative Impacts

Cumulative impacts are addressed in the previous action plans where the potential for specific cumulative impacts have been identified. The purpose of this plan is to identify organisations charged with coordinating and managing cumulative impacts with which Arrow can coordinate.

Introduction					
Purpose	To collaboratively address cumulative impacts.				
Stakeholders	Arrow, IRC, CHRC, DSDIP, other Project proponents, other non-government service providers.				
Scope	All actions in the cumulative impacts plan cover Arrow employees and contractors during the construction and operations stages.				
Impacts					
<i>Impact</i>	<i>Nature</i>	<i>Phase</i>	<i>Likelihood</i>	<i>Consequence</i>	<i>Significance</i>
Decline in housing availability and affordability	Negative	Construction and operations	Possible	Minor	Medium
Increased demand on social infrastructure and service provision, particularly for health.	Negative	Construction and operations	Unlikely	Minor	Low
Mitigation					
<i>Mitigation actions</i>				<i>Responsibility</i>	<i>Timeframes</i>
Participate in regional development planning and issues coordination forums for the IRC and CHRC areas (e.g. for housing, training, local business development and regional industry/local and state government coordination)				Arrow	Ongoing
Continue to participate in the Industry Leadership Group for CSG Resource Projects.				Arrow	Ongoing

2.6 Implementation Management

2.6.1 Monitoring Plan

A detailed SIMP Monitoring Plan will be developed by Arrow during the SIMP development process and include the following components:

- A list of all the anticipated impacts and issues that will be monitored;
- Key performance indicators, targets and outcomes sought through the planned mitigation and management program; and
- Details of the monitoring strategy including timing of monitoring, frequency and method of reporting the results of the monitoring program, and the responsibilities of each party in monitoring and reporting impacts and the effectiveness of management strategies.

2.6.2 Reporting

2.6.2.1 Reporting to Stakeholders

Arrow will report the findings of the monitoring program as part of the Project's annual SIMP reporting, and also through the Communications and Community Engagement Plan and the Community Consultation Program. Arrow and the councils will determine the most appropriate reporting mechanism as part of the SIMP development process. These will be documented in the SIMP Monitoring Plan.

2.6.2.2 Reporting to the Office of the Coordinator-General

Arrow will provide to the Office of the Coordinator-General an annual report on mitigation measures for social impacts for the construction phase and for the early years of Project operations.

Monitoring reports will include:

- An overview of the effectiveness of implementation;
- An assessment of progress against nominated performance indicators;
- An explanation of why any actions were not undertaken as planned and if required; and
- Recommendations to improve future performance.

2.6.3 External Review

As the SIMP will remain in place for the life of the Project (approximately 40 years), in accordance with leading practice, Arrow will undertake an external performance review on a regular (5 yearly) basis or more frequently should circumstances dictate. Further details of the review process will be determined as part of the SIMP development process.

2.6.4 Amendment and Termination

Amendments and updates to the SIMP will be considered as part of the annual SIMP reporting and five-yearly external review processes and will be made if the strategies and actions

described in the original SIMP no longer meet the desired outcomes, or if improvements to existing measures can be made.

Any amendments to the SIMP will be subject to consultation and consideration with key stakeholders for the Project through existing community consultation and engagement mechanisms.

2.6.5 **Communications and Community Engagement**

The Proponent has an existing stakeholder engagement program. The consultation program will be expanded to:

- Introduce or provide further discussion of the proposed SIMP to stakeholders and seek feedback;
- Report the findings of the SIMP monitoring program; and
- Develop an effective dispute resolution mechanism.

A list of stakeholder groups is shown in Table 2-1 below.

Table 2-1 Stakeholder Groups for SIMP

Stakeholder Group	Stakeholders
Community	<ul style="list-style-type: none"> • Landholder representatives (through producer group such as AgForce) for those landholders who will be directly impacted by the Project; and • Community interest groups from surrounding towns.
Regional Committees	<ul style="list-style-type: none"> • Central Queensland Regional Planning Committee; and • Regional Development Australia.
Regional Councils	<ul style="list-style-type: none"> • CHRC; and • IRC.
Queensland Government	<ul style="list-style-type: none"> • Department of State Development and Infrastructure Planning; • Department of Communities, Child Safety and Disability Services; • Department of Education, Training and Employment; • Queensland Police Service; • Department of Transport and Main Roads; • Department of Environment and Heritage protection; and • Queensland Health.
Service providers in the study area	For example, health, education, training, emergency services.
Businesses in the study area	<ul style="list-style-type: none"> • Local Chambers of Commerce; • Local progress associations; and • Central Highlands Development Corporation.
Interest groups	For example, environmental groups, industry groups

Regional Community Consultative Committee

Arrow proposes to participate in a regional community consultative committee (RCCC) if applicable to the region, with membership extended to key stakeholders from State and local government, community and business organisations, service providers, industry peak bodies and other resource companies, in order to effectively and proactively plan for and respond to challenges resulting from cumulative impacts of the Project.

Arrow proposes to utilise the RCCC as a forum for consulting with key stakeholders during the finalisation and implementation of the SIMP. Options may include linkages with other planning and consultation mechanisms being established across the Bowen Basin and CSG industry leadership groups.

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