



Browse LNG Precinct



Browse Liquefied Natural Gas Precinct Strategic Assessment Report

(Draft for Public Review)
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Appendix D-2

SOCIAL IMPACT ASSESSMENT VOLUME 2: Impact Assessment



Government of **Western Australia**
Department of **State Development**



Browse LNG Precinct
Strategic Social Impact Assessment
**Volume 2: Assessment of Impacts
and Specialist Studies**

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VOLUME 2

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EXECUTIVE SUMMARY

This is the second volume of the Strategic Social Impact Assessment (SIA) of the proposed Browse LNG Precinct. The report provides a description and analysis of the potential social impacts of the proposed Precinct. A third volume in the series, the Browse LNG Social Impact Assessment Management Plan, provides strategic directions for the appropriate management of the potential social impacts identified in this volume.

There are considerable gas resources off the Kimberley coast and a high level of industry interest in developing these resources. This brings the potential for multiple and uncoordinated gas processing facilities to be developed along the West Australian coast leading to unnecessary and significant social and environmental impacts. In order to avoid such an outcome, the State Government has identified a single multi-user LNG Precinct from which gas can be processed and transported. The site selected for the LNG Precinct is in the vicinity of James Price Point, approximately 60 km north of Broome on the Dampier Peninsula.

The LNG Precinct will be established following identification of a Foundation Proponent and environmental and heritage approvals have been obtained. This initial Precinct development is likely to occur as a staged development expanding upwards from an initial 8 million tonnes to 15 million tonnes per annum (Mtpa) of LNG production.

The development of the Browse LNG Precinct will bring significant benefits for the people of the West Kimberley. These include economic and employment opportunities both at the Precinct and in Broome and the surrounding areas. For example, there are likely to be opportunities supplying services to the Precinct as well as a greater availability of training and employment opportunities for local residents, particularly during long construction periods.

Indigenous benefits are encapsulated in a Heads of Agreement that was signed in April 2009 by the State Government, Woodside (as Foundation Proponent) and the Kimberley Land Council on behalf of Traditional Owners. This agreement outlined a range of social benefits and opportunities including education, training and business development as well as improved service delivery and infrastructure.

The State agreed to provide in excess of \$250 million over some 30 years to ensure a range of positive outcomes including: land tenure reform on the Dampier Peninsula to establish appropriate tenure for housing, economic opportunities and environmental protection; the establishment of a Kimberley Enhancement Scheme; and an Economic Development, Housing, Education and Cultural Preservation Funds.

The Agreement also requires that foundation and future proponents deliver a range of employment and training benefits as well as significant contributions to provide

for the social and economic development of Traditional Owners and the broader community.

Social Impact Assessment

'Social Impact Assessment' (SIA) is an internationally accepted process of research, planning and management to identify and manage change. The SIA of the Browse LNG Precinct assesses both the positive and negative social impacts of the Precinct over the anticipated lifespan of the Browse Basin gas fields and develops strategic management plans to manage the impacts that have been identified.

Conducted under the Terms of Reference of the Commonwealth/State Strategic Assessment Agreement (June 2008), the SIA of the Browse LNG Precinct will be integrated into the final Strategic Assessment Report to be considered for approval under the *Commonwealth Environment Protection Biodiversity and Conservation Act 1999* and the *Western Australian Environmental Protection Act 1986*. As the SIA contributes to the Strategic Assessment, it was conducted as a strategic SIA in relation to a range of potential Precinct development scenarios over time, as distinct from project-level assessments that will follow.

The SIA can be separated into three reporting stages which include:

- Scoping and profiling
- Assessment of impacts
- Mitigation and management of impacts.

Stage two, which includes the assessment of impacts, is the focus of this report.

The SIA has focused on a primary and a secondary impact area. The primary impact area includes James Price Point and the town of Broome. It is the area potentially most affected by the development and operation of the Precinct. The secondary impact area surrounds the primary impact area and includes communities on the Dampier Peninsula and those of Derby and Bidjadanga.

LNG Precinct Development Scenarios

The SIA was undertaken in relation to five potential development scenarios for the Precinct. These included:

- Scenario 1: No development of Precinct
- Scenario 2: Low development (15Mtpa LNG Precinct within 15 years)
- Scenario 3A: Medium development (25Mtpa LNG Precinct within 25 years)
- Scenario 3B: Medium development (35Mtpa LNG Precinct within 25 years)
- Scenario 4: High development (50Mtpa LNG Precinct within 30 years).

¹ The initial commercial proponent for the Precinct.

Scenarios 1 through to 5 represent a gradual increase in the level of the development of the Precinct. Scenarios 2 (15Mtpa), 3A (25Mtpa) and 3B (35Mtpa) are regarded as more likely if the development proceeds and as such the SIA has focused more specifically on these scenarios.

The SIA has been undertaken with the assumption that the Precinct would be developed using a mainly Fly-In Fly-Out (FIFO) construction workforce, which would be housed at a construction camp at or near the Precinct. While the construction workforce will be primarily FIFO, it is assumed that the permanent operational workforce will, over the operational life of the project, increasingly be based within the township of Broome.

Social Impacts of the LNG Precinct

Broome is projected to undergo significant natural population growth² over the next 30 years in the base population within the Shire of Broome. This projected growth is discussed in SIA Volume 1 (Scope and Profile) and is shown in red in Figure A. The projected base population increase in the Shire of Broome is independent of any direct or indirect population increase attributable to the development and operation of the LNG Precinct. Broome's natural growth is projected to increase by 84% from 17,100 people in 2011 to 31,400 people in 2041.

Many of the potential social impacts to the town and Shire of Broome would be a result of the population increasing as a consequence of the development and operation of the Precinct. Over a thirty year period this would include for example, potential population increases from both direct and indirect employment during the construction and operational phases of the Precinct; family migration to the area to support new employees; and migration to the area amongst those seeking opportunistic employment at the Precinct.

Figure A also shows that the population increase from 15, 25 and 35Mtpa development scenarios relative to natural population growth in the Shire of Broome is relatively manageable. For instance, by 2041 the population modelling for the 35Mtpa development scenario adds a further 5% to the population of the Shire of Broome.

Given that many social services and facilities within the Shire are currently experiencing significant demands on resources and are vulnerable to any increase in demand, attention will need to be given to the provision of services and facilities within the Shire of Broome in order to support the natural population increase over the next 30 years. As can be seen in Figure A, the potential Precinct-related population increase is relatively manageable in comparison to Broome's projected natural population growth.

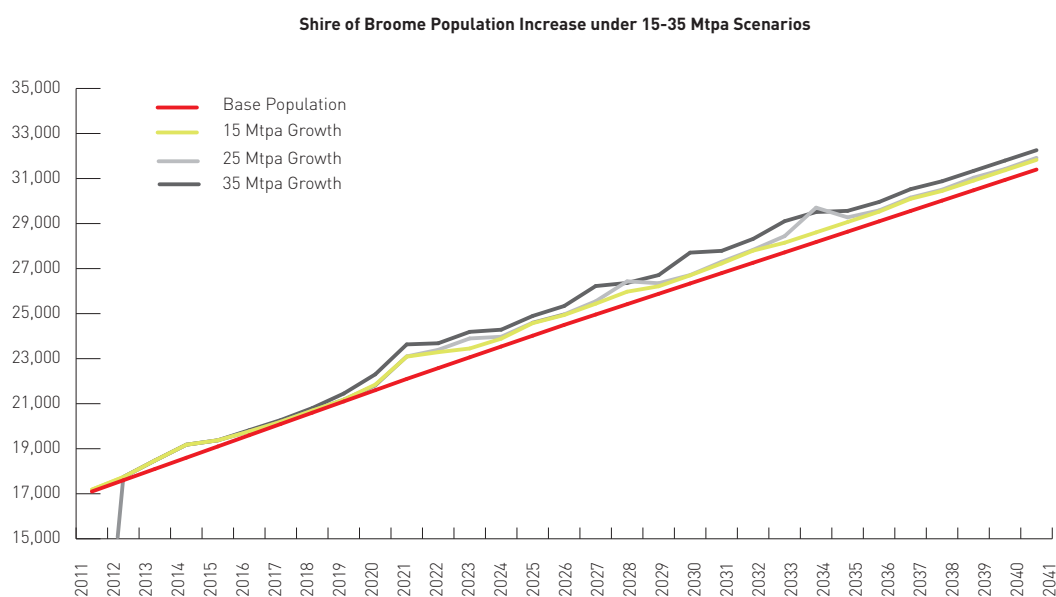


Figure A. Shire of Broome population increase with 15, 25, and 35Mtpa scenarios

² The phrase 'natural population growth' refers to the projected population increase of an area which is derived from the number of births, deaths and migration in and out of the area.

Demand for land and housing

The demand for direct workforce accommodation will be relatively manageable in comparison to the demand from natural population growth within the Shire of Broome. The construction workforce is likely to be a mainly FIFO workforce and will be located at an accommodation camp at or near the Precinct at James Price Point. It is also anticipated that the operational workforce will initially be primarily a FIFO workforce, with employees over time increasingly becoming permanent residents of Broome.

Taking into account all direct and indirect employment effects from the Precinct development, it is estimated that under the most likely development scenarios, the maximum demand for housing over the life of the project will be between 270 and 650 dwellings. However, the average annual demand for housing will be between 175 and 360 dwellings.

The release and development of land at 'Broome North' is intended to provide land for a range of residential, commercial and industrial purposes and should be sufficient to double Broome's current housing stock. It is recommended that a housing strategy be developed to monitor future demand for housing in Broome to ensure land is available to meet that demand. The strategy should also address any demand for short-term accommodation, social housing provision and homelessness within the population.

Public utilities and transport

An Infrastructure Assessment report has addressed issues related to any additional water, waste water, solid waste, power and telecommunications infrastructure required to support population increases in the Shire of Broome. This report concluded that there was sufficient actual or planned water, waste water, and power provisions across all the scenarios to meet the needs of Precinct-generated and natural population increases in the Shire of Broome for the next 30 years.

Social infrastructure services and facilities

Social infrastructure services and facilities include, for example, public libraries, museums, youth centres, senior citizen centres, fire stations and community halls. Based on a significant projected natural population increase for the region, independent of any commercial or industrial development, these services will experience additional pressures and demands. The community services sector within Broome is already under considerable pressure and would have significant difficulty in meeting additional demand from any anticipated future population increase.

Health services and facilities

The health sector in Broome, including all hospital, medical and health services, is currently under significant demand and some services are oversubscribed. The projected increase in population anticipated for the Shire of Broome will bring significant additional demand.

The pressure upon West Kimberley health service delivery is estimated to continue independently of any further development proceeding in the region.

Due to the relatively modest population increase attributable to the Precinct, demand upon health service delivery directly and indirectly attributable to the Precinct is anticipated to be relatively limited. However, it is again noted that small impacts can have major implications for a service system that is already operating at capacity and which will experience greater demand with the natural population growth anticipated in the Shire of Broome.

Education, training and employment

The Shire of Broome is serviced by eight primary schools, one public secondary school, three Catholic secondary schools and two remote schools.

The maximum projected direct and indirect population increase in the 5-12 years age group over the next 30 years attributable to the Precinct development and operation is between 110 and 345 students. This estimate is for the most likely scenarios (2, 3A and 3B) and is sufficiently significant as to place some additional resourcing demands on present primary school services, although the new primary school proposed at Broome North may to some extent accommodate the increased demand.

In relation to the 13-17 years age group, the maximum projected direct and indirect population increase attributable to the Precinct development and operation over the next 30 years is between 55 and 135 students. A review of secondary school enrolments indicates there is some capacity to cope with projected increases in population.

While there are significant barriers to increased involvement in education and training, particularly amongst the indigenous population, it is likely that many Broome residents, on recognising the local employment potential from the project, will engage in training to support work readiness and employment with the Foundation Proponent and its subcontractors. In this instance there will be a need to ensure the demand for skills is matched to appropriate training and that training providers are accessible and adequately resourced to provide the required training.

The greatest opportunities for direct and indirect local employment will be during the construction phase of the Precinct. Although a high proportion of the construction workforce will be FIFO, there will still be employment opportunities in specific sectors servicing the Precinct. Some employment opportunities will arise in functional areas where local people can acquire new qualifications and become work-ready relatively quickly. However, these opportunities will most likely reduce as the Precinct becomes operational and the requirement for a small and highly skilled operational workforce may limit direct employment opportunities.

Sport, tourism and recreation

A separate Tourism Impact Assessment (TIA) was conducted as part of the SIA. The key findings from the TIA were (i) that an LNG Precinct could co-exist with tourism although it may have a negative impact on the Kimberley's reputation and destination image; (ii) a FIFO workforce may reduce the availability of short term visitor accommodation and have the potential to impact negatively on the tourism values, character and the appeal of Broome; and (iii) there would likely be greater access and use of the Dampier Peninsula by locals and tourists.

The population increases predicted for the Shire of Broome, including the population impacts of the Precinct, will also bring significantly more people to the area with greater utilisation of sport and recreational facilities and other recreational areas within the Shire.

Fishing

In the context of recreational fishing it is likely there would be an increase in both the number of recreational fishers and a probable increase in the fishing effort in the region. Furthermore, with an increase in the population, not only would the number of recreational fishers increase but there would likely be an increase in the spatial distribution of recreational fishing to other coastal areas including the Dampier Peninsula.

A number of further social issues were raised in the Fishing Industry Impact Study. These include:

Impacts of the Precinct on the commercial fishing industry in the region are described in the Fishing Industry Impact Study (Big Island Research 2009). This study indicated that commercial fishers are concerned that the establishment of the Precinct would create (i) significant risks for the pearl oyster fishery and aquaculture through changes in the marine environment; and (ii) considerable inconvenience to existing fisheries interests in the short and medium terms and will have a flow on effects to the regional economy.

Police and justice

Crime rates in the Kimberley are the highest in Western Australia, with the Broome police and prison operating at or near capacity. The police and justice services will have additional pressures placed upon them as a result of the anticipated population increase without any further LNG development. On-going investment in these services is required as the population rapidly increases.

It is not clear if the Precinct would be policed from Broome. If this is the case, additional resources will need to be allocated so it does not diminish Broome-based service delivery. A safety and security management strategy should be developed by the Precinct proponents and should include measures such as a policy of obtaining police clearances for workers.

Community wellbeing

As shown in SIA Volume 1 (Scope and Profile), the Kimberley has one of the highest rates of family violence in the State; the highest number of reported sexual assaults for any region in the State; relatively high levels of child abuse and neglect; relatively high suicide rates, particularly amongst Aboriginal people; and, additionally, the Kimberley possesses the highest per capita alcohol consumption rate of any region in the State.

It is clear in consultations with service providers and key stakeholders that existing service providers are either already oversubscribed or operating at capacity and have limited resources to address these issues. Even a relatively small population increase resulting from the Precinct's development could have a disproportionate impact on an already overburdened social services system. In order to meet the natural population increase within the Shire and any direct and indirect population increase attributable to the development and operation of the Precinct, additional services and an increase in resources to existing and new services will be required.

A recent review of the social and community impacts of a FIFO workforce in the Pilbara described family dysfunction, guilt, loneliness, substance abuse, depression and reduced commitment to workplace tasks as commonly experienced by FIFO workers (Planning WA 2009). Such impacts are not specific to Broome or the Pilbara but may occur in all residential locations in which the FIFO workforce is found.

Issues of substance abuse and the psychological health of the FIFO workforce and their families is a general issue which needs to be addressed. In relation to impacts on Broome, a policy of limiting FIFO workforce layover time in Broome may substantially mitigate potential negative impacts on community wellbeing. However, these impacts may still occur amongst the indirect workforce, including contractors and employees who choose to live in Broome.

Community identity and 'sense of place'

Survey research undertaken as part of the SIA indicated that issues related to potential changes in Broome's identity and 'sense of place' were of particular concern to many residents of Broome. The proposed LNG Precinct will bring some change to Broome's identity and 'sense of place', with the Precinct ultimately becoming a part of Broome's ongoing image and identity. The extent to which Broome's identity changes and the extent to which there is separation or integration between the LNG Precinct and Broome's existing identity will be dependent on how 'sense of place', image and identity is managed in the future. A strategy involving community and key stakeholders will need to consider how to best manage and address these issues in the long term.

Social mix and values conflict

A recurrent theme in discussions with stakeholders was the concern that the gas industry will bring about changes to the social mix of Broome and the Dampier Peninsula. This concern focused more specifically on the construction workforce and the extent to which a generally young and well paid gas construction workforce may differ from the prevailing resident, tourism and visitor population of Broome.

The Tourism Impact Assessment identified the presence and potential visibility of a FIFO workforce in Broome as having a significant impact on tourism values, tourism branding and destination appeal and more broadly on the character, appeal and identity of Broome. However, the impacts of the construction workforce on Broome will be minimised by the operation of an accommodation camp with managed access close to the Precinct site.

A considerable values conflict exists in the community amongst those that support and those that oppose the development and operation of the LNG Precinct. Many of those who oppose the development of the Precinct are concerned about the impacts of the Precinct on the marine and terrestrial environment and the changes it may bring to the identity of Broome. On the other hand, those who support the project generally do so because of beliefs about the economic benefits such a development may bring to Broome and the Kimberley. While there are those in the community that hold one value orientation at the exclusion of the other, there are also likely to be many in the community that accept both value orientations and have considerable conflict in relation to their support for the Precinct.

Economic impacts

Significant expenditure and investment would be expected in relation to any of the LNG Precinct's development scenarios as the development of LNG facilities requires large initial capital outlays. In addition, significant expenditure items associated with the LNG Precinct would also include payments to contractors for goods and services and payments to its direct employees.

It can be expected that development of the Precinct will have a positive net impact on Australia's GDP and processing of LNG at the proposed Precinct will significantly enhance Western Australia's export income and State Government payroll tax receipts. However, all PRRT revenue receipts accrue to the Commonwealth Government. The Browse Basin is located in Commonwealth waters and a small area around Scott Reef is considered State Waters. The royalties from the Precinct's development and operation therefore flow to the Commonwealth Government with the exception of a fraction of the royalties from the Torosa gas field, below Scott Reef, which flow to the State Government.

The impact on the regional domestic product of the Kimberley may be significant, as the size of the activity associated with the Precinct is large in proportion to current economic activity in the region. While it is understood that the region's manufacturing and construction services base is relatively small at present, there is scope for it to share in the Precinct's contracting for goods and services.

Increases in regional and local GDP would derive from spending that resulted from supply, procurement and, to some degree, associated new employees and their families. It is predominantly during the construction phases that there will be the greatest procurement opportunities for local businesses and contractors.

While construction would inevitably support major injections into the regional economy, the benefits of these economic impacts would be tempered by the relatively quick decline in demand as construction comes to an end. As such, it would be important that locally established businesses are aware of, and have strategies to manage, a relatively fast reduction in demand for their services.

In respect of the operational stage, operating costs will be relatively low in comparison to the construction phase. During the operational phase, a proportion of maintenance services may be sourced from the region and a larger proportion of the direct operational workforce may choose to reside in Broome than during construction (albeit a much smaller workforce). While this will provide some investment in the local economy and help ensure the economic wellbeing of the community into the future, expenditure levels will be markedly less than during construction.

Social Impact Mitigation and Management (Volume 3).

The purpose of the Browse LNG SIA is to assess the potential social impacts arising from the establishment of a LNG Precinct at James Price Point. These impacts are identified, assessed and where appropriate, mitigated or managed.

Volume 3 of the SIA contains mitigation and management measures to address the Precinct-level impacts identified in this volume.

The SIA baseline (Volume 1: Scope and Profile) identified a number of existing (non-Precinct related) social issues in Broome. These range from long-standing complex social issues to service delivery constraints that are simpler to resolve. The solution of these issues is not within the direct scope of the SIA Management Plan. Nevertheless, it is recognised that a strategic approach across all levels of government might best facilitate the improvement of the current social issues in Broome and that the SIA baseline may provide the catalyst for action.

1. INTRODUCTION

As is described in Volume 1 of the SIA (Scope and Profile), the Browse Basin off the Kimberley coast contains considerable quantities of natural gas. Current technology requires that this gas be processed onshore to remove unwanted contaminants and liquefy the gas for transport. The selection of the proposed Browse (formerly Kimberley) LNG Precinct location was preceded by the Northern Development Taskforce, which was tasked with finding the most acceptable gas processing site in the environmentally and culturally significant Kimberley region of Western Australia. The intention was to identify a site that could accommodate more than one proponent processing and transporting onshore gas from the Browse Basin, and lessen the chance of industry developing in the sensitive north Kimberley. A total of 43 sites were considered for the Precinct with a site near James Price Point, around 60 km north of Broome, identified in late December 2008 (See Figure 1.1).

If the development of the Precinct proceeds, the Precinct and port are likely to be constructed as a staged development expanding from an initial 8 to 15 million tonnes per annum of LNG production up to a possible 50 million tonnes. The port will enable independent shipping operations by the gas processors, but allow the sharing of other facilities.

The Browse LNG Social Impact Assessment (SIA) aims to anticipate, mitigate and manage social changes introduced through the construction and operation of the proposed Precinct. The SIA identifies the potential impacts from a range of development scenarios and suggests how these impacts could be mitigated and, if this is not possible, how the impacts can be managed to limit the significance of their potential impact.

Conducted under the Terms of Reference of the Commonwealth/State Strategic Assessment Agreement (June 2008), the SIA of the Browse LNG Precinct will be integrated into the final Strategic Assessment Report to be considered for approval under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* and the *Western Australian Environmental Protection Act 1986*. It is primarily aimed at informing the different levels of government and affected people of the potential social impacts from the different Precinct development scenarios. This SIA is a strategic level assessment of the potential social impacts should the Precinct develop. As there is no clear Precinct development path, the SIA was conducted in relation to a number of potential Precinct development scenarios over a time frame of 30 years.

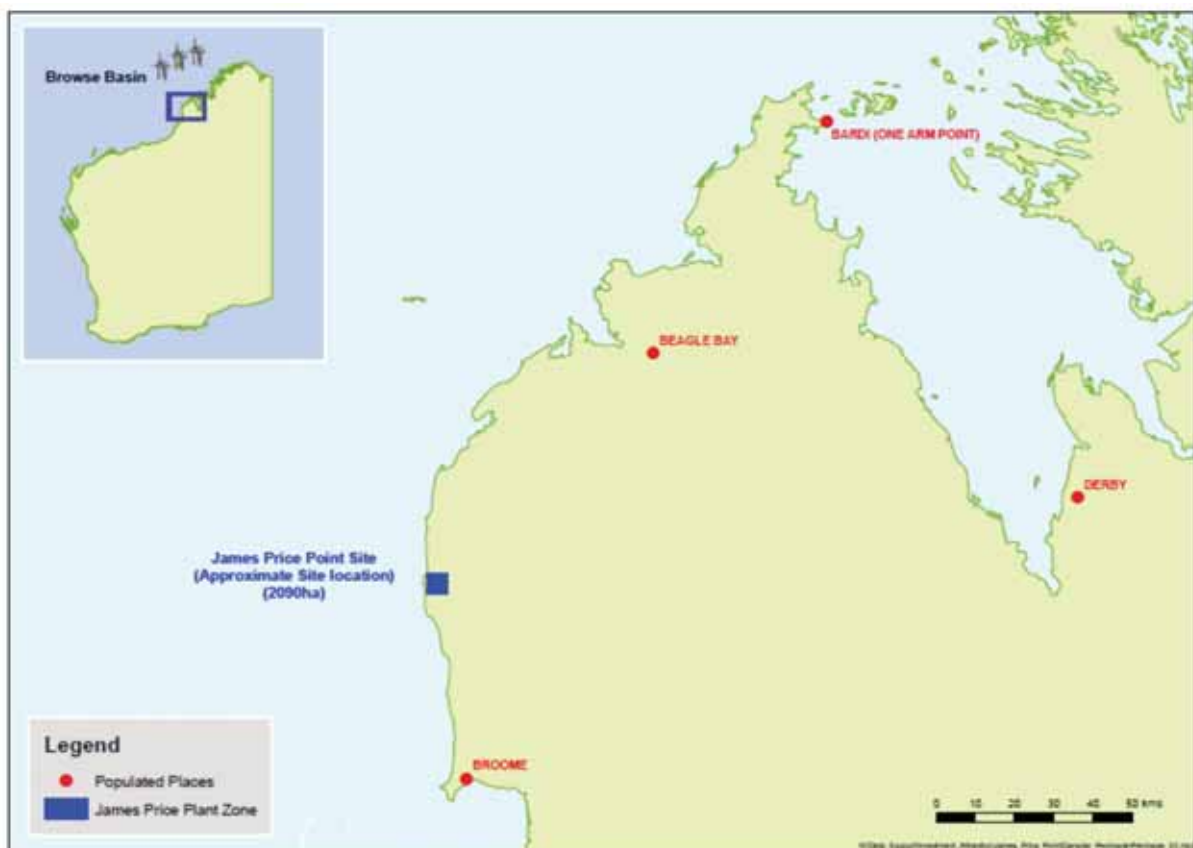


Figure 1.1. Location of the proposed Precinct on the Dampier Peninsula (DSD Website)

The SIA has been separated into three reporting stages:

Volume 1: Browse LNG Social Impact Assessment Scope and Profile provides information on the region; the proposed development, including baseline data on existing social and economic conditions; and potential impact variables. It is available on the Department of State Development (DSD) website.

Volume 2: Browse LNG Assessment of Impacts and Specialist Studies (this report) focuses on the assessment of the impact variables identified in Volume 1 and includes, as appendices, the three specialist studies. The original fourth specialist study, the Aboriginal Social Impact Assessment (ASIA) has been conducted in parallel to this process and is reported on separately. This volume begins with an overview of the SIA methodology including a description of the range of potential Precinct development scenarios (Chapter 2) and population modelling (Chapter 3) used in the assessment. Chapters 4-7 discuss the potential social impacts of population change, community wellbeing, psycho-social impacts and socio-economic impacts. The document has a number of Annexures and Appendices. These are:

- Annexure A: Additional baseline profiling information
- Annexure B: Precinct workforce projections
- Annexure C: The SIA Stakeholder Engagement
- Appendix 1: Tourism Impact Assessment

http://www.dsd.wa.gov.au/documents/2Kimberley_LNG_Tourism_Impact.pdf

- Appendix 2: Fishing, Pearling and Aquaculture Impact Assessment

<http://www.fish.wa.gov.au/docs/op/index.php?0706>

- Appendix 3: Infrastructure Assessment

http://www.dsd.wa.gov.au/documents/BLNG_Infrastructure_Assessment2.pdf

Volume 3: Browse LNG Social Impact Assessment Management Plan.

The assessment reported in Volume II will guide the development of the management plan which is reported in Volume III.

2. SOCIAL IMPACT ASSESSMENT METHODOLOGY

'Social Impact Assessment' is an internationally accepted process of research, planning and management to anticipate and manage change. The completed SIA of the Browse LNG Precinct will assess the positive and negative social impacts of the Precinct over the anticipated lifespan of the Browse Basin gas fields and develop indicative social management plans to manage the impacts that have been identified.

This section of the report discusses the primary and secondary impact areas defined for the assessment, the stakeholder consultation undertaken as part of the SIA (see also Annexure C) as well as details of the range of scenarios that underpin the population modelling (Chapter 4).

As discussed in Volume 1 (Scope and Profile), the SIA identified primary and secondary impact areas, as shown in Figure 2.1.

- The primary impact area consists of the spatial area most physically impacted upon by the project, which includes a 10km radius from James Price Point, where the Precinct will be located, and the urban area of Broome. The primary impact area will experience most of the social and economic impacts of the Precinct. These include the population impacts that are likely to be experienced in Broome and surrounding areas and any impact on the existing cultural, heritage and recreational significance of the Precinct site. This area includes the construction and operational workforce accommodation as well as service areas for supporting industries.
- The secondary impact area surrounds the primary impact area and contains those areas less likely to be either directly or indirectly impacted by the project. This area includes the communities on the Dampier Peninsula, as well as the communities of Derby and Bidyadanga.

This SIA focuses on the primary impact area as it contains the major population centre of Broome, the location of the Precinct, temporary and permanent worker accommodation, as well as the local informal recreation areas around James Prices Point. There is some reference to Derby as the secondary population centre but it is assumed that Dampier Peninsula and other indigenous areas in the secondary impact area will be covered in more detail in the Aboriginal Social Impact Assessment (ASIA) undertaken by the Kimberley Land Council.

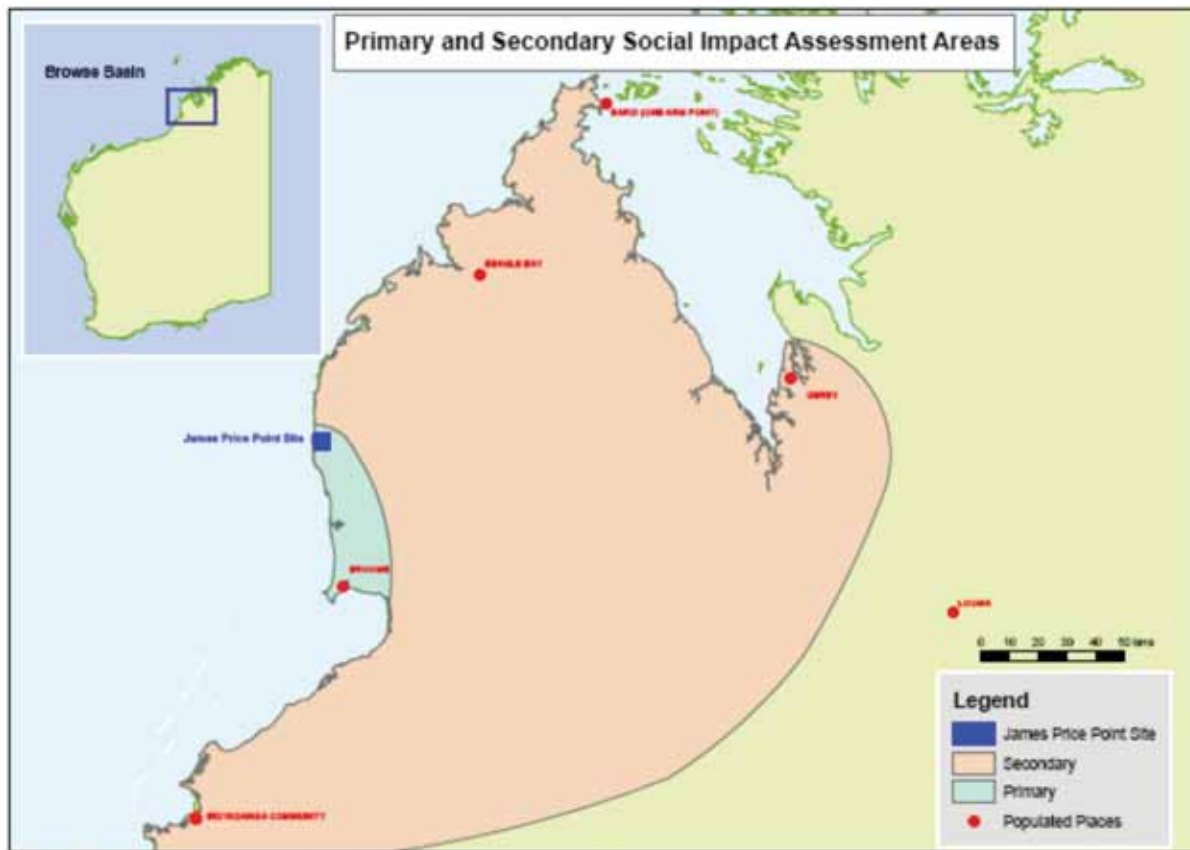


Figure 2.1. Primary and secondary social impact areas

The SIA methodology followed in the Browse LNG Precinct SIA is described in detail in Volume 1 (Scope and Profile). Social Impact Assessment methodology consists of a process to anticipate and manage change and provides a sound information base for decision-making. The methodology usually consists of a number of iterative phases that include understanding the proposed project/s and the community before change (baseline), the potential impacts of the project/s and recommendations for mitigation, management and monitoring of these impacts. Stakeholder consultation is an important part of a SIA as is documenting the process followed.

This section and Annexure C to this report, expands on the stakeholder consultation undertaken specifically for the SIA, including a stakeholder engagement plan. A separate community engagement process forms part of the strategic assessment process.

The community consultation that was undertaken for the Precinct was based on the best available information at the time. This included the peak workforce for the foundation proponent's initial construction as estimated at 2500-3500 workers. Shortly before this document was to be released, the potential foundation proponent revised the peak workforce upward to around 6000 workers. The population modelling reported on in this report was revised but the community consultation reported in this document was not repeated because the potential foundation proponent was about to commence their project level SIA and community engagement would occur around the revised figures.

Community and stakeholder engagement specifically for the SIA, based on a peak workforce of 2500-3500 workers, included:

- A range of meetings and presentations with government agencies (Commonwealth, State and Local), formal organisations such as the Chamber of Commerce, and service providers to provide them with information on the project and the potential increase in demand on their services.
- A number of technical workshops with service providers in the areas of infrastructure; sport and recreation; housing; health; and education and training. A further technical workshop on the identification of Broome's character or 'sense of place' was also held. Summary notes from the workshops are provided in Annexure C.
- Several events which targeted the general community so they could provide input into the process and verify (or add to) the issues identified during the SIA process. These events included an Open Day; participation in a two-day Shire LNG forum; and two shopping centre information sessions on Fridays and Saturday mornings at each of the two Broome shopping centres. Further input to the SIA process was also invited at the NorthWest Expo held in Broome in May 2009.

Project-related engagement also included fortnightly updates in the local newspaper, fact sheets available at the Shire offices and publications on the DSD website.

Annexure C provides further details of the people and agencies contacted throughout the SIA process; summary workshop notes and details of the community issues at each of the community events. Table 2.1 summarises the issues of concern identified at community events.

Table 2.1. Issues of concern across community consultation locations

	Open Day Shire Forum		Paspaley Plaza		Broome Boulevard		Total	
Issues	Count	%	Count	%	Count	%	Count	%
Potential changes to Broome's unique character or 'sense of place'	61	85.9	22	53.7	34	64.1	117	70.9
The capacity of health services	55	77.5	23	56.1	34	64.1	112	67.9
The availability of housing, inc. affordable housing	58	81.7	18	43.9	34	64.1	110	66.7
The capacity of existing town utilities	50	70.4	18	43.9	34	64.1	102	61.8
Access to recreational areas near the Precinct	55	77.5	18	43.9	29	54.7	102	61.8
Indigenous issues	55	77.5	18	44.3.9	28	52.8	101	61.2
Potential impacts to tourism	49	69.0	19	46.3	22	41.5	90	54.5
Potential impacts to recreational fishing	44	62.0	18	43.9	25	47.2	87	52.7
Potential impacts to commercial fishing and pearling	45	63.4	15	36.6	21	39.6	81	49.1
The capacity of education services	45	63.4	14	34.1	21	39.6	80	48.5
The capacity of the police and the justice system	41	57.8	14	34.1	22	41.5	77	46.7
Others	50	70.4	26	63.4	33	62.3	109	66.1
Total participants	71	100.0	41	100.0	53	100.0	165	100.0

Note: The Open Day and Shire Forum was from the 17th to 19th of September 2009.
Paspaley Plaza Shopping Centre consultation was held on the 4th and 5th December 2009.
Broome Boulevard Shopping Centre consultation was held on the 29th and 30th January 2010.

2.1 Precinct Development Scenarios

This strategic SIA is based on a number of scenarios initially conceptualised by the Department of State Development (DSD) project team and verified by Woodside Energy Limited's (Woodside) LNG project staff as appropriate reflections of recent approaches to LNG construction and operations in Australia.

In early 2009, Woodside responded to an industry expression of interest to become the first commercial proponent at the Precinct (Foundation Proponent). In October 2009, it subsequently entered into a Preliminary

Development Agreement with the State of Western Australia, and in February 2010 nominated the Precinct at James Price Point as their preferred gas processing locality. The decision to process gas at the Precinct is still subject to the FID which is anticipated for mid-2012.

Because of their industry knowledge, Woodside assisted with the detail of the development scenarios which can be found in Annexure B. The following scenarios, showing the development of the Precinct over time, form the basis of the SIA population modelling.

The Precinct development scenarios are considered in relation to the 'base case' or no-LNG-Precinct population growth. The mid-range population projection from Volume 1: Scope and Profile shows a substantial increase in population from 17,100 in 2011 to 31,400 people in 2041. This base population increase underpins each of the following scenarios:

- Scenario 1: No development of Precinct
- Scenario 2: Low development (15Mtpa LNG Precinct within 15 years)
- Scenario 3A: Medium development (25Mtpa LNG Precinct within 25 years)
- Scenario 3B: Medium development (35Mtpa LNG Precinct within 25 years)
- Scenario 4: High development (50Mtpa LNG Precinct within 30 years)

Scenario 1: No Development of Precinct (0-15 years)

The following are the characteristics of Scenario 1:

- The development of the Browse Basin with an offshore export pipeline to Karratha.
- The workforce estimates are based on the development of the Browse Basin tied back to Karratha which includes (i) various upstream facilities; (ii) inter field pipelines; (iii) offshore export pipeline to Karratha with the assumption that the export pipeline workforce is routed through Broome; and (iv) the construction of an offshore supply base in Broome.
- The workforce in Karratha does not include support for (i) onshore infrastructure and utilities to receive gas; (ii) any debottlenecking on existing facilities; and (iii) no additional LNG processing trains.
- Upstream facilities and gravity based structures are fabricated in South East (SE) Asia.
- Additional campaigns and ongoing drilling and completions will continue subject to flow-rates and backfill requirements.

In this scenario the State will reserve the LNG Precinct land area for future LNG processing and not progress any related infrastructure development including, for example, road access.

Scenario 2: Low Development (15Mtpa LNG Precinct within 15 years)

The following are the characteristics of Scenario 2:

- The development of an LNG Precinct in the Kimberley by a Foundation Proponent which will include (i) various upstream facilities; (ii) inter field pipeline; (iii) export pipeline; (iv) onshore infrastructure and utilities; and (v) three LNG processing trains (nominal 12Mtpa total capacity).
- Additional and ongoing drilling and completions will continue out to about 2030.

- A downstream modular execution strategy with modules fabricated in SE Asia.
- Upstream facilities fabricated in SE Asia.
- A fourth LNG processing train is ready by about 2022.
- Gas for the fourth LNG processing train is sourced from a field in the Browse Basin and is developed through a subsea tieback³ to the existing offshore facilities (i.e. no additional offshore facilities are required).
- Turnaround maintenance is scheduled for every five years.

Scenario 3A: Medium Development (25Mtpa LNG Precinct within 25 years)

- The development of an LNG Precinct in the Kimberley by a Foundation Proponent which will include (i) various upstream facilities; (ii) inter field pipeline; (iii) export pipeline; (iv) onshore infrastructure and utilities; and (v) three LNG processing trains (nominal 12Mtpa total capacity).
- Additional and ongoing drilling and completions will continue out to about 2030.
- A downstream modular execution strategy with modules fabricated in SE Asia.
- Upstream facilities fabricated in SE Asia.
- Four additional LNG processing trains are built in sequence with the separation designed to optimise workforce planning.
- Additional subsea tiebacks and upstream facilities are fabricated in SE Asia and installed offshore:
 - o Gas for the fourth LNG train is sourced from a field in the Browse Basin and is developed via a subsea tieback to the existing offshore facilities (i.e. no additional offshore facilities are required).
 - o Gas for the fifth and sixth LNG trains is sourced from a range of fields in the Browse Basin that require additional deepwater or shallow water facilities to access the reservoir. The workforce to support the installation of these facilities is included.
 - o Inter-field and export pipelines to tieback the facilities to either the shelf based platform or directly to the onshore facility. Workforce for the installation of these pipelines is included.
- Additional development drilling programs (excluding any appraisal drilling) to source the additional gas reserves are required and the workforce has been included.
- Turnaround maintenance is scheduled every five years with any overlapping conflicts managed out.

³ Subsea tiebacks connect new discoveries to existing production facilities, improving the economics of offshore oil and gas production and transforming marginal fields into profitable assets. (<http://en.wikipedia.org/wiki/Tieback>)

Scenario 3B: Medium Development (35Mtpa LNG Precinct within 25 years)

In addition to the assumptions for Scenario 3A, the following key assumptions are also attributable to Scenario 3B:

- It is assumed that a second proponent will develop an additional 10Mtpa LNG capacity facility within the Precinct through the development of three LNG Trains.
- FID for the first of the three trains would be during 2022 with start-up achieved about four years later.
- Infrastructure, utilities, expanded marine facilities and additional LNG and condensate storage would be required to support the three train development. This work is assumed to be undertaken in parallel with the first train.
- The first LNG train will be followed by a second and third LNG train developed by the second proponent.
- The additional LNG trains will be separated by around 6-12 months.
- Additional construction accommodation is required to support the development of LNG trains in parallel by both proponents.
- Additional accommodation for operational personnel is provided.
- Major offshore facilities are required comprising typically of a deepwater floating facility and additional shelf based facilities. These are fabricated and installed based on a schedule to support the commencement of LNG processing from each additional LNG train.
- Additional export pipeline from the offshore processing facility to the onshore LNG facilities.
- An ongoing drilling campaign to support a three train development continues for five years.

Scenario 4: High Development - 50Mtpa LNG Precinct within 30 years

In addition to the assumptions for Scenario 3B, the following key assumptions are also attributable to Scenario 4:

- Four additional LNG processing trains are built by the second proponent in sequence with the separation between LNG trains optimised to avoid workforce conflicts.
- Additional subsea tiebacks and upstream facilities are fabricated in SE Asia and installed offshore.
- Gas for the fourth LNG train is sourced from a field in the Browse Basin and is developed via a subsea tieback to the existing offshore facilities (i.e. no additional offshore facilities are required).

- Gas for the fifth and sixth LNG trains is sourced from a range of fields in the Browse Basin that require additional deepwater or shallow water facilities to access the reservoir. Workforce to support the installation of these facilities is included.
- Inter-field and export pipelines to tieback the facilities to either the shelf based platform or directly to the onshore facility would be required. Workforce for the installation of these pipelines is included.
- Additional development drilling programs (excluding any appraisal drilling) to source the additional gas reserves is required and the workforce has been included.

The following general assumptions apply to each of the five scenarios:

- The workforce for the installation and construction of modular greenfield LNG trains is in a range from 5,500 to 8,000 direct and indirect personnel. The wide range accounts for variations in the success of the construction program and the potential for program acceleration.
- Expansion of pre-existing LNG facilities requires a combination of greenfield and brownfield work. The workforce requirements for expansion trains (i.e. Scenarios 3 and 4) are therefore higher than the workforce requirements for greenfield LNG trains.
- No allowance has been made for the workforce constraints of multiple trains being constructed by different proponents.
- Operational workforce for a typical LNG train is assumed to be between 140 and 180 personnel.
- Operational workforce for a typical upstream facility with marine support is assumed to be between 90 and 140 personnel, dependent on the manning philosophy and the size and functionality of the facility. For the purpose of this analysis, deepwater facilities are assumed to be unmanned and shallow water facilities are manned.
- Major turnaround maintenance is scheduled for each major facility every five years. Workforce for turnarounds varies between 500 and 1,000 personnel dependent on the size of the facility and the planning for the shutdown.
- Ongoing drilling programs assume an ongoing workforce of 100 and 150 personnel which covers drill rig personnel and support boat personnel.
- A general assumption is made with regard to the accuracy of the figures proposed. The range applied is -10% +30%. This range is allocated to account for changes in contracting strategy, success in execution and variations in construction productivity.

2.2 Support of Off-Shore Activities

The Browse LNG SIA focuses on assessment of the social impacts of the development of a Precinct near James Price Point for the onshore processing of natural gas from the Browse Basin. There are a number of off-shore activities that contribute towards the overall population impact of LNG development. These impacts include an on-shore supply base to support the offshore exploration and production activities as well as the use of onshore airport and port facilities to support offshore rig activities. The impacts of the supply base have not been assessed in the SIA because of the lack of certainty about where the supply base will be located. In mid 2010, potential locations at Broome, the James Price Point Precinct and Point Torment were still being considered.

Once there is a decision on the location of the supply base, a further SIA should be conducted to assess the cumulative impacts of the supply base and the Precinct and any other likely developments to the region.

2.3 Scenario Likelihood

LNG is traded on the world market and development is subject to market conditions. If the development of the Precinct proceeds as outlined in the scenarios above, government and industry market analysts have predicted that the low to medium Precinct scenarios (Scenarios 2, 3A and 3B) are considerably more likely than the high development scenario (Scenario 4). The high development scenario should be regarded as aspirational and less likely to occur.

Given the advice of market analysts, the assessment of impacts focuses on the more likely low and medium scenarios (Scenarios 2, 3A and 3B).

2.4 Workforce Arrangements

A LNG workforce can be separated into clear phases, starting with construction, followed by the operational phase, followed by scheduled maintenance. The potential population impacts from the workforce arise from an increase in both the permanent and temporary population, particularly in the primary impact area (the James Price Point Precinct area and the town of Broome).

The additional people moving to the impact areas can be also separated by project phase. The majority of the population impacts occur during the construction phase as large workforces are required over comparatively long periods of time to construct LNG plants. The operational workforces are significantly smaller than the construction workforce. As shown in Annexure B, the initial construction workforce is likely to be particularly large (a predicted peak of between 5,500 to 8,000 workers, depending on the time span for construction) as the initial construction includes both the construction of a port as well as several LNG trains and supporting infrastructure. In addition to the operational workforce, approximately every five years LNG trains need to be shut down for maintenance. A workforce of 500 – 1,000 workers with similar skills to the operational workforce is required during this time.

2.4.1 Construction Workforce

The direct construction workforce will be located on the Dampier Peninsula in reasonable proximity to the Precinct site. As a condition of the Precinct, commercial proponents will be required to operate a managed access construction camp, where both internal and external access will be managed, to minimise the impact of the workers on Broome. There will be employment opportunities at the Precinct for Broome residents both in construction, operation and support activities, as well as for any support activities based in Broome itself.

Volume 1 (Scope and Profile) illustrates, with reference to international examples, the large number of workers required in the construction phase of an LNG plant. The large number of construction workers, the range of skills required and the small number of suitably skilled people in Broome and the Kimberley has led to the assumption of a largely FIFO (Fly-In Fly-Out) workforce. The severe housing and services capacity limitations of Broome have led to an agreement with industry that the construction workforce will be located in a construction camp close to the Precinct. The intended transport arrangements would be for the FIFO workers to fly into Broome Airport either on commercial or chartered aircraft. These workers would then transit, possibly through a separate transit area, to busses that will transport them to the construction camp. It is likely that no private vehicles will be permitted at the construction camp and that Broome-resident construction workers will also be bussed to the site for the duration of their rotation. These mitigation measures are developed further in the Social Management Plan (SIA Volume 3).

The tourism industry has expressed concern about the potential behaviour of construction workers, particularly when interacting with the high-end tourism market, for example at the airport. The potential Foundation Proponent is considering measures to manage worker conduct, including access to alcohol while in transit. These and other management measures are discussed further in the Social Management Plan (SIA Volume 3).

Construction on LNG developments tends to be in 12 hour shifts, with the most usual arrangement in the industry (for example in Karratha) being four weeks on and one week off. Within the four working weeks, the company is required to provide a rest day after 13 working days. The likely working arrangement for FIFO workers over five weeks would include one rest day at the construction camp and the second rest day incorporated into the week at home.

The Traditional Owners, the tourism industry and local fishing industry have expressed concern over what a sizable construction workforce might do on their rest days. The Strategic Social Management Plan contains measures to ensure that recreational activity is managed during these periods such as the recommendation that workers only be able to fish while on organised tours.

There will be opportunities for local people to form part of the construction workforce and it is likely that opportunistic construction workers will move to Broome with their families to take advantage of the construction phase. Industry experience in other Western Australian locations indicates that around 10% of the workforce includes people who have opportunistically moved to the location seeking employment (transient workforce). Whether this percentage will be mirrored in Broome is particularly difficult to estimate because the conditions in other locations such as Karratha are very different. Broome has a national and international profile as a tourism destination and it is likely that Broome will be perceived as a more desirable place to move to than Karratha.

2.4.2 Operational Workforce

The operational workforce is smaller than the construction workforce. For example, during the first five years of operation, the number of workers required under Scenarios 2 and 3A is between 500 and 750.

The operational workforce is likely to initially operate on a mostly FIFO basis because operators on new LNG plants usually need between 7 and 10 years experience. Over time, it is expected that a proportion of the operational workforce will choose to live in Broome. The operational worker arrangements differ from the construction rosters. It is likely that the operational workforce roster will be similar to previous arrangements in the industry (for example in Karratha) where the operational workforce participate in a 15 week roster (two weeks on and two weeks off, twice over and then two weeks on with five weeks off). Based on previous experience, it is likely that the majority of leave periods would be spent at their home locations.

3. ECONOMIC IMPACTS

Significant expenditure and investment would be expected in relation to any of the LNG Precinct's development scenarios as the development of LNG facilities requires large initial capital outlays. In addition, significant expenditure items associated with the LNG Precinct would also include payments to contractors for goods and services and payments to its direct employees.

This investment and expenditure can have substantial macroeconomic impacts on factors including Gross Domestic Product (GDP), income, inflation (prices) and fiscal variables. While the use of several economic modelling processes was considered, no model was determined sufficiently appropriate to accurately quantify the economic impacts of the Precinct. Nevertheless, it is clear that similar scale projects have achieved increases in Australia's GDP by \$70 million and by \$90 million for Western Australia over the last decade (Acil Tasman 2009).

At this time it is too early to predict with adequate certainty, the anticipated investment and expenditure under each scenario. The ability for economic modelling to predict financial impacts is therefore somewhat constrained. Using other projects to compare the operation of the proposed Precinct is similarly of limited use because of its greenfield nature and the uniqueness of the scale and operation of the Precinct. This section nonetheless seeks to broadly examine and qualitatively analyse the macroeconomic impacts of the expenditure and investment associated with the LNG Precinct, including the impacts on GDP, income, prices and fiscal variables.

3.1 Impacts to Income - Australia

It can be expected that development of the Precinct will have a positive net GDP impact. The level of this impact cannot be quantified in the absence of a model that can capture the indirect or flow-on economic impacts.

As an indication of the potential for a significant contribution to GDP, one forecast predicted that Chevron's Gorgon project has the potential to boost GDP by \$64 billion (net present value) (Chevron, 2009). The Gorgon Project comprises a three train 15 Mtpa LNG facility plus a domestic gas plant, which is similar in size to the smaller of the development scenarios. Again, while such analogues provide an approximate guide, there are caveats on its use as an unqualified comparison.

Total output multipliers can also be used to gain a perspective on the GDP impact. One estimate of output multipliers for the oil and gas industry was 1.79 for Australia, 1.40 for Western Australia and 1.18 for the Kimberley (Johnson, 2001). This suggests that for each dollar output from the LNG Precinct an additional \$0.79 in output is generated nationally to allow the production of that output. For Western Australia and the Kimberley, the additional output is \$0.40 and \$0.18 respectively. These figures must be viewed with some caution given there is currently no LNG processing in the Kimberley, and the study by Johnson is based on 1994-95 data.

Australian household income is also likely to increase under all scenarios as a result of the establishment of the Precinct. This is due to increased income earned by workers and businesses. Income spent by these workers then increases the income for other individuals in the economy through multiplier effects.

Supply constraints in the economy such as tight labour markets have the potential to erode the potential GDP benefits. The recent easing of some supply constraints due to global financial conditions may potentially improve the net GDP impact of the Precinct.

3.2 Impacts to Income – Western Australia

As a greenfield frontier, the processing of Browse Basin LNG at James Price Point has the potential to consolidate the State's existing capacity in the oil and gas sector, and therefore attract similar business to the State in the future.

In addition to the contributions to Australia's export performance that will be achieved from the development of Browse Basin LNG, processing of LNG at the proposed Precinct will significantly enhance Western Australia's export income. Under Scenario 2, LNG exports could be worth up to \$10 billion per annum. This contribution would be substantially higher under Scenario 4.

Taxation revenue is discussed in greater detail in Section 3.5 however from a State Government perspective; the payroll tax receipts that would accrue from the development of the Precinct are considerable. For example, during the peak construction attributed to Scenario 3A, present estimates suggest that the State Government could acquire payroll tax receipts of up to \$45 million in 2014.

Currently all Petroleum Resource Rent Tax (PRRT) revenue receipts accrue to the Commonwealth Government. While the State Government would receive some royalty receipts from the Precinct's development and operation, these would be relatively small when compared with those earned by the Commonwealth Government. The State-based royalty receipts are as a result of some fields within the Browse Basin being considered State waters. For instance, in the Browse LNG Development, a portion of the Torosa field under Scott Reef, is in State controlled waters, whereas the Brecknock and Calliance fields are wholly located in Commonwealth waters and therefore PRRT applies. Either via an unitisation agreement or through direct production, the State will receive an income stream from the development of this field.

In addition, the Commonwealth Government has previously committed (specifically for the Gorgon Project) that an additional royalty payment would be made to Western Australia in recognition of the infrastructure and other cost impacts arising from large oil and gas development. There is potential for this agreement to be extended to projects such as the Browse LNG Development.

3.3 Impacts to Income – Regional and Local

The impact upon the regional domestic product of the Kimberley may be significant, as the size of the activity associated with the Precinct is large in proportion to current economic activity in the region.

An objective of Government in establishing the Precinct is to provide opportunities for local employment and economic development. The opportunity for the region's small manufacturing and construction base to contract for supply of Precinct goods and services is likely to generate flow-on benefits including an increase in both business income and in the capacity of local businesses to deal with large clients and projects. This could lead to further productivity gains in the area and expand its capacity even beyond LNG contracting.

Indigenous businesses will also have potential to gain through the development of the BLNG Precinct. However, in order to realise this benefit, there will need to be considerable examination of barriers to Indigenous employability in the impact areas, and several strategies are proposed to address this issues (see SIA Volume 3).

Ensuring positive impacts to local business will require Precinct proponents to look for opportunities for local businesses to pre-qualify and tender. Assistance in achieving the required standards may be required for some businesses that have not had the opportunity to tender on these types of projects previously. Scopes of work will also need to be of appropriate size and nature for local businesses to be able to tender. For this to occur, the Broome Chamber of Commerce needs to take a leadership role.

It is likely that new employment opportunities with Broome-based contractors (for example laundry, catering, transport and tradesmen) may generate an expanded customer base for the region's non-Precinct related businesses (such as retail and hospitality) and could also include opportunities for the establishment of new Indigenous business. Payment to direct employees and contractors has the potential to increase average individual incomes, which would also suggest a likely increase in local spending.

Increases in the regional and local GDP would derive from spending that resulted from supply, procurement and to some degree, the associated spending by new employees and their families. The greatest procurement opportunities for local businesses and contractors are predominantly during the phases of installation, commissioning, start up, drilling and operations.

⁴ In Western Australia, companies with an annual wage bill of less than \$750,000 are not liable for payroll tax. The payroll tax rate is 5.5% for that part of the annual wages bill above \$750,000. <http://www.dtf.wa.gov.au/cms/content.aspx?id=288#What%20is%20the%20rate%20of%20pay-roll%20tax?>

During this stage, contractors may establish temporary offices or material depots in Broome, increasing short term demand for accommodation and local services. The materials depot that will support the operations phase will similarly create local demand and opportunities.

The large scale nature of LNG activities proposed for the region would also provide opportunities for companies and service providers to locate activities within the Region. If realised, this would aid in further diversifying the region's economy and provide it with even further employment and income benefits.

While construction and start-up phases would inevitably support major injections into the regional economy, particularly through the opportunities created for local businesses, the benefits of these economic impacts would be tempered by the relatively quick decline in demand as construction comes to an end. It is important that locally established businesses are aware of, and have strategies to manage a relatively fast reduction in demand for their services. Flow-on impacts from the corresponding changes to the local economy will need to be similarly addressed. The period of time after which this rapid decline in demand occurs may be extended if a further proponent commences construction during the 'wind-down' of construction works by the Foundation Proponent.

The opportunities during the operational phase of the project will be fewer than the construction phase but are longer-term and will create a better skilled local workforce for Broome.

In respect of the operations stage, operating costs for LNG projects can be relatively low in comparison to those incurred by other phases of LNG development. Estimating such costs can be problematic⁵, however broadly speaking, operating costs for a 15Mtpa LNG operation could be between \$500 and \$600 million per year. During this phase, a proportion of maintenance services associated with the LNG development may be sourced from the region and provide opportunities for local employment. In addition, a larger proportion of the comparatively small direct operational workforce may choose to reside in Broome. While this will provide some investment in the local economy and help ensure the economic wellbeing of the community into the future, expenditure levels will be markedly less than during construction.

Even considering the investment that will inevitably flow to the regional economy during both the Construction and Operations phases of the Precinct, the FIFO nature of large sections of the workforce will limit the increase in regional domestic product, with some of this benefit being transferred to other centres such as Perth.

Resource competition with other sectors of the Broome economy such as light industry and tourism may result in a reduction in income from those sectors. Labour may be reallocated to higher paying jobs associated with the Precinct, leaving the other sectors with either higher costs or reduced output.

SIA Volume 2 contains, as a Precinct condition, requirements that commercial proponents develop strategies to maximise economic benefits for the communities of Broome and the region.

3.3.1 Workforce Competition

Workforce competition, with Broome businesses, Government and non-Government agencies is a likely impact of development at the Precinct. Under present circumstances it is understood that Broome experiences difficulties in acquiring employees across all sectors. Even without the development of a Precinct at James Price Point, this existing problem will increase with the town's natural population growth and corresponding increased demand (or supply) for labour. To some extent, these pressures are alleviated in the hospitality and unskilled service sector during the dry season, when businesses can rely on Broome's transient worker population.

The impacts of workforce competition in the service and light industrial sector may be mitigated to some extent by the above-mentioned transient workforce during the dry season. The arrival of opportunistic employees specifically seeking Precinct-related work may also reduce competition. It is also possible that opportunistic employees unable to acquire work at the Precinct may alleviate potential workforce deficits experienced by other businesses in Broome or the wider region.

Workforce competition impacts on local businesses are likely to be limited to construction (approximately five years for the Foundation Proponent). During the Operations phase, the demand for labour at the Precinct will be mostly highly-skilled in nature, and will be unlikely to be sourced in such high proportions from the local area. Furthermore, the sheer number of workers will also reduce. The required direct workforce during the first five years of operation, for example, under Scenarios 2 and 3A is between 500 and 750 workers. The associated services and indirect employees required from the local area will also decrease accordingly.

SIA Volume 3 addresses the issue of workforce competition through strategies to retain local economic benefits and strategies to manage the transient or opportunistic workforce that could fill employment vacancies.

⁵ LNG liquefaction costs are around US\$0.20/MMbtu – US\$0.30/MMbtu. However, this cost does not include the operating costs of the platform/field, which could be around US\$0.30/MMbtu nor does it include pipeline operating costs. Refer:

i.) John Pyrdol and Bob Baron, "What is more profitable to build – GTL or LNG facilities?", June 2006 [refer page 7] of article <http://www.stanford.edu/group/EMF/projects/emf23/Junedocs/BaronRevised.pdf>

ii.) Nick Davies, CEO and Managing Director, Arrow Energy announcement of 2008 December earnings found at: <http://www.bourseinvestor.com/bi4/pdfnews/default.asp?d=00931227&f=20090226>

iii.) Ulrich Bartsch, "Financial Risks and Rewards in LNG Projects: Qatar, Oman, and Yemen", November 1998. Refer page 7 of: <http://www.oxfordenergy.org/pdfs/NG3.pdf>

3.4 Impacts on Cost of Living

The supply constraints contributing to inflation are more likely to be significant at a local level. As indicated by the Regional Prices Index, prices in the Kimberley are around 16.9% higher than in Perth. This high index number is indicative of existing supply constraints, particularly in the area of housing. In a supply constrained environment, marginal changes in demand can have significant price impacts.

Conversely, the Precinct may possibly create a benefit through deflation of certain costs, such as that of food. The servicing of the Precinct may see an improvement of roads, domestic supply provision increases and the possible re-routing of fruit and vegetable trucks that presently by-pass the Broome turn-off from Kununurra (requiring the food to then be re-trucked from Perth). This in turn will divert some benefits to Broome in decreasing the cost of bringing these supplies into the town.

It is also possible, however, that because the Kimberley has a relatively small consumer market supply constraints could easily occur, making the Kimberley susceptible to inflationary pressure flowing from development of the Precinct. The number of other resource projects proposed in the Kimberley area and the announcement of new large scale resource projects in the future may exacerbate local inflation and supply constraints by further increasing demand for local goods.

From a national perspective, given the level of current inflation in Australia is moderate; the overall inflationary impact of the LNG Precinct is likely to be of little concern.

As for labour, the impact of a large number of resources projects in the Pilbara may be indicative of the impacts that could occur in the Kimberley as a result of the LNG Precinct. The 2007 Regional Prices Index found the Pilbara to have the highest index number of all of the regions in Western Australia at 120.1 (DLGRD 2007b). Housing costs were a significant element of this high index number.

Over the longer term, price impacts are likely to moderate through supply increases in response to price changes. Price impacts may also moderate once the construction phases under the various development scenarios are complete.

3.5 Impacts to Fiscal Variables

Taxes and royalties that may be received by the government as a result of expenditure and investment in relation to the LNG Precinct include:

Commonwealth Taxes

- Company tax
- PRRT
- Goods and services tax (GST)
- Fringe benefits tax

- Income taxes
- Customs duties

State/Territory Taxes

- Payroll tax
- Payments for licenses such as dangerous goods and communications licenses
- Stamp duty on instruments such as transfers and agreements for the sale of land, insurance policies, mortgages, hire of goods and the transfer and issue of motor vehicle licenses
- Some Royalties.

Taxation receipts

A case study analysis published by APPEA (2007) examined the financial and fiscal implications of a two train LNG project producing 10 million tonnes a year of LNG. Scenarios examined included high and low LNG price, high and low capital cost and two depreciation scenarios. Under the case studies assumptions, total government revenue was found to be between \$29 billion and \$40 billion (nominal) over the 27 year life of the project. Income tax was found to have a net present value of between \$3.9 billion and \$4.7 billion and petroleum resource rent tax (PRRT) between \$0 and \$500 million.

Projecting these revenue estimates into, for example, Scenario 3A (25 million tons over 25 years), it is clear that the LNG Precinct has the potential to make a highly significant contribution to government income. Government revenue that would be raised under Scenario 3A is particularly high, even in proportion to current government revenue from the petroleum sector.

Alternatively, the Enhanced Project By-law Scheme provides tariff duty concessions on eligible capital goods for major investment projects in the mining and gas supply industry sectors. The Scheme, administered by AusIndustry, incorporates an Australian Industry Participation Plan to encourage the use of Australian industry in projects and global supply chains. It is likely that project proponents will make an application under the scheme for the importation of any goods required. Tariffs and other customs duties may be payable on the importation of some goods for the LNG facilities, or elements of the facilities themselves. Accordingly, customs duty income may be low.

Assuming that the LNG Precinct does not displace other activities in the region, it would be anticipated that establishment of the Precinct would have a positive fiscal impact. The increased revenue to the Commonwealth and Western Australian governments provides an opportunity for further spending or for a reduction in the taxation burden.

Further, the economic benefits from government revenue may not be restricted to the fiscal impact. Investment in productive physical or social assets by government can benefit the economy and tax base by enhancing the productivity of other economic factors.

A number of the risks to expenditure and income are net positive, arising from the economic activity generated by the construction and operation of the Precinct. Residual risks include:

- a net positive GDP impact;
- significant net positive regional domestic product;
- local/regional business development opportunities, and
- local price inflation.

Effect upon Australian Dollar

Increased LNG exports will aid Australia in addressing its balance of payments deficits, albeit that it could possibly lead to an increase in Australia's exchange rate (thus impacting the nation's manufacturing sector). Whilst improvements in Australia's exchange rate are based on several factors, using economic models to predict movements in the exchange rate can be flawed. Recent Australian (2000 – 2009) experience suggests that exchange rates can fluctuate wildly and do so independent of economic growth conditions within Australia⁶.

3.6 Community Consultation

As discussed in Section 2 and Annexure C, DSD organised and participated in several opportunities for Broome residents to find out more about the proposed Precinct and discuss their issues. These included the NorthWest Expo, SIA Open Day, Shire Forum and Shopping Centre Information Sessions at the Paspaley Plaza and the Boulevard Shopping Centre. Community members were able to indicate their areas of concern and provide comment on the proposed development of the Precinct and related issues. A number of people commented on the economic impacts of the proposed development of the Precinct.

Other comments include:

"Happy about it, will increase business" (Broome Boulevard Shopping Centre Information Session)

*"Let's help the economy, let's create jobs!"
(SIA Open Day/Shire Forum)*

3.7 Economic Impacts Summary

Significant expenditure and investment would be expected in relation to any of the LNG Precinct's development scenarios as the development of LNG facilities requires large initial capital outlays. In addition, significant expenditure items associated with the LNG Precinct would also include payments to contractors for goods and services and payments to its direct employees.

It can be expected that development of the Precinct will have a positive net impact on Australia's GDP and processing of LNG at the proposed Precinct will significantly enhance Western Australia's export income and State Government payroll tax receipts. However, all PRRT revenue receipts accrue to the Commonwealth Government. The Browse Basin is located in Commonwealth waters and a small area around Scott Reef is considered State Waters. The royalties from the Precinct's development and operation therefore flow to the Commonwealth Government with the exception of a fraction of the royalties from the Torosa gas field, below Scott Reef, which flow to the State Government.

The impact on the regional domestic product of the Kimberley may be significant, as the size of the activity associated with the Precinct is large in proportion to current economic activity in the region. While it is understood that the region's manufacturing and construction services base is relatively small at present, there is scope for it to share in the Precinct's contracting for goods and services.

Increases in regional and local GDP would derive from spending that resulted from supply, procurement and, to some degree, associated new employees and their families. It is predominantly during the construction phases that there will be the greatest procurement opportunities for local businesses and contractors.

While construction would inevitably support major injections into the regional economy, the benefits of these economic impacts would be tempered by the relatively quick decline in demand as construction comes to an end. As such, it would be important that locally established businesses are aware of, and have strategies to manage, a relatively fast reduction in demand for their services.

In respect of the operational stage, operating costs will be relatively low in comparison to the construction phase. During the operational phase, a proportion of maintenance services may be sourced from the region and a larger proportion of the direct operational workforce may choose to reside in Broome than during construction (albeit a much smaller workforce). While this will provide some investment in the local economy and help ensure the economic wellbeing of the community into the future, expenditure levels will be markedly less than during construction.

⁶ For example, Australia's exchange rate was less than US\$0.60 cents for the bulk of 2001 and 2002. Whilst more recently, Australia's exchange rate against the US\$ has increased significantly for the years 2005 - 2009, it has remained relatively constant against, for example, the Euro over the same period. This suggests, in part, that the more general deterioration in the US economy has led to a stronger Australian dollar.

4. WORKFORCE POPULATION MODELLING

Volume 1 (Scope and Profile) of the Social Impact Assessment indicated that a potential increase in the size of temporary and permanent population was not only a significant social impact in itself, but was also a primary driver for many other flow-on impacts. Based on industry information provided by Woodside, Environment and Behaviour Consultants (EBC) developed a workforce population model for the Browse LNG Project. The population modelling is based on the five scenarios outlined in Section 2 and the indicative workforce requirements of the Precinct as described in Annexure B. This section describes the population model, scenarios derived from it and potential population impacts.

4.1 Model Construction and Analysis

Figure 4.1 provides a description of the population and workforce model. For each of the scenarios the estimated construction and operational workforce for each year has been defined. With the exception of the start date, the five potential development scenarios and the estimated construction workforce are fixed input parameters and cannot be varied in the model.

Variable input parameters are also shown in Figure 4.1 as including (i) population employment parameters; and (ii) population composition parameters.

The population employment parameters include a range of parameters which focus on direct and indirect employment; the percent of employees likely to be resident in Broome; number of employees per dwelling; and the family size of employees resident in Broome. As these are variable input parameters, the model can be run using different values for these parameters.

Population composition parameters are also able to be defined within the model and different values used when the model is run. Population composition parameters include the age profiles of the construction and operation workforce families resident in Broome; the average annual salary of employees; population service ratios for education, health and community services; and average household energy consumption and waste production. As these are variable input parameters, the model can be run using different values for these parameters.

Given the fixed input parameters and specific values entered for each of the variable input parameters, the model produces specific population outputs for the town of Broome. The different model outputs for the town of Broome include estimates of direct and indirect employees resident in Broome; the number of dwellings required; resident family size; population projections; age profile composition of resident employee families; estimates of household expenditure; and indicative social infrastructure service requirements.

The model was developed to both anticipate and monitor the Precinct-related population changes. The model is intended to be used as a tool to monitor changes, compare them to anticipated scenarios and then adjust the relevant management strategies.

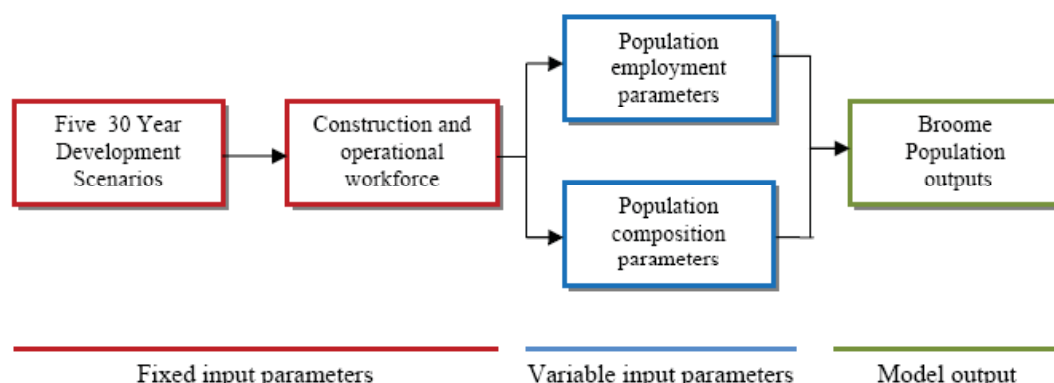


Figure 4.1. Workforce population projection model for Broome

4.2 Development Scenarios

In addition to a base, in which no Browse Basin gas development occurs, the population modelling considered five scenarios for the development of the Precinct over time. They include:

- Base Case: Projected population without Browse Basin gas development
- Scenario 1: No development of Precinct
- Scenario 2: Low development (15Mtpa LNG Precinct within 15 years)
- Scenario 3A: Medium development (25Mtpa LNG Precinct within 25 years)
- Scenario 3B: Medium development (35Mtpa LNG Precinct within 25 years)
- Scenario 4: High development (50Mtpa LNG Precinct within 30 years)

The model assessed the additional population increase attributable to the development of the Precinct and assumes the base case population increase described in SIA Volume 1 (Scope and Profile) (i.e. the natural population increase without the development of LNG). The mid-range population projection from Volume 1 is reflected in Figure 4.2. It predicts that the population of the Shire of Broome will almost double from 2011 (17,100 people) over the 30 years to 2041 (31,400 people).

The exceptional growth in population that underpins the base case will provide policy and infrastructure planners significant challenges in simply meeting the needs of this projected population growth. The development of an LNG Precinct at James Price Point, combined with the impact of growth in other sectors underlies potential population impacts that could be experienced in Broome over the next 30 years. The cumulative population impacts are likely to further exacerbate the challenges already faced by those involved in policy and planning for the region.

4.3 Construction and Operational Workforce

The model was developed using estimates provided by Woodside⁷ of the construction and operational workforce required for five LNG development scenarios across a thirty year period (Annexure B). The workforce estimates include a 'best estimate' and a lower estimate (-10%) and an upper estimate (+30%). The upper and lower estimates need to be recognised in any interpretation of the model outputs and have currently not been included in estimating outputs from the model.

4.4 Population Employment Parameters

The values for the population employment parameters shown in Tables 4.1 and 4.2 have been used in the analysis. The values for each of the low, medium and high population parameters were agreed upon through consultation between staff of the Department of State Development and Woodside. The model was also run using lower (-10%) and upper (+10%) estimates for each of the population parameters.

Table 4.1 provides an estimate of the percentage of the construction and operational workforce that would be resident in Broome between 2011 and 2041. The 'middle' estimate is the 'best estimate' with the lower and upper estimates providing reasonable upper and lower limits to the estimate. The low values for the construction workforce reflects the assumption that the majority of this workforce would be FIFO and would reside at a construction camp at or near James Price Point.

Table 4.2 provides estimates for additional workforce population parameters. This includes the percentage of the direct construction and operational workforce who would be existing residents of Broome; indirect employment multipliers for the construction and operational workforce; and the percentage of indirect employees who would be existing residents.

	Lower estimate			Middle estimate			Upper estimate		
Workforce	2011-20	2021-30	2031-41	2011-20	2021-30	2031-41	2011-20	2021-30	2031-41
Construction	3.0	3.0	5.0	5.0	7.0	10.0	8.0	10.0	15.0
Operational	3.0	20.0	30.0	8.0	35.0	45.0	10.0	50.0	60.0

Source: EBC (2010)

Table 4.1. Percentage of the workforce resident in Broome (all scenarios)

⁷ Woodside (July, 2010). *Precinct workforce projections. Report prepared for the Department of State Development, Western Australia.*

Table 4.2 also provides an estimate of the percentage of new residents who would come to Broome seeking 'opportunistic' employment at the Precinct.

	Estimates		
	Lower	Middle	Upper
Percentage of direct employees who are existing residents			
Construction	3.0	5.0	10.0
Operational	1.0	3.0	5.0
Indirect employment multiplier			
Construction	0.50	1.00	1.50
Operational	0.50	1.00	1.50
Percent of indirect employees who are existing residents			
Construction	5.0	10.0	15.0
Operational	10.0	15.0	20.0
Percent new residents seeking opportunistic employment			
Construction	2.0	5.0	10.0
Operational	2.0	5.0	10.0
Number of employees per dwelling			
Indirect	1.50	1.25	1.10
Construction (direct)	1.50	1.25	1.10
Operational (direct)	1.50	1.25	1.10
Family size of resident employees (inc. employee)			
General population	2.90	2.90	3.10
Construction	2.90	2.90	3.10
Operational	2.90	2.90	3.10

Note: These values were applied across all scenarios.

Source: EBC (2010)

Table 4.2. Workforce population parameters

4.5 Population Composition Parameters

Tables 4.3 and 4.4 show the population composition parameters used in the model. Although lower, middle and upper estimates were used for the workforce population parameters the population composition parameters had a fixed value when the model was run.

Characteristic	Value
Age profile of employee family households	
Construction workforce (percent)	
0-4 Pre-school	2.0
5-12 Primary school	8.0
13-17 High school	5.0
18-24 Youth	5.0
25-44 Providers	50.0
45-54 Middle age	15.0
55-64 Pre-retirement	15.0
65+ Retirement	0.0
Operational workforce (percent)	
0-4 Pre-school	8.6
5-12 Primary school	13.0
13-17 High school	6.1
18-24 Youth	9.8
25-44 Providers	35.7
45-54 Middle age	14.4
55-64 Pre-retirement	7.9
65+ Retirement	4.6
Average annual salary of employees resident in Broome	
Construction workforce (\$)	\$200,000
Operational workforce (\$)	\$131,800
Average annual household expenditure per employee in Broome	
Construction workforce (\$)	\$108,782
Operational workforce (\$)	\$96,959

Source: EBC (2010)

Table 4.3. Workforce composition (Broome resident population)

Table 4.4 shows population service ratios for specific services. The population service ratios used in Table 4.4 should only be used as indicative as there are a wide range of factors which need to be taken into consideration when planning for infrastructure provision.

Service	Number of Services	Population Size
Education		
Preschools (1st preschool)	1	30 (four year olds)
Preschools (subsequent preschools)	1	120 (four year olds)
Primary schools (population service ratio)	1	10,000
High schools (population service ratio)	1	20,000
Health		
Medical doctors	1	1,012
Dentists	1	22,000
Hospital beds (number of beds)	4.8	1,000
Local community health centre	1	3,000
Neighbourhood community health centre	1	10,000
District community health centre	1	30,000
Nursing home (number of beds)	40	1,000
Ambulance officers	0.41	1,000
Disabled respite centre	1	50,000
Aged respite centre	1	50,000
Community Services		
Public library - central facilities	1	10,000
Public library - additional branch facilities	1	75,000
Museums	1	75,000
Youth centre	1	30,000
Community hall	1	10,000
Senior citizens centre	1	25,000
Fire station	1	50,000
Police (Sworn police officers)	2.45	1,000
Household energy and waste		
Waste per household		906 kilograms per year
Electricity consumption per household		11,648 KWh per year
Water use per household		549 kilolitres per year
Waste water per connection		262 kilolitres per

Note: The population service ratios are only intended to be indicative. Planning for service provision is dependent upon a wide range of factors in addition to population size.

Source: EBC (2010)

Table 4.4. Population service ratios

4.6 Workforce and Population Model Outcomes

SIA Volume 1 (Scope and Profile) indicated that the population in the Kimberley is growing more rapidly than the rest of the State (2% per annum compared with 1.8%). The Shire of Broome has grown at a faster rate than the Kimberley. Over the ten years from 1998 to 2008, the Shire of Broome has accommodated 73% of the region's population growth. This above-average growth has also been occurring over a long time and over the thirty years from 1976 to 2006, the Shire of Broome's population increased from 3,590 to 14,175, an increase of 4.7% per annum.

SIA Volume 1 (Scope and Profile) also included three population projections for the Shire of Broome, with the mid-range population projection (independent of any development) showing a doubling of the estimated resident population from a 2006 (pre-census) estimate of 14,175 to a predicted 26,200 in 2031.

The workforce population modelling identifies that the main population impacts on Broome arise from the exceptional natural growth in population predicted for the Shire of Broome rather than the population impacts from the proposed Precinct (Figures 4.2 and 4.3). The baseline population projections (Figure 4.2) show the continuation of significant population growth in the Shire of Broome, which has led to many services experiencing difficulty in meeting demand.

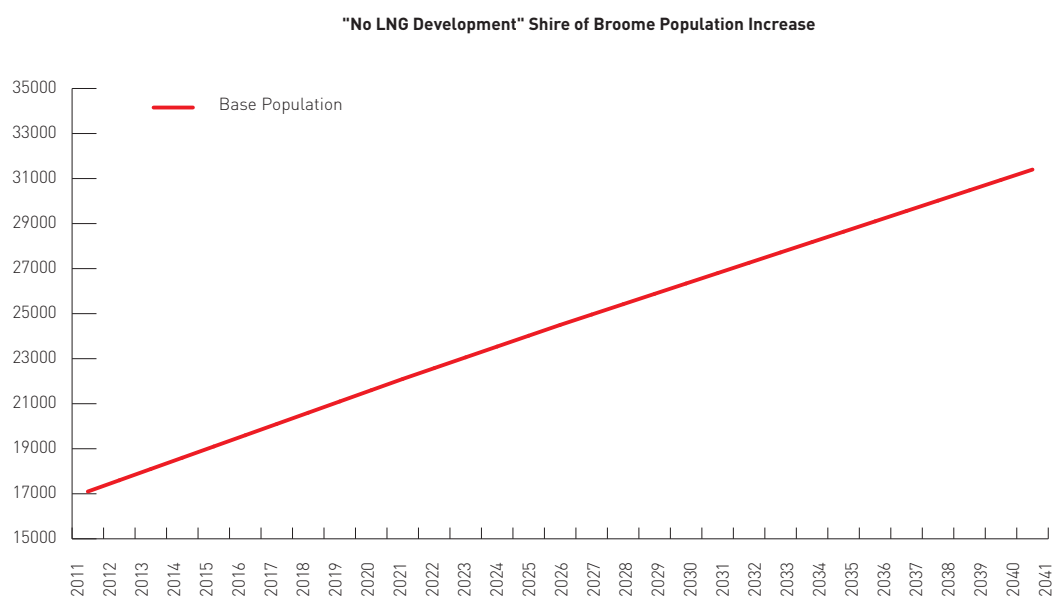


Figure 4.2. Projected mid-range population growth for the Shire of Broome (EBC (2009))

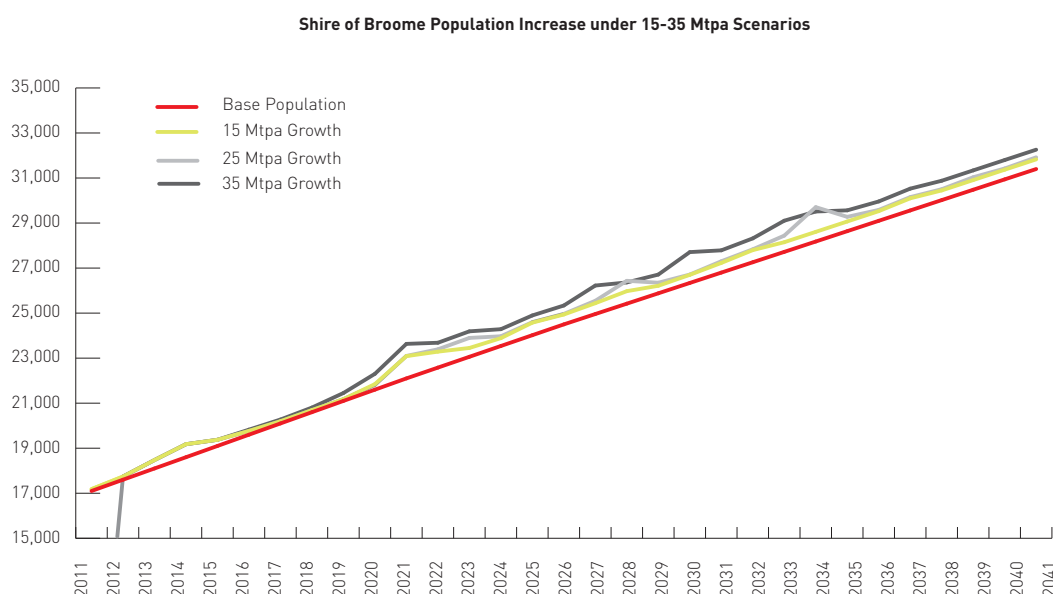


Figure 4.3. Shire of Broome population increase with 15, 25, and 35Mtpa Scenarios EBC (2010)

Figure 4.3 shows the projected base population growth against population growth under Scenario 2 (15Mtpa), Scenario 3A (25Mtpa) and Scenario 3B (35Mtpa) over 30 years, using the population employment and composition parameters described in Sections 3.4 and 3.5. It is clear from Figure 4.3 that the projected baseline population growth in the Shire of Broome is the primary factor influencing the demand for additional human services and facilities and not the potential development of the Precinct at James Price Point. Population increases attributable to the Precinct development are an additive component which further contributes to the existing impacts from natural population growth.

4.7 Population Impact Summary

Population growth within the Shire of Broome, attributable to both 'natural' population growth and the development and operation of the Precinct will have a significant impact on a range of services and facilities provided within the Shire of Broome. Issues associated with the capacity of services and facilities to meet these demands and the need for additional services and facilities are discussed in the following chapters and include:

- Demand for land and housing
- Public utilities and transport
- Social infrastructure services and facilities
- Health services and facilities
- Education, training and employment
- Sport and recreational services and facilities
- Police and justice.

5. DEMAND FOR LAND AND HOUSING

SIA Volume 1 (Scope and Profile) indicated that housing in Broome and the Kimberley was not typical of that found in the remainder of Western Australia. The key differences, as illustrated in the 2006 census, were the lower number of separate houses in the Shire of Broome (67% of occupied private dwellings) as compared to the rest of Western Australia (81%); and the high number of occupied private dwellings being rented (59%) in the Shire of Broome compared to the rest of Western Australia (27%). A further feature of urban Broome and the Kimberley is that, at 13%, both have a high percentage of 'other' dwellings which include caravans, cabins and other informal housing options when compared to the rest of Western Australia (1%).

A key feature of housing in Broome, which partly explains these anomalies, is Broome's role as a regional service centre. SIA Volume 1 (Scope and Profile) shows that 42% of employment in the Kimberley region was in the Shire of Broome, with this employment mainly being in the services sector, including public administration; education and training; health care and social assistance. In addition, LandCorp's (2009) research associated with the development of Broome North reports that Broome has 43 government agencies and a range of non-government agencies that service the whole of the Kimberley.

A further feature of Broome is the high cost of buying and renting housing. This is due to the constrained land supply largely as a result of the long running Rubibi Native Title Claim by the Yawuru people. The limited supply of land and the increase in population has led to increased prices of both land and housing. The Yawuru people's claim was resolved in late February 2010 and this has permitted greater supply of land in Broome with developments such as Broome North occurring in partnership with the Traditional Owners.

As described in Annexure C, the high cost of buying and renting housing and the lack of affordable housing in Broome are issues raised by nearly all stakeholders. Broome is still experiencing the effects of the constrained supply of housing and land and Table 2.1 indicates that Broome community members are concerned about the Precinct's potential impact on housing. The Kimberley Development Commission (KDC) compared the median cost of housing in Broome with other locations in the State. This comparison (Annexure A, Table 6) showed that in 2009, Broome's median housing cost was \$635,000, significantly higher than that in Perth at \$430,000 and just under double that of Derby at \$330,000. The KDC also reviewed Broome's private housing and rental costs from local real estate web sites and private rentals advertised through the Broome Advertiser. These data illustrate a significant seasonal fluctuation in weekly rental costs, with the median private rental in December 2009 (low season) being \$550 per week.

As a result of the high cost of housing, there are a high percentage of share houses in Broome, each with an average of \$200 a week rent for occupants. It has been noted that the influx of seasonal employees already competes with 'other sections of the community seeking access to housing, contributing to the higher rental demand and pushing up rental costs' (Anthony 2007). This has been cited as a pivotal cause in sustaining high median rents in Broome. In December 2005, Broome's median private rental price was 40% greater than that of Perth.

In addition to housing bought and sold or rented on the open market, LandCorp distinguish seven different housing types relevant to Broome (LandCorp pers. comm. 17.11.09).

- Social housing, such as that provided by the Department of Housing. Land is owned by the government agency and let at subsidised rates on a means and asset tested basis to those in need.
- Community housing, such as that provided by Foundation Housing who established themselves in Broome during 2009.
- Transitional housing, which includes short term furnished accommodation intended for the use of those that are experiencing homelessness or other related issues.
- Key worker accommodation, which includes housing for public sector essential services workers such as teachers and police officers.
- Service worker accommodation for those community service workers in areas such as retail, tourism and health care.
- First homebuyers housing for those purchasing their first home, usually with limited financial capacity.
- Government regional officers housing (GROH), which provides regional housing for government employees.

As a result of the determination and recent resolution of the Rubibi Native Title Claim, a significant amount of land known as Broome North has been released in Broome through LandCorp, the State's land developer. The Broome North District Development Plan and the Local Development Plan have both been approved and LandCorp intends to develop housing ranging from social housing and service worker accommodation through to medium income housing, and including first home owner housing. There is sufficient land in this first land release for Broome North to supply sufficient housing to cope with Broome's anticipated growth.

LandCorp intends Broome North to be flexible and respond to Broome's housing needs. Planning at a district level is in place for 4,900 lots and on a local level for 469 lots. Subdivision plans have been lodged for 185 residential and 72 light industrial lots (pers. comm. LandCorp 03.12.09).

The projected expansion of Broome is likely to have a concomitant expansion in commercial and industrial activity regardless of the development of the Precinct. The Broome Town Planning Scheme sets out the long term planning framework for Broome and includes the provision of industrial and commercial land.

5.1 Housing and Land Impact Assessment

The assumption in this assessment is that FIFO workforce will be located at a construction camp in the vicinity of the Precinct. Nevertheless, it is likely that a percentage of the direct and indirect workforce will choose to live in Broome.

Projected Population Increase Impacts on Housing and Land

As described in the introduction to this section, the main factor driving high future demand for housing is the projected population growth in the Shire of Broome, unrelated to any potential development of the Precinct. The base case in Figure 4.2 illustrates the exceptional growth predicted for the Shire of Broome between 2011 and 2041 (from 17,100 to 31,400 people), an increase of 84%. Assuming an average family size of 2.9, this baseline population increase will require 4,931 houses to meet the need of the additional population. This requirement is effectively already being catered for by LandCorp's release of the aforementioned 4,900 lots under the Broome North development. Limited areas approved for residential development still remain in the Januburu Six Seasons Estate and Roebuck Estates.

Workforce Population Impacts on Housing and Land

Figures 9 (Low Case), 10 (Medium Case), and 11 (High Case) in Annexure A show the potential impacts of the direct and indirect Precinct workforce (construction and operations) on housing using the low, medium and high case assumptions. Although these figures show all scenarios, the focus of this report is the more likely scenarios of 2, 3A and 3B, as discussed in Section 2.

Figures 9, 10 and 11 in Annexure A show considerable variation in the housing deficit and surplus required over time. In reality these sharp peaks and troughs will be smoothed because relocating to another place of residence is a major decision for a family and is unlikely to occur for short periods. The sharp peaks and troughs resulted because the modelling was based on a proportion of the workforce moving to Broome at any point in time. The fluctuations in the workforce numbers have resulted in fluctuations in the projected housing demand and supply.

Table 5.1 shows the range in peak and yearly average housing demand across the low, medium and high estimates for the three most likely scenarios. Under the medium case there will be an approximate maximum demand for either 270 or 650 dwellings, depending on the development scenario that occurs. However, the annual average demand for housing will be between 174 and 362 dwellings.

Scenario	Lower estimate		Middle estimate		Upper estimate	
	Peak	Average	Peak	Average	Peak	Average
2	72	45	273	174	629	391
3 A	156	58	631	226	1,466	513
3 B	177	94	650	362	1,484	816

(EBC, 2010)

Table 5.1. Peak Broome housing demand from Precinct development

The modelling of all five scenarios demonstrates clear annual housing deficits and surpluses caused by the direct and indirect workforce housing needs in Broome. These clear fluctuations in demand over the 30 year time horizon of the model, point to a housing management strategy that needs to incorporate housing that could be available to the project and diverted for other uses over time, such as for tourism accommodation or to cope with the projected expansion of Broome from other sources.

Almost 5,000 houses are needed to meet the projected population increase in the Shire of Broome over the next 30 years. An integrated housing management strategy should be developed to ensure that the supply of housing meets the demand from all sources.

5.2 Regional Housing Impacts

Derby falls within the secondary impact area for the SIA. It does not have the same housing pressures and costs as Broome. As mentioned earlier, according to the Real Estate Institute of Australia, in 2009 at \$330,000 Derby has around half the median house price of Broome at \$635,000.

A new regional prison has been approved for Derby and the Department of Corrective Services has committed to building 70-80 houses in Derby for predicted staffing increases (Corrective Services 2008). Construction of the houses commenced during 2009 and construction of the regional prison will start during 2010 with completion expected at the end of 2011. According to a Department of Corrective Services Fact Sheet (2008), a potential increase in the need for accommodation by prison visitors from across the Kimberley will be dealt with by the Department's 'encouragement of agencies and local businesses to develop suitable accommodation and services in Derby for prisoner families and short-stay visitors'.

Some stakeholders, as discussed below, have expressed concern that families moving for work opportunities on the Precinct may choose to relocate to Derby because of the lower housing costs. Accordingly, there is a small possibility that this choice will be exercised by the indirect workforce, however, the potential Foundation Proponent has advised that it is unlikely that its direct workforce would consider such relocation a viable option due to the distance. Anecdotally the trend is presently that Broome residents who relocate to Derby are generally the town's older, retired population and that this occurs for reasons independent of development.

5.3 Community and Stakeholder Consultation

Table 2.1 illustrates that housing is a key issue for the majority of Broome community stakeholders. The workshop notes (Annexure C) illustrate participants' considerable concern that the potential development of the Precinct will have a significant impact on a range of housing types.

As discussed in Section 2, at the Northwest Expo in May 2009, 46 people completed a brief questionnaire and 14 indicated that housing and other service impacts were of concern to them. A different questionnaire was used at the SIA Open Day, the Shire Forum in September 2009 and the Shopping Centre Displays in December 2009 and January 2010. People were asked to indicate their areas of concern about the development of the Precinct and to provide more detail where necessary. A total of 165 questionnaires were completed and 110 people (67%) indicated that they were concerned about housing issues. A complete breakdown of the different concerns at different events can be found in Annexure C.

The SIA Open Day and the Shire Forum gave members of the public the opportunity to write their comments onto a graffiti wall and, at all community events, people were asked to provide comments on the back of the questionnaire. The housing related comments were:

"Woodside rent houses in Karratha for \$2,500 per week. If you are lucky and you want to live there you might get a house to rent for that much if you can't afford it go elsewhere [sic]. Will this happen here...?" (Graffiti Wall)

"Broome is growing and surviving and struggling to house people living here now." (Graffiti Wall)

"Housing is a crisis now." (Graffiti Wall)

A Housing and Land Workshop was held in August 2009 in Broome with relevant stakeholders. Further details can be found in Annexure C. From the workshop and other interaction with stakeholders, the following issues were identified:

Cost of Land

A number of stakeholders, including the Shire of Broome (pers. comm., 14.01.09) have raised the issue of the cost of land in Broome which affects housing affordability. The Broome North development is expected to address a range of issues including more affordable land and social housing.

Availability of Industrial and Commercial Land

Additional industrial and commercial land is needed for future development and particularly if the Precinct development goes ahead in the short term as the initial development at James Price Point will need to be supported from Broome. The Shire of Broome Local Planning Strategy is currently being developed and includes planning for Broome's industrial and commercial land supply.

Broome North's strategic District Development Plan and the more detailed Local Development Plan include provision for industrial and commercial land in the short and longer term.

Cost of Housing

The cost of housing in Broome is significant and affects a range of different stakeholders, including Government agencies. Broome's very high rental cost and median house prices presented in a recent Shelter WA Discussion Paper (Anthony 2007) is indicative of a housing system unable to respond to demand. As Broome has a large proportion of its workforce employed in the lower wage services sector, house price growth is fast outstripping wage growth. This effect, combined with the limitations on land availability, is likely to continue to exclude many Broome households from the opportunity of owner occupation.

At the Housing and Land Workshop it was stated that the cost of housing is a significant issue in Broome. This concern permeates other issues, particularly the attraction and retention of staff in the Broome community. The cost of housing is made up of both the inflated cost of land as well as the considerable cost of materials due to

transport costs. There is concern about the development of the Precinct driving up rents and house prices. The workshop was also told that not-for-profit agencies have to subsidise affordable housing rentals from 30-70% of market value to make them affordable for low-income residents.

Adequate Social Housing

Social housing provides housing for people who cannot afford to rent or buy even at the lowest level. Availability of social housing in Broome is a significant issue and the Department of Housing representative at the Housing and Land Workshop indicated that there are around 800 names on the waiting list for social housing. Overcrowding in social housing, especially in indigenous households is an issue that gives rise to social problems. Concern was expressed that even if the land is made available for social housing, the responsible government departments have to then allocate a budget to build the houses.

Temporary Housing

Housing is required for a range of temporary situations. These include students studying in Broome (as mentioned at the Education and Training workshop), people from surrounding communities moving to Broome for medical treatment as well as people relocating to Broome in the wet season or from Kimberley communities with alcohol restrictions. The Shire of Broome is considering ways to provide temporary housing facilities.

Temporary housing is also an issue in Derby, the main population centre in the secondary impact area. With a new regional prison due to be completed by the end of 2011 (see further information above), the prison is likely to have a high percentage of indigenous people from remote areas and the original planning included a temporary accommodation facility to accommodate these visitors. The temporary visitor accommodation has had some funding difficulties and if it does not go ahead will exacerbate the pressure on temporary housing in the region.

Homelessness

Homelessness is caused by a range of factors, including the insufficient supply of social housing and insufficient temporary accommodation. A 2006 report by the Australian Institute of Health and Welfare records the Kimberley as having the highest rate of homelessness in the nation and Broome has more homeless people than any other town in the region (AIHW 2006). According to a recent survey conducted in Broome, 23% of participants were homeless or insecurely housed (Strain 2008). The inference is that this reflects the proportion of the Broome population experiencing this problem. The survey further reports that extreme overcrowding is occurring in some sections of the community. Indigenous people from the Kimberley who are not from Broome are experiencing an average of 5.8 people per bedroom, while non-indigenous Australians have on average less than one person per bedroom. The Housing and Land workshop was also told that some indigenous people choose to camp as they feel safer than being in an overcrowded house.

It is clear, from the consultation undertaken and other analysis, that with the current housing situation in Broome, even a minimal increase in demand for housing and accommodation from the development of the Precinct may impact on the level of homelessness by reducing the level of housing and accommodation that is available.

Government Housing

A significant number of Broome's houses are leased to government agencies to house their staff. Broome has 43 government agencies and a range of non-government agencies who service the Kimberley (LandCorp, 2009). At the Housing and Land workshop and at other meetings, these agencies stressed that their cost to subsidise rental houses in Broome detracts from the number of people they can employ and the services they can deliver. Workshop participants commented that this has resulted in an artificial rental market in Broome. The Department of Housing and Works representative at the workshop reported that the Kimberley has 450 GROH/GEHA leases, with over 300 of these in Broome and the Department owns 90 of these. A high percentage of government workers come to Broome without family, however, they occupy family homes (mainly 4x2) due to the lack of an adequate range of housing. Any increase in population, whether due to direct or indirect employment from the LNG Precinct, is likely to further increase the demand for housing and reduce the range of housing that may be available.

Short-Stay Accommodation

Concern was expressed by the tourism industry around the potential impact of the construction phase on short stay accommodation. The Tourism Impact Assessment indicates that Broome has an extensive range of visitor accommodation including luxury hotels (4-5 star rating); standard hotels (3-3.5 star rating); self contained apartments (4-4.5 star rating); bed and breakfasts, backpacker hostels and caravan parks. The Tourism Impact Assessment also indicates that at mid-2009 there were 58 accommodation establishments with a total 3,571 available rooms, including camp and caravan sites (KPP Business Development, 2009). The potential impacts on short-stay accommodation, which are also described in the Tourism Impact Assessment, include the potential increase in demand for short term accommodation from the indirect workforce during construction, which may reduce the availability of visitor accommodation.

5.4 Housing Impact Summary

This section shows that Broome has experienced a significant increase in the cost of housing and land partly as a result of the constrained supply of land during the Rubibi Native Title negotiations. The in-principle agreement in mid-2009 paved the way for the release of land that has become known as Broome North. It is planned that Broome North will provide land for a range of residential, commercial and industrial purposes.

Table 5 in Annexure A illustrates that Broome has just short of 970 ha of land zoned for development which should be sufficient to meet the demand for housing from the natural growth in population as well as the demand for housing from the Precinct-related workforce. As part of the housing management strategy, the availability and demand for land and housing in Broome should be closely monitored prior to and over the development of the Precinct. Significant population changes associated with other industry and development activities may occur which may influence the availability and demand for housing in the Broome area from the time the Precinct is developed.

The assumption is that the Precinct is being developed with a FIFO construction camp within its vicinity. There is a precedent for proponents locating FIFO workers within nearby towns rather than at the camp and measures need to be taken to prevent the location of the FIFO workforce in Broome.

There are housing impacts that can be directly attributable to the Precinct and those that are indirectly linked to the Precinct. The housing impacts directly attributable to the Precinct include:

- Housing availability with distinct housing deficits and surpluses over the potential life of the Precinct as shown in Figures 9-11 (Annexure A). Fortunately Broome North should provide sufficient land to meet this housing need. However, a management strategy needs to be developed to monitor land and housing availability and ensure the timely release of land for housing and that suitable houses are built.
- Impacts on temporary housing are likely due to the potential influx of opportunistic workers. For example, Karratha and Port Hedland continue to experience a considerable and on-going demand for temporary accommodation such as that offered by caravan parks. Broome's temporary accommodation is fully utilised in the tourist season and the Precinct-related demand for temporary accommodation presents a seasonal risk for Broome. A management strategy should be developed to supply multi-purpose temporary housing that could be used for other uses such as tourism once the demand has lessened.

- As the population of Broome increases, the demand for Government housing will increase as the demand for government services also increases. The population increase will be largely attributable to the projected increase in Broome's population and to a lesser extent direct and indirect employment in the Precinct.

A number of housing related issues in Broome indicate the vulnerability of this sector and will influence the housing impact from the Precinct. While the housing impacts from the Precinct are likely to be limited, these impacts will be magnified if the demand for housing from the natural population increase in Broome is not met. In addition, the impacts from additional population growth are likely to exacerbate the existing pressure on social housing and high levels of homelessness.

Independently of any consideration related to the development of the Precinct, there is a need to address the demand for and supply of affordable and adequate housing within Broome in order to meet current requirements and the future needs of a larger population in the area. If current and future population requirements for housing are addressed, the need for any additional housing as a consequence of the Precinct development is more likely to be met.

SIA Volume 3 contains an outline of a Housing Strategy to ensure the timely delivery of appropriate land and housing requirements for Broome in order to meet projected population increases, including those associated with Precinct requirements.

6. INFRASTRUCTURE, SOCIAL SERVICES AND HEALTH

6.1 Public Utilities and Transport

Public utilities which are described in Volume 1 (Scope and Profile), include the provision of services which include water, electricity, gas, telecommunications, waste water and solid waste disposal.

Public utilities, briefly described in Volume 1 (Scope and Profile), were discussed with a range of service providers and were the subject of an SIA workshop in August 2009 (See Annexure C). Public utilities are also the subject of a separate Infrastructure Assessment Report that formed part of the SIA, and forms Appendix 3 to this report.

The Department of Planning prepared the Infrastructure Assessment Report for the Strategic Assessment, which addresses issues related to additional water, waste water, solid waste, power and telecommunications infrastructure required to:

- Support the Precinct, over and above the Foundation Proponent's responsibilities including the third party contractor's area and the worker accommodation.
- Support any increase in population in the town of Broome and the Dampier Peninsula.

The Infrastructure Assessment concluded that there was sufficient actual or planned water, waste water, and power across all the scenarios to meet the needs of Precinct accommodation and the Broome population for the next 30 years. The current solid waste facility is due for closure within the next five years or sooner and the proposed new solid waste facility is planned to cope with the cumulative solid waste requirements from population growth.

In addition to the information provided in the Infrastructure Impact Assessment, the population modelling undertaken for the Precinct included some information on the demand for public utilities as a result of future population increases.

Population modelling undertaken for the Precinct development scenarios, provides an indication of the potential increases in the demand for waste, electricity use, water and waste water between 2011 and 2041 (Table 6.1). While there is some increase in demand directly attributable to the development of the Precinct, increases in demand are primarily from population growth within the Shire of Broome.

Scenarios (medium case)	Waste (Tonnes)	Electricity (Megawatts)	Water (Megalitres)	Waste Water (Megalitres)
Scenario 2	4,552 – 8,533	58,537 – 109,730	2.76 – 5.17	1.32 – 2.47
Scenario 3A	4,552 – 8,576	58,537 – 110,285	2.76 – 5.20	1.32 – 2.47
Scenario 3B	4,552 – 8,744	58,537 – 112,447	2.76 – 5.30	1.32 – 2.47

Table 6.1. Indicative increase in demand for public utilities between 2011 and 2041 (EBC, 2010)

An additional study is being undertaken as part of the Strategic Assessment to capture the potential impacts of the development of the Precinct on transport. Many stakeholders also expressed concern about the potential overall upward pressure that may be exerted on the transport sector, including air transport, boating, bus, taxi and transport-related aspects such as car parking and fuelling. Parking and traffic are already issues in the tourist season and any increase in traffic is likely to further exacerbate the issue.

During the construction phase, the temporary workforce may have a significant effect on the transport sector particularly air transport but including other local forms of transport, such as taxis. If unmanaged, the most likely local impacts are likely to arise from the movement of project-related traffic on local and main roads.

SIA Volume 2 contains a Transport Management Strategy to mitigate and manage the impacts of the Precinct development on transport and traffic.

6.2 Social Infrastructure Services and Facilities

Broome has been growing relatively rapidly over the past decade. The population projection indicates that this growth is predicted to continue. This additional population will, in time, lead to an increase in demand for services and facilities such as public libraries, museums, youth centres, community halls, senior citizens centres and fire stations.

The population modelling undertaken for the development of the Precinct produced some indicative figures for the additional services that may be needed due to the projected population increase. The demand for additional services relies on a range of factors. Table 6.2 identifies in general terms the requirement for additional services and facilities between 2011 and 2041.

Scenarios (medium case)	Public Libraries	Museums	Youth Centres	Senior Citizens	Fire Stations	Community Halls
Scenario 2	1	0	1	1	1 - 2	2 - 3
Scenario 3A	1	0	1	1	1 - 2	2 - 3
Scenario 3B	1	0	1	1	1 - 2	2 - 3

Table 6.2. Indicative social infrastructure service and facility requirements (2011-2041) EBC (2010)

6.2.1 Community and Stakeholder Consultation

As discussed previously (Section 2, Figure 2.1 and Annexure C) DSD organised several opportunities for Broome residents to find out more about the proposed Precinct and discuss their issues of concern. These opportunities included the NorthWest Expo, SIA Open Day, Shire Forum and Shopping Centre Information Sessions at the Paspaley Plaza and the Boulevard Shopping Centre. Community members were able to indicate their areas of concern and provide comment on the proposed development of the Precinct and related issues. Although concerns around social infrastructure were not specifically requested, of 165 questionnaires completed, 102 people (62%) indicated concerns about the capacity of existing town utilities. A complete breakdown of the different concerns at different events can be found in Annexure C.

Community comments included:

"Broome cannot cope with current expansion, let alone a massive development like this gas hub. Broome is currently suffering with homeless people, displaced culturally-bereft indigenous people, major health problems etc. This gas hub will not improve our lives."

6.3 Health Services and Facilities

As a condition of the Precinct, commercial proponents will be required to supply primary health care services. Further details can be found in SIA Volume 3. A key issue for the health sector is the attraction and retention of workers during the construction phase given the high salaries paid by the oil and gas industry. A strategy should be developed to counter this potential loss of skilled workers.

Volume 1 of the SIA (Scope and Profile) report describes the pressure virtually all health service providers in Broome are experiencing. This section focuses on the potential population impact of the Browse LNG Project on health services.

The health sector in Broome, including all hospital, medical and health services, is currently under extreme pressure with some services operating beyond capacity. The exceptional projected increase in population anticipated for the Shire of Broome, unless addressed, will bring significant additional demand for health services. The pressure upon West Kimberley health service delivery is estimated to deepen regardless of any further development proceeding in the region.

As described in Volume 1 (Scope and Profile) of the SIA, the present indigenous health landscape in the West Kimberley presents significant health issues. The challenges include mental illness; cardiovascular diseases; metabolic diseases, such as diabetes; renal failure; infectious diseases such as sexually transmitted infections; poor nutrition; premature and low birth-weight deliveries; recurring infections; and injury (Zubrick et al 2004 and Atkinson et al 1999). Among young indigenous people, ear health is a chronic problem which has cascading impacts on education and a number of other factors (Zubrick et al 2004, 2005 & 2006). Injury inflicted by another person was the leading cause of hospitalisations for injury and poisoning among indigenous people in the Kimberley at more than 25 times the Western Australian rate (WACHS 2008).

Key health-related social issues in the Kimberley also include the region's large and fluctuating number of tourists, alcohol issues and high crime rates.

Much of the medical service delivery in Broome is already operating beyond capacity. For example, Broome Regional Aboriginal Medical Service (BRAMS) was operating at capacity and serviced up to 150 patients per day. It has recently had to commence evening clinics to meet demand. Approximately 81% of its patients are indigenous. The closure of Dakas Street Medical Centre in July 2008 and the clinic of Dr Neil Jenkins in 2009 have created an increase in demand for BRAMS' services, however, the subsequent opening of the Broome Doctors Practice is expected to have, to some extent, offset the Dakas Street Medical Centre closure.

Other plans for Broome health service delivery that may affect the region's existing health delivery landscape and population influx were announced in the 2010 State Budget. They include:

- The establishment of the new Mental Health Unit (previously 'Acute Psychiatric Unit'), consisting of 14 beds for both the Pilbara and Kimberley. While the architectural plans include temporary housing for family members of patients brought to the facility, it is likely that the unit may bring more than the estimated number of patient family and supporters to Broome. It is also possible that certain families may not wish to reside at the accommodation provided at the facility. This may have some implications for housing and homelessness in Broome (albeit small).
- The establishment of a new, specialised paediatric unit at Broome Hospital.

Due to the relatively modest population impacts caused by the Precinct across all Scenarios (other than the upper case of Scenario 4 which is deemed as the 'unlikely case'), the demand for health services is anticipated to be limited. However, it is again noted that small impacts can have major implications for a service system that is already operating beyond its capacity and that is set to undergo greater stress with the natural population increase of the Broome region.

WA Country Health Service (WACHS) has noted that regardless of the adequacy of the region's health infrastructure, challenges for health services in adequately meeting demand lie in critical workforce challenges. The health sector experiences extremely high staff turnover and is affected by the disincentive of high housing costs and the small subsidies it can offer the staff it wishes to attract. WACHS has already stated that it is affected by 'competition with mining and other industry developments for staff and accommodation' (WACHS 2008).

The indicative impacts on health services for the high, medium and low cases for each scenario based on the population modelling completed for the Precinct development scenarios is demonstrated in Table 6.3.

Scenarios (medium case)	Medical Doctors	Dentists	Hospital Beds	Local community health centres	Community health centres	District community health centres	Nursing home (#beds)	Ambulance officers	Disabled respite centres	Aged respite centres
Scenario 1	17-31	1	82-151	6 – 11	2 – 3	1	31 – 58	7 – 13	0 – 1	0 – 1
Scenario 2	17-32	1	82-154	6 – 11	2 – 3	1	31 – 59	7 – 13	0 – 1	0 – 1
Scenario 3A	17-32	1	82-155	6 – 11	2 – 3	1	31 – 59	7 – 13	0 – 1	0 – 1
Scenario 3B	17-33	1	82-158	6 – 11	2 – 3	1	31 – 61	7 – 14	0 – 1	0 – 1
Scenario 4	17-33	1-2	82-159	6 – 11	2 – 3	1	31 – 61	7 – 14	0 – 1	0 – 1

Table 6.3. Indicative medical services requirements (2011 – 2041) (EBC, 2010).

Even under a ‘low development’ scenario, the present capacity of existing medical services is unable to meet the projected demand from projected non-Precinct and Precinct-related growth. This requirement steadily escalates across all scenarios between 2011 and 2041.

Similarly, the population modelling illustrates that around six community health centres may be needed in Broome in 2011, regardless of whether the development scenario is low, medium or high. Presently in Broome there is only one community health centre (no general practitioners operate from this, only the hospital) and an Aboriginal Medical Service designed to provide community health services to Broome’s Aboriginal population. While two Aboriginal Medical Services are based in Broome, only BRAMS provides direct health service delivery to Broome’s indigenous residents (whereas Kimberley Aboriginal Medical Service is an umbrella service whose only direct service delivery is to Bidyadanga, Beagle Bay and Balgo).

Even small increases in demand on Broome-based Aboriginal health services may result in some indigenous residents who traverse between Broome and the local communities of Bidyadanga and Beagle Bay, preferring to access health services in those communities instead of Broome. This may therefore affect the capacity of the clinics in these communities.

6.3.1 Community and Stakeholder Consultation

A workshop on health issues was held in Broome and facilitated by the Department of Health. Further details are contained in Annexure C.

The workshop indicated that unless impacts were well managed, any impacts from the Precinct, even if low, were likely to severely affect an already vulnerable system. The potential impacts were identified as:

- Increased demand on health service infrastructure and strategies. Increasing the capacity of health infrastructure and workforce in the region could result in a positive impact for the region.
- Many health services already working at full capacity may be unable to cope with even small increases in demand and strategies need to be developed to spread the demand among related services.

- Health services in Broome raised concerns regarding aspects of workforce competition with the Precinct, including the inability to compete with the salaries offered. While health-related positions at the Precinct will be limited, some of the existing health workforce in Broome may retrain in Precinct-related skills or choose work in Precinct support services. It is likely this will persist only for the period of construction; however strategies will need to be formulated to manage this impact. Workforce competition is dealt with in greater detail in Section 14 below.
- A benefit may arise from health professionals who accompany the relocated Precinct operations workers to Broome (for example, as their partners). This would provide an additional pool of health employees for the region. If these families have children, adequate child care will be required in order to facilitate their participation in health sector employment.

As discussed in Section 2 and Annexure C DSD also organised and participated in several opportunities for Broome residents to find out more about the proposed Precinct and discuss their issues of concern. These included the NorthWest Expo, SIA Open Day, Shire Forum and Shopping Centre Information Sessions at the Paspaley Plaza and the Boulevard Shopping Centre. Community members were able to indicate their areas of concern and provide comment on the proposed development of the Precinct and related issues. Of 165 questionnaires completed, 112 people (68%) indicated that they were concerned about the capacity of the health system. A further breakdown of the different concerns at different events can be found in Annexure C.

Community comments included:

“Health and mental health is a concern.” (Paspaley Plaza).

“Visual impact - tall flares, harsh industrial ugliness. Gas emissions, smoke/flare gasses which effect either environment or human health.” (SIA Open Day/Shire Forum).

6.4 Infrastructure, Social Services and Health Summary

The additional water, waste water, solid waste, power and telecommunications infrastructure needed to support natural and Precinct-led population increases in the Shire of Broome over the next 30 years was assessed. This assessment concluded that capacity exists in all sectors apart from solid waste. The Shire of Broome has already identified this and has planned a new solid waste site. In contrast to the public utilities, most of the community services and facilities are currently under pressure and would have significant difficulty in meeting additional demand from any anticipated future population increase. The sector currently under pressure appears to be the health sector in Broome, including all hospital, medical and health services. The projected increase in population anticipated for the Shire of Broome will bring significant additional demand.

Assuming the implementation of the recommended management measures, there is likely to be a comparatively limited impact on all these services from the development of the Precinct.

SIA Volume 3 includes, as a Precinct condition, the development of management and mitigation strategies to establish appropriate primary health care, emergency and security services capacity to meet Precinct requirements and minimise the potential impacts on existing services.

SIA Volume 3 also includes the development of a Social Services Strategy in Broome to ensure government services are delivered to reasonably meet the social impact assessment baseline of existing community requirements and population growth projections.

7. EDUCATION, TRAINING AND EMPLOYMENT

The SIA Volume 1 (Scope and Profile) provides a detailed description of the current education, training and employment situation in Broome. It indicated that the Shire of Broome is serviced by eight primary schools and one public secondary school, three Catholic secondary schools and two remote schools. Broome itself has five primary schools (including one Catholic private school) and two secondary schools (one Catholic private and one public secondary school).

Broome North includes planning for schools and the first phase includes a 4.5ha site for a future primary school and early childhood learning centre.

The exceptional increase in population anticipated for the Shire of Broome will have a significant impact on the education and training sector. The education, training and employment strategies in Volume 3 should be framed in the context of an increasing population.

The population modelling completed for the Precinct development scenarios gives the following indicative impacts on pre-school, primary and high schools for the high, medium and low cases for each scenario. Table 7.1 provides an indication of the additional services needed as a result of anticipated population growth including impacts of the Precinct, based on the assumptions described in Section 3.

Scenarios (Medium case)	Pre schools 2011 - 2041	Primary schools 2011 - 2041	Secondary schools 2011 - 2041
Scenario 2	4 – 7	2 – 3	1 – 2
Scenario 3A	4 – 7	2 – 3	1 – 2
Scenario 3B	4 – 7	2 – 3	1 – 2

Table 7.1. Indicative educational requirements (2011-2041) (EBC, 2010)

7.1 Primary Schools

Population escalation in the 5-12 year age group during the years of construction is consistent across all scenarios (with the exception of the 'no development' scenario where the increase is estimated only to be 33 students at its uppermost), at approximately 15%. This is sufficiently significant to place some stress and demand on present primary school services, although the new primary school proposed at Broome North may accommodate the increased demand in the future.

7.2 Secondary Schools

Across all scenarios, the increase in school-aged population is similar for the 13-17 year old category during the construction years. The uppermost for all scenarios (other than 'no development'), demonstrates projected increases of up to 16.5% in this age group of the population. The impacts, as discussed above for the 5-12 year age group, similarly apply. However, the 16 year age-group will become eligible for vocational training.

There are currently two secondary schools in Broome, the public Broome Senior High School and the Catholic St Mary's College. According to the then Broome Department of Education and Training, the current Broome Senior High School has the capacity to double the current enrolment of around 500 students. While there is spare secondary schooling capacity to cope with projected increases in population, a current issue that will be exacerbated by additional population is a perceived need for an independent private school to reduce the need to send children to boarding school in Perth when private schooling is the preferred option.

7.3 Indigenous Education and Training

SIA Volume 1 (Scope and Profile) discusses the range of indigenous education and training available in the Shire of Broome. It identified the current issue of non-attendance at Kimberley TAFE. The Kimberley College of TAFE uses short courses to engage indigenous students and encourage them to move into longer training programs. However, students often require intensive support and ongoing literacy and numeracy assistance. In consultations undertaken by the Kimberley Land Council, literacy levels were recorded by stakeholders as one of the key barriers presently to engagement in vocational training. Equally highlighted, was the lack of one-on-one personal support required for indigenous students undertaking the programs – and then once job readiness programs have been completed there is little or no personal one-on-one support to address personal issues once the employment path has begun. Research shows that this is also a key impediment to employment.

There are considerable barriers to indigenous young people engaging in education and training opportunities. These barriers are similar to those discussed under the section on employment opportunities. The positive effect

of an increase in overall academic performance may be disturbed by negative impacts of student marginalisation unless educational barriers can be addressed.

Excluding the issue of barriers to opportunity realisation, it is possible that a proportion of Broome residents, on recognising the local employment potential from the project, will engage in training to support work readiness and employment with the Foundation Proponent and its subcontractors. Impacts that may flow from this are as follows:

- A 'rush' of individuals into training that doesn't match the skill-set required and disillusionment at rejection from employment as a consequence. This could be mitigated with education about the types of employment and varieties of skill-sets that will be ultimately sourced. The KLC has already performed some of this work in the indigenous community.
- The possibility of a higher demand being placed on current training facilities in the region as a result of the perception of opportunities. The demand may go beyond what the facilities can offer.
- Some people may leave the region temporarily to seek training elsewhere.
- People may complete training and, often in the longer term, may find that work is not available.
- Training facilities and organisations within the region may not be adequately resourced to provide the type of training required.

7.4 Employment Opportunities

Most opportunities for local employment will be generated by the construction phase of the Precinct. Although a high proportion of the construction workforce will be FIFO, there will still be a significant number of opportunities in sectors servicing the Precinct. Some of these will arise in areas where local people can acquire new qualifications and become work-ready relatively quickly. However these opportunities will most likely reduce as construction winds down (Scenario 2 construction is anticipated to last approximately five years). During the longer term operational phase, the requirement for a small and highly skilled operational workforce may limit direct employment opportunities.

During both construction and operational phases of the project, there will be economic and employment opportunities that will also accrue beyond the Precinct to Broome and surrounding areas through the business and employment multiplier effect. For example, there are likely to be opportunities supplying services to the Precinct. The ratio of additional employment to construction staff numbers varies from 0.5 in the low case, 1.0 in the medium case and 1.5 in the high case.

From 2016 – 2019, it is estimated that worker numbers will reduce by more than two-thirds for all scenarios except for 3B. However, from 2020 onwards a significant increase is observed with major employment opportunities peaking over several years under scenarios 3B and 4.

The Chamber of Minerals and Energy states that employment opportunities can be broadened by promoting a policy of employing and training local residents and those willing to reside in the Kimberley. This is key to retaining the opportunities of economic development for the region. Positive outcomes for the community can be linked to achieving a balance between residential operations as the predominant form of employment, with FIFO arrangements only used where required due to isolation or labour shortage factors (Chamber of Minerals and Energy 2005). Increasing employment opportunities for local indigenous and non-indigenous people is an important management strategy and should incorporate methods of addressing present barriers to employability in the region.

The ability to realise or capitalise on the benefits conferred by increased employment opportunities for members of the indigenous population and marginalised non-indigenous population in Broome will be reduced if these barriers are not addressed.

The resources and energy industries have previously recognised that the most significant inhibitors of indigenous capacity to engage in economic and employment programs are socio-economic factors.⁸ These factors specifically preclude engagement in employment and training. While sometimes the prevailing view has been that these factors are too numerous and interconnected to address (for example, substance abuse, over-crowded housing, poverty, family violence, physical health and so on), the most recent research now identifies two factors, which if addressed with adequate support in the other areas, contribute significantly to the capacity of Aboriginal people to engage in training and education, and most importantly, to participate consistently and effectively in gainful employment. These are emotional and behavioural difficulties specifically in the areas of:

- Resilience and recovery from life stress events; in particular, events such as grief, family violence and child sexual abuse. This corresponds to a lack of capacity to engage in or perform basic life functions.
- Parenting and family functioning.⁹

This has been specifically measured for the Kimberley Region by the Western Australian Aboriginal Child Health Survey (Zubrick et al 2006).

7.5 Community and Stakeholder Consultation

The Education and Training workshop was held in September at the DSD offices in Broome and the details are contained in Annexure C.

Education and training is an important element of the SIA and particularly the Aboriginal Social Impact Assessment (ASIA) as a key rationale for developing the Precinct is to enable education and training opportunities for indigenous people in the primary and secondary impact areas and in the broader Kimberley.

There are a number of existing education and training initiatives. These include the KLC's development of an education and training strategy and the Commonwealth Department of Education, Employment and Workplace Relations (DEEWR)'s "Closing the Gap" initiative which aims to maximise indigenous employment opportunities. The KLC education and training initiative is examining programs that can have measured outcomes from preschool right through the education process, including for example the VET in schools program.

The key issues that emerged from the Education and Training workshop include:

- A new approach to the delivery of services is required. Delivering education and training initiatives in the Kimberley is expensive and difficult. A comprehensive review of existing service providers; delivery methods; the target market; and the barriers to effective service delivery, and including funding formulas, would improve current service delivery.
- Non-government providers need to be an integral part of the review and resulting strategy.
- The Kimberley TAFE has limited trade facilities. These courses need to be broadened to meet the current demand and potential demand from the LNG development. The issue is both appropriate courses and the availability of places on courses.
- A significant problem for Kimberley trainees is accommodation both for trainees from remote communities in larger centres such as Broome but particularly when trainees need to attend courses or modules in Perth. The issue of accommodation includes trainees under 18 years as there is frequently a need to accommodate younger students but the current facilities only cater for those over 18 years.
- Most training facilities are in larger centres such as Broome and decentralised or mobile facilities are needed to effectively reach remote communities.

⁸ See for example, Statement by C. Leneghan, CEO Rio Tinto, 'Minerals Week' 2005, Brereton D, and Parmenter, J the Centre for Social Responsibility in Mining, University of Queensland, *Indigenous Employment in the Mining Industry*, Journal of Energy and Natural Resources Law 21(1) pp66-90, Australian Parliamentary Inquiry into Successful Initiatives in Indigenous Employment (June 2007) and *Boom and Bust: 1960-2007 Valuable Lessons in Indigenous Employment in the Mining Industry*, Mining, Petroleum, Oil and Gas Symposium, 9-10 July 2007, Broome.

⁹ See for example, Zubrick SR, Silburn SR, Lawrence DM, Mitrou FG, Dalby RB, Blair EM, Griffin J, Milroy H, De Maio JA, Cox A, Li J. *The Western Australian Aboriginal Child Health Survey: The Social and Emotional Wellbeing of Aboriginal Children and Young People*. Perth: Curtin University of Technology and Telethon Institute for Child Health Research, 2005 and Centre for Community Child Health (Murdoch Children's Research Institute) and Telethon Institute for Child Health, prepared by the AEDI National Support Centre, Centre for Community Child Health, Royal Children's Hospital

- Notre Dame University is creating a Centre for Indigenous Study “Caring for Country” to promote excellence in indigenous education and would like to better reengage indigenous children in education processes.
- Notre Dame University is working to capacity and they are short of both office space and teaching space and there is no large lecture theatre. The university would like to be more active in remoter communities, but delivering programs off campus is problematic and there is limited funding available. Notre Dame is examining mechanisms to deliver more programs from its Fremantle campus.

As discussed earlier (Section 2, in Table 2.1 and in Annexure C), there were a number of other opportunities for communities to indicate their areas of concern and provide comment on the proposed development of the Precinct and related issues. Of 165 completed questionnaires, 80 people (48%) indicated they were concerned about educational capacity. A complete breakdown of the different concerns at different events can be found in Annexure C.

The SIA Open Day, the Shire Forum and the Shopping Centre Information Sessions also gave members of the public the opportunity to provide comment. Comments on education, training and employment included:

*“You are joking, our schools already don’t cope.”
(Open Day/Shire Forum)*

“Broome needs local TAFE pre apprenticeship courses for Year 10 students and above for employment in the gas industry.” (Paspaley Plaza Information Session)

“What permanent jobs will gas Hub provide [sic] to existing Broome residents.” (NorthWest Expo)

“When can I get a job there? Construction worker dogman/labourer.” (Paspaley Plaza Information Session)

*“What about jobs for real local Broome families?”
(Open Day/Shire Forum).*

7.6 Education and Training Summary

The additional impact from the development of the Precinct is likely to be relatively limited for school age students, but is likely to increase the demand for LNG related training among both indigenous and non-indigenous residents in the Shire of Broome. The projected population increase in the Shire of Broome presents challenges for the education and training sector. A strategy should be developed to monitor the population increases and ensure the availability of sufficient education and training facilities.

The location of the LNG Precinct in the West Kimberley has been promoted in part because of the increased education and training opportunities for local, mainly indigenous people. An education, training and employment strategy is key to retaining benefits within the Kimberley. While FIFO construction workforces are normal for resource developments in the region (no region in Australia would be able to supply the thousands of skilled workers needed at peak workforce), it is also a reflection of the shortage of relevant skills within the Kimberley. A well-designed education and training strategy (see Volume 3: Strategic Social Impact Management Plan) for local people and particularly indigenous people, will provide an opportunity to retain greater benefits in the Kimberley and reduce the demand for incoming workers.

SIA Volume 3 states that, as Precinct conditions, all commercial proponents are required to develop:

- Education, Training and Employment Strategies to maximise education, training and employment opportunities for the local community and ensure a coordinated approach to the range of education, training and employment strategies implemented to support the development of the LNG Precinct.
- Indigenous Employment Strategies to:
 - o Ensure a coordinated approach to the range of indigenous education, training and employment strategies.
 - o Develop and implement a strategy to increase the number of indigenous workers on the project.
 - o Develop or link to existing programs to assist indigenous people to overcome barriers to education, training and employment.
 - o Develop appropriate workforce arrangements and that includes support for indigenous workers.

8. SPORT, TOURISM AND RECREATION

The primary impact area (Broome and parts of the Dampier Peninsula) contain significant organised sport and recreational facilities, including areas on the Dampier Peninsula near James Price Point which are used for informal camping and recreational fishing.¹⁰

8.1 Sport and Recreation Facilities in and around Broome

As illustrated in SIA Volume 1 (Scope and Profile), Broome has a range of sport and recreation facilities which will have to cope with any increase in population. For example, at the Broome Recreation and Aquatic Centre (BRAC) the swimming pool presently operates at capacity virtually all year round. The additional sporting facilities offered by BRAC, however, are somewhat under-utilised and are likely to be able to cope with the population increases projected from the Precinct. However, in light of the high level of expected population increase in Broome, regardless of Precinct development, BRAC will likely experience some resource pressures in the next decade or two.

In Broome, popular recreation areas are:

- Cable Beach, which is an extensive recreational beach (approximately 22 km) to the west of Broome town centre. Immediately adjacent to the beach contains a substantial tourism precinct including accommodation and restaurants. The area is popular for recreational activities such as fishing, swimming and camel riding. Many of the residents enjoy fishing in Broome own boats which are launched from Gantheaume Beach (adjacent to Gantheaume Point).
- While Gantheaume Point is predominantly used by tourists to observe its visual splendour, dinosaur footprints, and the lighthouse, many local Broome residents also use it for picnics. Gantheaume Point is also an area of extreme cultural significance (known as 'Minyirr'). It is a very special place not just to Yawuru but many Aboriginal communities surrounding Broome as it is the point at which several songlines intersect.

The population increase predicted for the Shire of Broome, including the impacts of the Precinct (assuming the implementation of the Social Management Plan), will bring significantly more people to the area with greater utilisation of sport and recreational facilities including beaches in the area.

8.2 Recreation near James Price Point

In general, the Dampier Peninsula is used for camping, day trips and other outdoor pursuits by residents of Broome and tourists. The Peninsula is also networked

with a number of four-wheel drive access tracks, making it a popular destination for many tourists.

Key recreational areas include:

- James Price Point is a popular recreational area for camping and fishing, and is currently managed by the Shire of Broome. The land is unallocated Crown land, with free self sufficient and unpowered camping occurring on and in the immediate vicinity of the James Price Point headland on the coastal fringe. There are approximately five campsites within the site boundary and are likely to be other camp sites along the coast. James Price Point is also used by 'Red Dirt Photography' as a photography class and picnic destination. Tours generally stay in the area for approximately half a day. During the dry season, the area is accessed for this purpose up to three days a week.
- Also popular for fishing (and launching of boats) are the Willie Creek and Manari areas. Both are very popular for day-trippers. James Price Point, Willie Creek and Manari are seen by Broome residents as fishing (and less frequently camping) spots that 'only locals tend to use' as opposed to the general tourist population who drive past these turn-offs on their way to Beagle Bay and Kooljaman at One Arm Point. (Fishing activity is also discussed further below).
- Coulomb Point Nature Reserve, which has an area of 28,676 ha, is situated adjacent to the northern boundary of the site and is managed by the Department of Environment and Conservation. The nature reserve is partially accessible for recreational use along Manari Road. Unregulated free, self sufficient and unpowered camping occurs within the Nature Reserve and throughout the accessible coastal fringe.

As indicated in the Tourism Assessment report the development of the Precinct at James Price Point and improved access to this location is likely increase access to other locations on the Dampier Peninsula for both residents of Broome and tourists.

8.3 Tourism

Tourism is one of the key industries in Broome and the Kimberley. Together with Perth and Margaret River, Broome is one of Western Australia's iconic tourism destinations. As a result of concerns about the potential impact of the LNG Precinct on Broome's tourism industry, a separate Tourism Impact Assessment (KPP Business Development 2009) was conducted as part of the SIA and is attached to this document as Appendix 1. Key findings from tourism study were:

- Tourism industry stakeholders and Broome residents considered that an LNG Precinct could co-exist with tourism although it may also have a negative impact on the Kimberley's reputation and destination image.

¹⁰ Big Island Research (2009). *Fishing Industry Impact Study – Kimberly LNG Project. Report prepared for the Western Australian Department of Fisheries.*

- A FIFO workforce may reduce the availability of short term visitor accommodation and have the potential to impact negatively on the tourism values, character and appeal of Broome.
- An increased likelihood of greater access and use of the Dampier Peninsula by locals and tourists.

Many stakeholders who participated in the Tourism Impact Assessment commented that the proposed development of the Precinct would expand economic diversity and increase employment opportunities for the region. Many sporting and recreational clubs saw this as having the potential to increase membership and sponsorship opportunities as a direct result and to increase the revenue available to develop new recreational facilities in the future (KPP Business Development 2009).

8.4 Recreational and Commercial Fishing

Together with tourism, there was concern among stakeholders about the impact of the proposed LNG Precinct on the commercial, recreational and customary fishing, (including pearling and aquaculture), in the Broome and Dampier Peninsula area. As a result, a Fishing Industry Impact Study (Big Island Research 2009) was commissioned by the Department of Fisheries and is included in Appendix 2.

Total recreational fishing activity in the Pilbara and Kimberley is estimated at 70,000 anglers and one million fishing days a year (Department of Fisheries 2005). Recreational fishing continues to experience significant growth and is concentrated around key population centres (e.g. Broome), with peak activity during the winter months (dry season) when the local population is increased considerably by tourists travelling to or through the area (Department of Fisheries 2008b). Recreational fishing, which is likely to increase as the population grows, has been identified as a key aspect of the 'Broome lifestyle' and is a valued pastime by many local residents as well as tourists.

Most recreational fishing occurs around the coastal waters and inshore islands, given the distance to the offshore islands. Fishing safaris, coastal cruises and charters are also popular, in terms of tourist activities on the coast. These include occasional trips to the offshore islands, coral reefs including Scott Reef and the North West continental shelf waters in search of Saddletail Snapper, Red Emperor, Sea Perch, Coral and Coronation Trout, Sharks, Trevally, Tuskfish, Tuna, Mackerel and Billfish (Dept of Fisheries 2008b). At the end of June 2005, the north coast bioregion had 105 licensed fishing tour operators, plus 18 restricted fishing tour or eco-tour licenses. Fishing operators reported there were 4,773 tours in 2004, with tour activities including fishing, snorkelling, sightseeing, wildlife observation and diving (Dept of Fisheries 2005).

The total catch of all species taken by recreational fishers in the region is about 300 tonnes per year (Department of Fisheries 2005). Key species caught include Trevally, Spanish Mackerel, Blue-Lined Emperor, Tuskfish, Threadfin Salmon, Mangrove Jack, Barramundi and mud crabs (Newman 2004).

Much of the recreational fishing activity in the area is boat-based due to high tidal ranges, with fisherman visiting coastal waters of Broome, Cape Leveque, the Buccaneer Archipelago, King Sound, Beagle Bay and Cockatoo Island. Shore fishing is limited to periods of flood tides and high water, and is concentrated around mangrove areas and creeks for species such as Barramundi, Tropical Emperors, Mangrove Jack, Trevally, Sooty Grunter, Threadfin, mud crabs and cods (Department of Fisheries 2008b).

Near the main communities on the Dampier Peninsula there are several places where boats can be launched off the beach. In addition the pearling operations in this area have private boat launching facilities (DPI 2008b).

An area directly to the south of James Price Point headland provides beach access for boat launching, and other areas along the coast to the north and south of James Price Point are used for informal boat launching locations.

Impacts of the proposed development on the commercial fishing industry in the region are described in the Fishing Industry Impact Study (Big Island Research 2009) which was commissioned by the Department of Fisheries. That study indicates the proposed development may:

- Create significant risks for the pearl oyster fishery and aquaculture through changes in the marine environment (i.e. dredging activities, introduction of marine pests and diseases, spillage of contaminants and changes in water nutrient levels).
- Cause considerable inconvenience to existing fisheries interests in the short and medium terms and will have a flow on effects to the regional economy.

In the context of the recreational fishery it is likely there would be an increase in both the number of recreational fishers and a probable increase in the fishing effort in the region. Furthermore, with an increase in the population, not only would the number of recreational fishers increase, but there would likely be an increase in the spatial distribution of recreational fishing to other coastal areas including the Dampier Peninsula. This would be a direct consequence of improved access to coastal areas near and to the north of the James Price Point and the increase in fishing effort.

Recreational fishing is a popular activity among FIFO construction workers on their non-working days. Stakeholders, including Traditional Owners, recreational and commercial fishers have expressed concern about unregulated recreational fishing by workers. It is likely that this concern will be managed by an agreement that FIFO construction workers will only be able to fish while on organised tours.

8.5 Community and Stakeholder Consultation

The sport and recreation workshop, held in Broome, was attended by representatives from sport and recreation clubs, organisations and service providers. The workshop heard that the potential Foundation Proponent intended that the majority of the construction workforce will be FIFO and located on the Dampier Peninsula, relatively close to the Precinct. The workers camp will be self-contained and they will need to have their own recreation facilities and not rely on Broome's recreation facilities.

The workshop discussed a wide range of issues, both relating to the existing state of sport and recreation as well as potential impacts from the development of the Precinct. Workshop participants expressed concern that existing sport and recreation facilities were "behind the 8 ball". One of the key reasons for this was that the Shire of Broome has under 6,000 ratepayers yet supports a permanent population of double that number as well as a further significant influx of tourists in the tourist season. Sport is particularly important in smaller communities and concern was raised about the possible contrast between the perception of 'elite' facilities at the workers accommodation and the poorer facilities in Broome. In addition, anecdotal evidence from other communities with 12 hour shifts indicates that there was a drop in the number of volunteers involved in supporting sport and recreation activities (such as umpires and coaches for various sporting codes) as they were working shifts that limited their availability.

The likely impacts of the project on the sport and recreation activities and facilities within the area include:

Fishing

The James Price Point area is an important onshore and offshore fishing area. The Fishing Industry Impact Study identifies areas off James Price Point as important recreational fishing areas, including a world class sailfish aggregation area. There are around 1,200 registered boats, in the Broome Shire and many tourists travel with small boats which increase the boating numbers in the tourist season.

The potential noise and light impacts on fishing was discussed, as was noise impacts, particularly high pitched noises. Representatives from the potential Foundation Proponent commented that they were developing strategies to minimise light spill. A further area of concern for the fishing industry is the perception that unregulated recreational fishing occurs off Karratha from rigs, rig tenders and international vessels. This issue should be addressed through management of sub-contracts.

Fishing is a common pastime of FIFO workers on other projects and this should be managed as part of the contractual arrangements with the workforce. More detail is included in the Fishing Industry Impact Study.

Camping

The area along the coast north of Broome, including James Price Point is a popular informal camping area with locals and tourists alike. There are no facilities for camping and this "illegal" camping is a current issue for the Broome Shire. It is envisaged that as Native Title is resolved in the area around James Price Point, unrestricted access to the area may be altered. The further development of an indigenous ranger program has been discussed and could assist with monitoring illegal camping activities.

A consequence of the development of the Precinct is the displacement of campers from the Precinct site and potentially from areas around James Price Point. They are likely to seek alternative campsites and fishing areas in other locations possibly on the Dampier Peninsula or to the south of Broome.

Indigenous Sport and Recreation

The Department of Sport and Recreation is developing an Indigenous Sport and Recreation Plan to invest in existing communities. All the indigenous communities the department works with have expressed a significant need for both 'hard' and 'soft' sport and recreational facilities for children.

As discussed in Section 2 and Table 2.1, DSD also organised and participated in several opportunities for Broome residents to find out more about the proposed Precinct and discuss their issues. Community members were invited to complete a brief questionnaire and add their comments at all five events. Of 165 completed questionnaires, 102 people (62%) indicated that they were concerned about the access to recreational areas near the Precinct. Ninety people (55%) expressed concern about potential impacts to tourism and 87 (53%) expressed concern about recreational fishing. A complete breakdown of the different concerns at different events can be found in Annexure C.

Comments from the Broome community included:

"Maintain access to the port and Reddel beach areas in Broome." (Paspaley Plaza).

"Your're [sic] taking away our recreational areas. The James Price Point Area is our main recreational area (SIA Open Day/Shire Forum)."

8.6 Sport, Tourism and Recreation Summary

The development of the Precinct is likely to have an impact on Broome's tourism industry. For this reason, the SIA included a stand-alone assessment of the potential impacts on tourism. This assessment found that most stakeholders considered that a LNG Precinct could co-exist with tourism although, unless managed, it may have a negative impact on the Kimberley's reputation and destination image. In addition, if FIFO workers were allowed to live in Broome, they would reduce the availability of short term visitor accommodation and have

the potential to impact negatively on the tourism values, character and the appeal of Broome. Another finding of the assessment was that the sealing of the Cape Leveque Road ahead of the current schedule, will afford greater access to and increased use of the Dampier Peninsula by locals and tourists.

The predicted natural and Precinct population increases for the Shire of Broome will result in greater utilisation of sport and recreational facilities and zones within the Shire. This is likely to lead to an increase in recreational fishing in the region.

The Fishing Industry Impact Study (Big Island Research 2009) describes potential impacts of the Precinct on the commercial fishing industry in the region. It identifies significant risks for the pearl oyster fishery and aquaculture through changes in the marine environment. Considerable inconvenience to existing fisheries interests could occur in the short and medium terms, ultimately with flow on effects to the regional economy.

The informal recreational use of the area around the proposed Precinct is an issue for many Broome residents. Sixty two percent (62%) of those surveyed indicated that they were concerned about maintaining access to recreational areas near the Precinct. While a limited area will be inaccessible for recreation, likely visual and noise impacts from the Precinct may cause some people to choose alternative campsites and fishing areas.

SIA Volume 3 contains a number of measures to mitigate and manage the impact of the LNG Precinct on Broome and the surrounding area. These include precinct conditions that commercial proponents:

- Operate a managed-access construction camp
- Manage the access of the workforce to Broome and the Dampier Peninsula, and,
- Manage the potential for worker behaviour to have a negative effect on the communities of the surrounding areas

SIA Volume 3 also contains:

- A Tourism Strategy to ensure that Broome retains its status as one of WA's premier tourism destinations.
- A Recreation Strategy to develop management arrangements for recreational activities which address local user and Traditional Owner requirements.
- A Marine Resource Use Strategy to minimise, mitigate and manage the impact of the LNG Precinct on marine resources including commercial and recreational fishing activity in the James Price Point region.

9. POLICE, JUSTICE, SOCIAL NEEDS AND SERVICES

9.1 Police and Justice

As SIA Volume 1 (Scope and Profile) describes, crime rates in the Kimberley have been reported as being the highest in Western Australia. The Broome police and prison are operating at or near capacity.

The police and justice services will have additional pressures placed on them as a result of the anticipated population increase without any further LNG development. Ongoing investment in these services is required as the population rapidly increases.

Although the anticipated, longer-term Precinct-related population increase is manageable relative to the projected growth of the population, it is expected that the Precinct-related population increase will contribute to the crime rate, based on average criminal activity per head of population.

Police have already identified the main issues that presently require policing in Broome are anti-social behaviour, domestic violence and property offences. These issues are mainly associated with juvenile offenders, poor socio-economic circumstances and alcohol and drug abuse (pers. comm., Broome Police 2009). Existing issues such as homelessness and poverty may lead to increases in crime if not managed. It is also possible that, particularly under a high development scenario, a perception of increased wealth in the town may develop and may render some people a vulnerable target for theft and property damage.

Justice administration is currently serviced by a single magistrate, three independent (private) lawyers, a branch of Legal Aid Western Australia, a branch of the Western Australian Legal Aid Service and seven full-time equivalent staff at the Broome courthouse. It is foreseen that this level of service would be sufficient to cover Broome population increases across all scenarios, including any matters that may arise at the Precinct.

Broome District Police believe that, given the quantum of construction workforce resident at the Precinct, the Precinct itself may require its own police post. It is not clear if the Precinct would be policed from Broome. If this were the case, additional resources will need to be allocated so Broome-based service-delivery is not diminished. A safety and security management strategy should be developed by the Precinct proponents and should include measures such as a policy of obtaining police clearances for workers.

9.2 Social Needs and Services

9.2.1 Family violence

As described in Volume 1 (Scope and Profile) of the SIA, the Kimberley possesses among the highest rates of family violence in the State. As family violence is frequently under-reported, police statistics are not representative of its true prevalence. Access Economics predicts that between one in four and one in five people are affected by family violence (using survey processes of the general population).

Even a small increase in the size of the population to Broome will most likely result in a proportionately higher increase of stress upon Broome's community service providers in this area.

Present community service delivery to address family violence consists of one counselling service (Kinway) and one refuge (Marnja Jarndu). Located in Broome, both have very limited resource capacity and are also required to provide outreach to remote communities in addition to servicing the Broome region. In the secondary impact area, in particular Derby, family violence rates are also excessive. Again, there is one refuge and very few therapeutic intervention services available. It is unlikely that current service delivery measures will be able to cope with a growing and sustained demand on their services generated from expected population growth.

There is still some conjecture as to whether worker-populations in the mining and energy sector bring higher rates of family violence than that experienced by the broader community. A recent study analysing the proposition in the Bowen Basin mining communities of Central Queensland concluded that, although 31.4% of women experienced non-physical violence and 11.5% had experienced physical violence, that the rates were not vastly different to that of the general population (Nancarrow et al 2009). However, a recent Federal Government report discusses the limitations upon escaping domestic violence in such communities. This is when housing options are in short supply; their location is easily known and if there are constraints on movement with children prescribed by Family Court Orders (Tually et al 2008).

These studies generally refer to discreet mining and/or construction worker communities, to which Broome is not comparable. This is because Broome is both an existing town with some service delivery in this area (albeit inadequate to cope with changes in demand). It is also because the population of new workers who will be residing in Broome will not be a large proportion of the town's population at the time. The likelihood of domestic violence occurring at the Precinct is very low as it is very unlikely that families or partners will be living with workers at the site. Nevertheless, it is still likely to be an issue for workers – one displaced to their place of residence.

9.2.2 Sexual Assault

As Volume 1 (Scope and Profile) describes, despite under-reporting in 2001, the Kimberley still possessed the highest number of reported sexual assaults for any region in Western Australia.

It is likely that due to the expected population growth of the town, rates of sexual assault may escalate, independently of reporting changes. The fear of this impact was specifically reflected by participants in DSD's Health Workshop (12 August 2009).

Independently of development, prevention measures will need to be investigated including the capacity of the service sector to respond to any increase in Broome's projected population changes. In Broome presently, there are only two services that specifically support victims of sexual assault; these are Kinway and Kimberley Headspace. Kimberley Headspace exclusively provides services to 12-25 year olds, but its sexual assault support is ostensibly provided by a counsellor from Kinway (therefore using pre-existing resources). Some assistance is also available through Kimberley Mental Health. Some staff at Kimberley Aboriginal Medical Services Council (KAMSC) informally provide support to victims which is not within the Service's formal role. The workers who carry out the work do so as part of their personal cultural and community role. There are no Aboriginal sexual assault counsellors formally employed in Broome and as a result the KAMSC staff presently carry a heavy burden in this respect. This reflects a system already at capacity.

Anecdotal, media and academic reports have also raised the incidence of situations where men in the Broome area are procuring sexual favours from young Aboriginal girls and boys in exchange for items such as cigarettes, alcohol and taxi fares (O'Brien, 2008). Participants at the Health Workshop were apprehensive about an increase in informal prostitution by some of Broome's existing younger residents. They were also concerned that sex workers from other regions may be attracted due to the 'influx of predominantly single, male FIFO workforce' with high disposable incomes during construction. This in turn raised fears of an increase in the level of STI transmissions. Measures are expected to be put in place which will control access into and out of the accommodation camp that will seek (among other things) to reduce the likelihood of workers leaving the camp and engaging in this behaviour.

Participants at the same workshop also raised concerns about members of the workforce who 'took breaks' in Broome and caused havoc in the town specifically in relation to public intoxication, sexual assault and harassment. The town already experiences this problem on a periodic basis from workforces on breaks from other industries. Potential management measures to reduce this impact include transporting the workers directly from their flights to Broome to the workers accommodation and organising structured activities for workers on their mid-cycle recreation day. This impact is likely to remain for incoming independent contractors who service the Precinct or workers who choose to remain in Broome for their recreational leave.

9.2.3 Child Abuse and Neglect

As Volume 1 describes, the West Kimberley's number of open contacts within the child protection system over the 2008-2009 financial year were among the highest in the State, despite lower population levels compared to other regions (Department of Child Protection 2008/2009).

Anecdotal and media reports suggest that the Department of Child Protection's offices in the region are already working beyond their capacity. Kinway provides some child specific counselling. In some specific circumstances Kimberley Mental Health or the psychologist based at the Kimberley Division of General Practice provide assistance. 12 to 25 year olds can also access these same staff through Kimberley Headspace. There are limited referrals and support for parents taken in through the child protection system, other than through Kimberley Mental Health and (voluntarily) through Kinway. Both KAMSC and Kinway undertake forms of child abuse prevention promotional work. Both are limited in the scope of what they can do in this area, due to the lack of available support services, to respond to resulting referrals.

Furthermore, any additional demand including that from limited population increases resulting from the Precinct's development could have a disproportionate impact on an already overburdened social services system. Irrespective of where FIFO workers reside, the family pressures experienced by FIFO workers, including long periods of being absent from the family and shift work, could potentially contribute to increases in child abuse and neglect (Planning WA 2009). While those employees resident in Broome will not be FIFO workers, they will work similar rosters and be accommodated at the camp during work periods, which may lead to similar implications.

9.2.4 Suicide

As profiled in SIA Volume 1, (Scope and Profile) the Kimberley's excessively high suicide rate prompted the Hope Inquiry, an investigation by State Coroner Alistair Hope into 22 deaths in the region. In 2003, 28% of Aboriginal people in the Kimberley surveyed had lost a family member to suicide (Ralph et al 2003).

Again, limited counselling is available through Kinway, and the services it provides through Kimberley Headspace, but no Aboriginal counsellors are formally employed to undertake this role. KAMSC provides informal support through two Aboriginal staff in the Regional Centre for Social and Emotional Wellbeing. This is not part of their formal role, and sometimes kin and family associations make this difficult. While some referrals are able to be made to Kimberley Mental Health, it is important to understand that not all instances of suicide attempts, nor requirements for family support post-suicide, are mental-health related.

It is unclear whether steep population increases or decreases would affect rates of suicide in the region. There is no discourse directly linking the two. It is fair to say that any impacts creating an increase in the incidence of the psycho-social issues cited directly above will most certainly influence the rate of suicide (see Zubrick et al 2006). This underlines the importance of strong management measures to address psycho-social and community wellbeing impacts.

9.2.5 Substance Misuse

As outlined by SIA Volume 1 (Scope and Profile), the Kimberley possesses the highest per capita alcohol consumption rate of any region in the State.

Notwithstanding the range of liquor bans were introduced to the Broome region by the Western Australian Government in early 2009, rates of alcohol abuse remain high. In addition, a range of bans have been introduced to communities surrounding Broome, which has seen a rise in the itinerant population seeking to access alcohol from the town centre. This trend creates a demand for services, for instance, the Kullari Patrol operates from Broome to intervene and diffuse potentially violent situations arising from public intoxication.

A recent report by Planning WA reviewed the social and community impacts of a FIFO workforce in the Pilbara. This report described family dysfunction, guilt, loneliness, substance abuse, depression and reduced commitment to workplace tasks as commonly experienced by FIFO workers (Planning WA 2009). Such impacts are of course not specific to Broome or the Pilbara but may occur in all residential locations where the FIFO workforce lives.

Issues of substance abuse and the psychological health of the FIFO workforce and their families is a general issue which needs to be addressed. In relation to impacts on Broome, a policy of limiting FIFO workforce layover time in Broome may substantially mitigate potential increases in substance abuse from the workforce population. Additionally, compulsory random alcohol and drug testing may also limit the prevalence of substance misuse by Precinct workers in the town. These measures may need to extend to Broome-based contractors. The issue could be exacerbated by the indirect workers and those moving to Broome in the hope of work (opportunistic workforce).

Substance abuse is well-documented as a self-medicating response to early or recent life stresses. Kinway Counselling Services, Kimberley Mental Health and Drug Service and the two psychologists operating from the Kimberley Division of General Practice play a critical role in addressing the underlying issues which give rise to substance abuse. However, with limited resources available to address these issues even a marginal increase in demand will create significant issues in relation to service provision.

The Milliya Rumurra Alcohol and Drug Rehabilitation Centre provides a residential facility, a day program for non-residential clients, one-on-one programs for relapse, harm minimisation, parenting services, a sober-up shelter five nights a week and have an outreach program. The centre is operating at full capacity and like many other similar service providers, would likely experience difficulties in coping with further demand.

9.3 Community and Stakeholder Consultation

As discussed in Section 2 and Annexure C, DSD either organised or participated in several opportunities for Broome residents to find out more about the proposed Precinct and to discuss their issues of concern. Community members completed a total of 165 questionnaires and 77 people (47%) indicated that they were concerned about the capacity of the police and the justice system. Potential community wellbeing impacts from the proposed LNG Precinct were a significant set of issues at the Health Workshop held in Broome on 12 August 2009 with a range of health professionals.

A complete breakdown of the different concerns at different events can be found in Annexure C.

Comments from the Broome community included:

*"Police and justice system - will need extra police."
(SIA Open Day/Shire Forum).*

"How will this affect sensitive social and cultural issues already rooted in Broome? Crime, prostitution, rape, child abuse, drug usage and alcoholism will only escalate when industry is brought to town." (SIA Open Day/Shire Forum)

9.4 Police, Justice, Social Needs and Services Summary

Crime rates in the Kimberley are the highest in Western Australia, with the Broome police and prison operating at or near capacity. The police and justice services will have additional pressures placed upon them as a result of the anticipated population increase without any further LNG development. On-going investment in these services is required as the population rapidly increases.

The Kimberley has one of the highest rates of family violence in the State; the highest number of reported sexual assaults for any region in the State; relatively high levels of child abuse and neglect; relatively high suicide rates, particularly amongst Aboriginal people; and, additionally, the Kimberley possesses the highest per capita alcohol consumption rate of any region in the State.

It is clear in consultations with service providers and key stakeholders that existing service providers are either already oversubscribed or operating at capacity and have limited resources to address these issues. Even a relatively limited population increase resulting from the Precinct's development could have a disproportionate impact on an already overburdened social services system. In order to meet the natural population increase within the Shire and any direct and indirect population increase attributable to the development and operation of the Precinct, additional services and an increase in resources to existing and new services will be required.

Issues of substance abuse and the psychological health of the FIFO workforce and their families is a general issue which needs to be addressed. In relation to impacts on Broome, a policy of limiting FIFO workforce layover time in Broome may substantially mitigate potential negative impacts on community wellbeing. However, these impacts may still occur amongst the indirect workforce, including contractors and employees who choose to live in Broome.

SIA Volume 3 contains a number of measures to mitigate and manage the impact of the LNG Precinct on the community wellbeing of Broome and the surrounding area. These include precinct conditions that commercial proponents:

- Operate a managed-access construction camp
- Manage the access of the workforce to Broome and the Dampier Peninsula,
- Manage the potential for worker behaviour to have a negative effect on the communities of the surrounding areas, and,
- Establish appropriate primary health care, emergency and security services capacity in order to meet Precinct requirements and minimise the potential impacts on existing services.

SIA Volume 3 also includes the development of a Social Services Strategy in Broome to ensure government services are delivered to reasonably meet the social impact assessment baseline of existing community requirements and population growth projections.

10. COMMUNITY IDENTITY AND SENSE OF PLACE

Potential changes to the unique “Broome feel” are a major concern raised by almost all stakeholders. Broome’s identity is a combination of the natural and social factors. The tropical climate, its isolation and location on a peninsula that captures sea breezes and promotes outdoor living for much of the year; the striking contrasts in the landscape between the turquoise sea, sand and red pindan soil. The multicultural nature of Broome also contributes to its unique identity and is different to the rest of Western Australia mainly because of the historical development of the pearling industry.

Whether or not the proposed LNG Precinct goes ahead at James Price Point, the projected population growth means that Broome will undergo significant change in the next twenty years. Community identity and ‘Sense of Place’ are dynamic concepts and have undergone substantial change in the past. Long-time residents of Broome speak of when Broome had less than 4,000 people and ‘everyone knew everyone else’. The town has probably quadrupled since then and still has a similar atmosphere. Any strategy to manage the potential impacts to Broome’s identity and sense of place should start with identifying the key aspects of the sense of place. To this end, a workshop was held to discuss the aspects of Broome’s sense of place and how this can be managed.

10.1 The ‘Sense of Place’ Workshop

A workshop focusing on ‘sense of place’ was held in Broome, which included a range of participants from government, the community and industry. The findings of the workshop will form the basis of a management strategy to manage potential impacts.

What contributes to a ‘sense of place’ in Broome?

Workshop participants were asked to consider what contributes to Broome’s unique sense of place or atmosphere. The themes that workshop participants considered important were:

- **Cultural Diversity**
Multicultural heritage; the cosmopolitan feel of the place.
- **Climate**
Outdoor living; tropical climate; connectedness to nature and the natural cycles.
- **Geography**
Isolation of Broome from other big centres and proximity to wilderness; proximity to beaches such as Cable Beach.
- **Built Environment**
The close proximity of the airport; buildings that respect the environment, are simple, functional and use local materials; non industrial feel.

- **Indigenous Contribution**
Indigenous achievements and the pride of non-indigenous people about these achievements; impact of the Catholic Church on indigenous people.
- **Broome Style**
It has still got a laid back style, ‘Broome Time’; there isn’t really a ‘Broome’ person, people come here to be a Broome person.

What will be the potential impacts to the ‘sense of place’ from the Precinct

Workshop participants were then asked to also identify the positive and negative impacts attributable to the establishment of the LNG Precinct on the ‘sense of place values’ that had been described. The responses included:

- Population Growth Issues
 - o Transient nature of Broome’s population and scarcity of skilled people to undertake seasonal jobs;
 - o Growth can lead to a loss of the friendly small community feel of the place (high growth rate over the last 15 years);
 - o Small rate payer base and high demands; and,
 - o Broome lacks any arts facilities, function centres, or museums to preserve and promote culture and the arts. There is a need for more volunteers and sponsorship for the arts (growth could positively impact this).
- Existing Services
 - o A lack of forward planning during recent growth periods to cope with change in demand.
- Precinct Specific Issues
 - o Concern about the risks of sex, drugs and the potential moral shift in the town from a large FIFO workforce;
 - o There could be a problem with planes landing so near the town and the potential increases in flights;
 - o Possible impacts on the airport, with tourists sharing planes with workers impacting on the welcoming sense of place of Broome;
 - o Increased activity with a supply base installation in Broome could cause loss of amenity;
 - o The industrialisation of Broome around the support industries needed;
 - o Workers with families are less risk than single FIFO workers;

- o Pollution in the water around the port and impacts on bird and fish life;
- o Impacts on whales;
- o The visual impact of the LNG Precinct development; and,
- o Wage discrepancy between the town and workers could lead to disharmony.
- Indigenous Culture
 - o Protecting and respecting indigenous culture, indigenous seasons, indigenous flora and fauna.
- Communication
 - o Communications from government. There is a need for integrity and openness to establish goodwill; and
 - o Why hasn't there been better delivery of information to the communities, using local media, TV stations?

Maintaining the Sense of Place

Workshop participants, after having discussed issues related to the potential impacts on the sense of place, were then asked how they would maintain Broome's sense of place. The responses included:

- Planning Guidelines
 - o Develop built form and landscape guidelines to maintain Broome's sense of place in the architecture. This should be guided by a 'Sense of Place Vision'; and
 - o Identify and maintain the sense of place so it does not dissipate over time.
- Culture and the Arts
 - o Develop an artistic presence (indigenous and non-indigenous) possibly through establishing a similar initiative to the Cossack Art Awards program;
 - o As culture and the arts are measures of community health and wellbeing, Broome needs to provide opportunity for expression of social and cultural interests; and
 - o Protect and respect indigenous culture.
- Workforce Arrangements
 - o Invest in local training to ensure job benefits are realised and don't just go to FIFO or external workers;
 - o Maximise permanent workforce based in Broome and minimise FIFO workforce in Broome; and
 - o Affordability, wage disparity needs to be addressed to ensure human values are retained.

- Precinct Impacts
 - o Minimise noise interference from helicopter traffic and review airport management of FIFO workforce.
 - o Ensure any increased traffic resulting from any supply base, if located in Broome, is isolated from residential areas. Need to be careful that ancillary industries are put far away, i.e. inland.
 - o Ensure all environmental issues related to marine activities are properly addressed; and
 - o Minimise visual impact of LNG Precinct on landscape.

To further understand workshop participants' views on maintaining Broome's sense of place, participants were asked to imagine that they were in 2030 and Broome had managed to maintain its sense of place. This retrospective assessment focused on what characteristics would endure through the growth period if adequately addressed in future planning. The vision included:

- A living multi-cultural community reinforced by facilities, funding and recognition of indigenous culture. Recognition of "cultural guardians";
- Interpretation, celebration and promotion of its history and culture through art/planning documents;
- The climate and its distance from other major centres of population should ensure that much of Broome's character is retained;
- Broome's size and geographical configuration will limit development to North Broome and therefore assist in retaining its physical character;
- Future development will mean that people are further from the beach but Cable Beach will still be a major drawcard; and
- It will still have a laid back style, 'Broome Time'.

10.2 Community and Stakeholder Consultation

As discussed in Section 2 and Annexure C, DSD organised and participated in several opportunities for Broome residents to find out more about the proposed Precinct and discuss their issues of concern. Community members completed 165 questionnaires, and concerns around the potential impacts of the development of the Precinct on Broome's unique sense of place ranked as the highest concern by 117 people (71%). A complete breakdown of the different concerns regarding different events can be found in Annexure C.

Comments from the community about the sense of place were many and conveyed concern about changes to Broome's character. Comments included:

"You can't stop progress if you do Broome will no longer be an attraction as we will not progress to next generation [sic]. My son in-law is Yawaru and is all for it"
(Paspaley Plaza).

"As a long standing resident of Broome I have no doubt this development will destroy the soul of this special place. Shame on this Government and all who support this proposed development. It will not improve the living and working conditions of these people who call this home"
(SIA Open Day/Shire Forum).

"Changes to Broome 'sense of community'. Population explosion will change 'quiet enjoyment'. The tourist dollar has begun eroding Broome's character since the McAlpine developments. This development will be the death knell. If Broome is selected as a 'supply base' this will alter the character of the town and increase mistakes to the environment especially the Ramsar site"
(SIA Open Day/Shire Forum).

"Changes to visual character of Broome"
(SIA Open Day/Shire Forum).

10.3 Community Identity and Sense of Place Summary

The LNG Precinct will bring additional change to Broome's sense of place and identity, with the Precinct ultimately becoming a part of Broome's ongoing image and identity. The extent to which there is change to Broome's identity and the extent to which there is separation or integration between the LNG Precinct and Broome's existing identity, will be dependent upon how sense of place, image and identity is managed in the future. Without good management, these issues could result in a sense of disruption and loss for longer-term residents and a reduction in the quality of life for new residents.

SIA Volume 3 contains a number of measures to mitigate and manage the impact of the LNG Precinct on the community identity and Sense of Place for Broome and the Dampier Peninsula. These include precinct conditions that commercial proponents:

- Operate a managed-access construction camp
- Manage the access of the workforce to Broome and the Dampier Peninsula, and,
- Manage the potential for worker behaviour to have a negative effect on the communities of the surrounding areas.

Additional management strategies require the development of three related management strategies:

- The Dampier Peninsula Sense of Place Strategy to the effective management of the cultural, heritage and identity of the Dampier Peninsula;
- The Broome Character and Sense of Place Management Strategy to retain the unique character and Sense of Place associated with Broome during the development of the LNG Precinct; and,
- The management of Tourism Impacts to endure that Broome retains its status as one of WA's premier tourism destinations.

11. SOCIAL MIX AND VALUES CONFLICT

A recurrent theme in discussions with stakeholders is the concern that the gas industry will bring about changes to the social mix in Broome and on the Dampier Peninsula. The concern centres on the perceived high incomes of gas workers and relatively low incomes of the Broome population. The SIA Volume 1: Scope and Profile (2009 p.89) illustrates that the median individual income in urban Broome was \$696 per week for non-indigenous people and \$325 for indigenous people with an aggregate income of \$628 per week. Based on the average construction income supplied by Woodside (\$200,000 per annum), the average construction worker would receive \$3,846 per week, which is over six times the median individual income for urban Broome. The average permanent operational workforce salary is \$2,500 per week (\$130,000 per annum), which is almost four times the median individual income for urban Broome.

The profile of the average LNG construction workforce is typically that of young single men. It is anticipated that construction workers will be limited, as far as possible, to the accommodation facility north of Broome in a self-contained village where all requirements will be provided for the workers. It is further anticipated that the construction workers living in Broome do so at their own cost and are either local residents or have moved to Broome with their families. The potential Foundation Proponent has stated their intention of operating a managed access camp and limiting construction worker access to Broome. As Broome is one of the key tourist destinations in Western Australia, it is possible that some of the construction workers will choose to spend rest periods in Broome. Broome residents have relayed anecdotal evidence of similar practices in Karratha where several construction workers living in the accommodation village rent a house in town where they spend their leisure time.

The concern around the dissimilarity of the potential workforce centres largely on the FIFO workforce. The Tourism Impact Assessment (KPP Business Development, 2009) identified the presence and visibility of the FIFO workforce as having a critical impact on the character and appeal of Broome, which revolves around its relaxed atmosphere. This concern is reflected in the concern around tourism values, tourism branding and destination appeal. The Tourism Impact Assessment details the concerns of the tourism industry and other stakeholders who hold a clear perception that a potential FIFO workforce would have a negative impact on Broome's tourism industry. The key concern was the potential behaviour of FIFO workers and their interaction with leisure tourists at points of intersection such as the airport, pubs, restaurants and retail shopping areas. Suggestions were made to minimise the visibility of construction workers in Broome. This view was supported by the Tourism Impact Study's resident survey in which 66% of surveyed residents agreed that Broome is a tourist town and did not want a FIFO culture to develop (KPP Business Development, 2009).

The smaller permanent workforce is likely to consist mainly of professional people and will match the current profile of Broome residents more closely than the construction workforce. The Tourism Impact Assessment has suggested a range of mitigation and management measures including minimising the construction workforce's visibility in Broome and minimising the potential contact between the construction workforce and tourists.

The impacts of the construction workforce on Broome will be minimised by the operation of an accommodation camp with managed access close to the James Price Point Precinct. This management measure, combined with similarly aimed strategies described in Volume Three, will mean that only workers with families are likely to relocate to Broome. In addition, a code of conduct should be developed for construction workers visiting or transiting through Broome.

11.1 Environmental Concern

The aim of the Northern Development Taskforce was to find the least environmentally harmful, technically feasible LNG processing site in the Kimberly to process gas from the Browse Basin. Nevertheless, there is considerable community concern around the potential environmental impacts of the onshore processing of LNG in the Kimberly. This concern has been exacerbated in the latter half of 2009 by the oil spill at the West Atlas oil rig in the Timor Sea. The rig leaked for over 10 weeks before it was finally stopped. The leak led to considerable sea pollution and a reawakening of people's concerns about potential pollution closer to the Kimberley coast.

There is also considerable concern among environmental groups that the development of an LNG Precinct in the Kimberley is "the thin edge of the wedge" and will lead to the industrialisation of the Kimberley.

A number of mainly environmental interest groups has mobilised local, national and sometimes international support. These groups include:

- Save the Kimberley
- Environs Kimberley
- The Wilderness Society
- The Conservation Council of Western Australia
- World Wildlife Fund
- Friends of Prices Point.

Anti-project protest events have been held, including a concert with national music celebrities at Male Oval in Broome, on-going protests at the Broome markets and a protest at the SIA Open Day in September 2009. The concerns focus on beliefs about the irreversible impacts of the LNG development on the marine and terrestrial environment, including for example the impacts on marine mammals, particularly humpback whales that migrate past James Price Point to calve along the Kimberley coast. Many environmental groups also do not support a project that uses fossil fuels and contributes to greenhouse gas emissions. In addressing these environmental issues, a range of environmental studies are being undertaken as part of the strategic assessment.

Comments from the Graffiti Wall that capture the tone of the environmental concerns include:

"Environment is irreplaceable once destroyed/damaged."

"The Kimberley coast should be protected from all development. This is not negotiable. There are alternatives and these should be where the energy and resources are focused. Price Point and the coast surrounding is the most precious stretch of country I have been to. My heart cries that this development is even being discussed at all."

Other comments include:

"If this LNG should sadly proceed we will lose another important part of the world that should instead be conserved and protected for the future generation. It will be better to develop not only Price Point but all the Kimberley Coast as a national marine park instead as an ugly industrial mining site [sic]." (Broome Boulevard Shopping Centre Information Session).

A specific engagement strategy should be developed to ensure the meaningful participation of environmental stakeholder groups and organisations and community in development of the Precinct, should it proceed. This may include, for example, environmental groups and organisations being involved in any environmental monitoring programs that may be established.

11.2 Division within the Community

The location of the proposed LNG Precinct near James Price Point north of Broome has caused social impacts in the planning stage by creating or exacerbating division amongst the people and communities of Broome and the Dampier Peninsula. The proposed Precinct and the associated LNG processing has polarised the Broome and Dampier Peninsula community into those who are strongly opposed to the project and those who see the LNG industry as broadening the economic base for the region and providing employment for future generations. The fishing, pearling and aquaculture assessment and the tourism impact assessment also identified divisions around support and opposition within the impact area.

The people who are strongly against the development cite environmental and indigenous issues as well as a strong sense of helplessness. There is considerable anger against the Premier and the Western Australian Government as it is perceived that the development of the Precinct is a fait accompli. These socio-psychological impacts have been exacerbated by the on-going delay in the most likely Foundation Proponent making a choice (theme select) between processing the Browse Basin gas at James Price Point in the short term or piping the gas to the brownfield site at the Burrup Peninsula for processing in the longer term. The initial theme select was planned for the third quarter of 2008 but was only made in early 2010, in favour of James Price Point.

Community members have reported concern about the psychological impact of the planned development of the Precinct on the town of Broome. Divisions within families have been reported and the proposed Precinct has polarised community opinion. Several community members have reported that they feel traumatised at the thought of the Precinct being built near James Price Point.

The Aboriginal Social Impact Assessment considers the potential impact from the Precinct on both Traditional Owners and non-Traditional Owners within the primary impact area and there is considerable concern among the wider community about the impacts of the Precinct on indigenous culture and land. The project has a long history of indigenous engagement with Traditional Owners, through the Kimberley Land Council (KLC), with groups along the Kimberley coast. In December 2008, Goolarabaloo Jabbir Jabbir Traditional Owners agreed upon the final site at James Price Point and further negotiations are ongoing. Further complex negotiations were held on the benefits package for the Traditional Owners. The majority of the Goolarabaloo Jabbir Jabbir Traditional Owners were supportive of the Heads of Agreement between the KLC on behalf of the Traditional Owners, the State Government and Woodside.

The Heads of Agreement outlined a range of social benefits and opportunities including education, training and business development as well as improved community service delivery and infrastructure. In particular, the State agreed to a range of positive outcomes including: land tenure reform on the Dampier Peninsula to enable appropriate tenure for housing,

economic opportunities and environmental protection; the establishment of a Kimberley Enhancement Scheme; an Economic Development, Housing, Education and Cultural Preservation Funds.

A useful concept in SIA is that of “futures foregone” in which a set of decisions changes the future development options of an area. It is important to be aware that choosing one avenue of development can change the available alternatives. In this case, one of the impacts of the development of the Precinct is that an alternative future for the Dampier Peninsula could be compromised or “foregone”. Prior to the concept of an LNG Precinct being proposed for the James Price Point area, planning for the peninsula included the slow, incremental and sustainable development of indigenous eco-tourism and other sustainable enterprises. As one stakeholder pointed out, the development of a high-technology Precinct on the peninsula contrasts with the option of the low-technology indigenous-controlled sustainable development.

11.3 Social Mix and Values Conflict

A recurrent theme in discussions with stakeholders was the concern that the gas industry will bring about changes to the social mix of Broome and the Dampier Peninsula. This concern focused more specifically on the construction workforce and the extent to which a generally young and well paid gas construction workforce may differ from the prevailing resident, tourism and visitor population of Broome.

The Tourism Impact Assessment identified the presence and potential visibility of a FIFO workforce in Broome as having a significant impact on tourism values, tourism branding and destination appeal and more broadly on the character, appeal and identity of Broome. However, the impacts of the construction workforce on Broome will be minimised by the operation of an accommodation camp with managed access close to the Precinct site.

A considerable values conflict exists in the community amongst those that support and those that oppose the development and operation of the LNG Precinct. Many of those who oppose the development of the Precinct are concerned about the impacts of the Precinct on the marine and terrestrial environment and the changes it may bring to the identity of Broome. On the other hand, those who support the project generally do so because of beliefs about the economic benefits such a development may bring to Broome and the Kimberley. While there are those in the community that hold one value orientation at the exclusion of the other, there are also likely to be many in the community that accept both value orientations and have considerable conflict in relation to their support for the Precinct.

SIA Volume 3 contains strategies to retain the unique character and sense of place associated with Broome and the Dampier Peninsula during the development of the LNG Precinct.

12. ANNEXURES

ANNEXURE A

Introduction

This Annexure to Volume 2 of the Browse LNG SIA provides additional baseline information that updates or augments that in SIA Volume 1 (Scope and Profile).

1. Housing

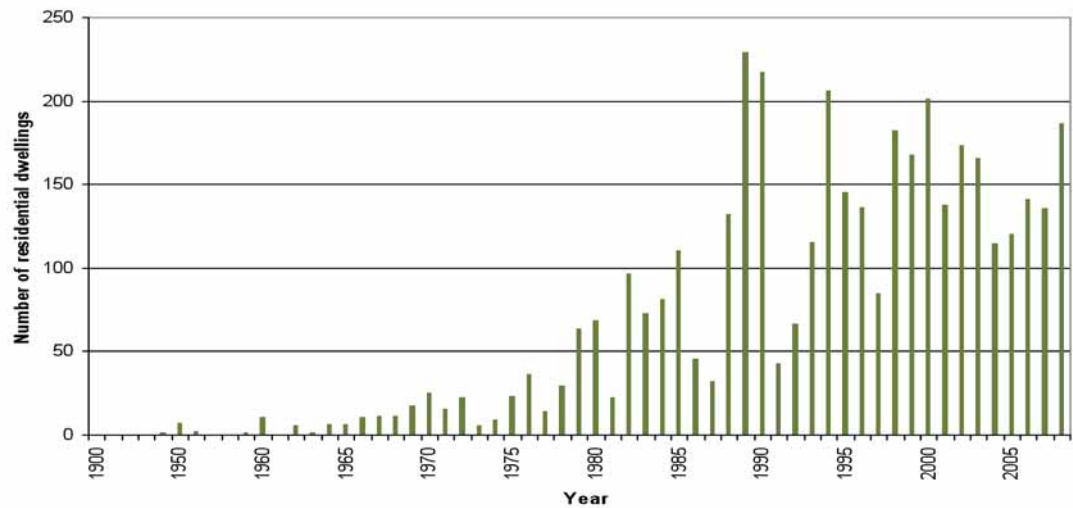
1.1. Dwelling Construction

The Valuer General’s Office (VGO) data indicates that, in December 2008 there were 4957 residential dwellings in the Broome urban area, including dwellings in areas such as industrial estates. Table 1 and Figure 1 show that around 70 per cent of dwelling construction has occurred since 1990.

Decade of construction	No. of dwellings
Prior to 1950	6
1950-1959	15
1960-1969	87
1970-1979	251
1980-1989	897
1990-1999	1370
2000-2008	1381

Source: Valuer General’s Office (2009)

Table 1. Broome Housing Construction



Source: Valuer General’s Office (2009)

Figure 1. Broome urban centre: Dwelling construction by year

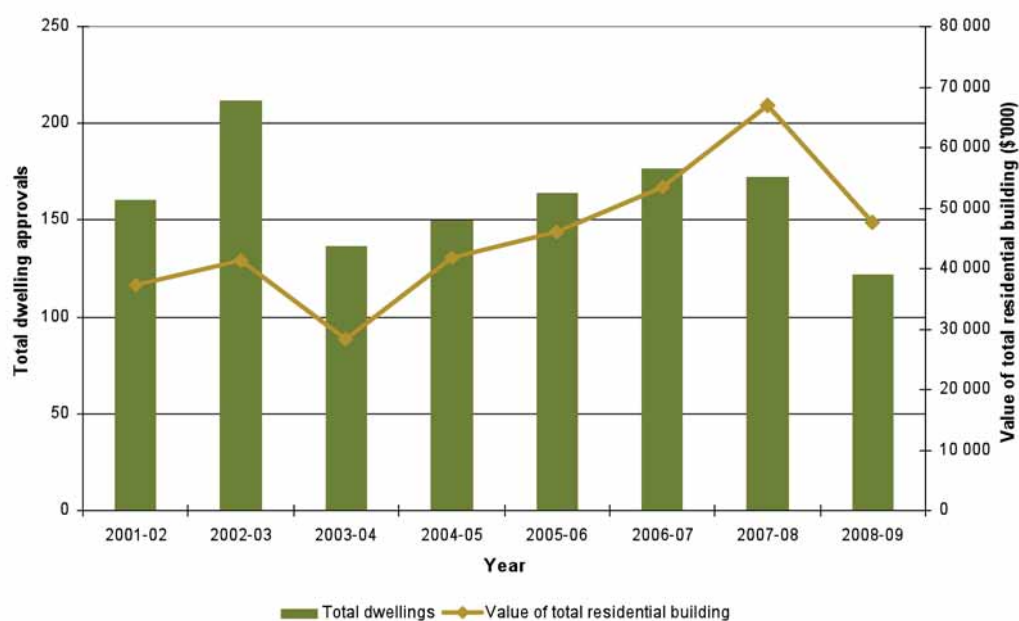
1.2. Building Approvals, Subdivision Approvals and Zoned Land Supply

Building Approvals 2001- 02 to 2008-09

Table 2 shows that the Shire of Broome has recorded an average of 162 building approvals (dwellings) per year since 2001-02. Only 122 approvals were recorded in 2008-09 (ABS).

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Total dwellings	161	212	137	150	164	177	173	122
Value of total residential building (\$'000)	37 344.4	41 401.4	28 426.0	41 745.5	46 068.1	53 390.0	66 859.7	47 732.0

Table 2. Annual Building Approvals for the Shire of Broome

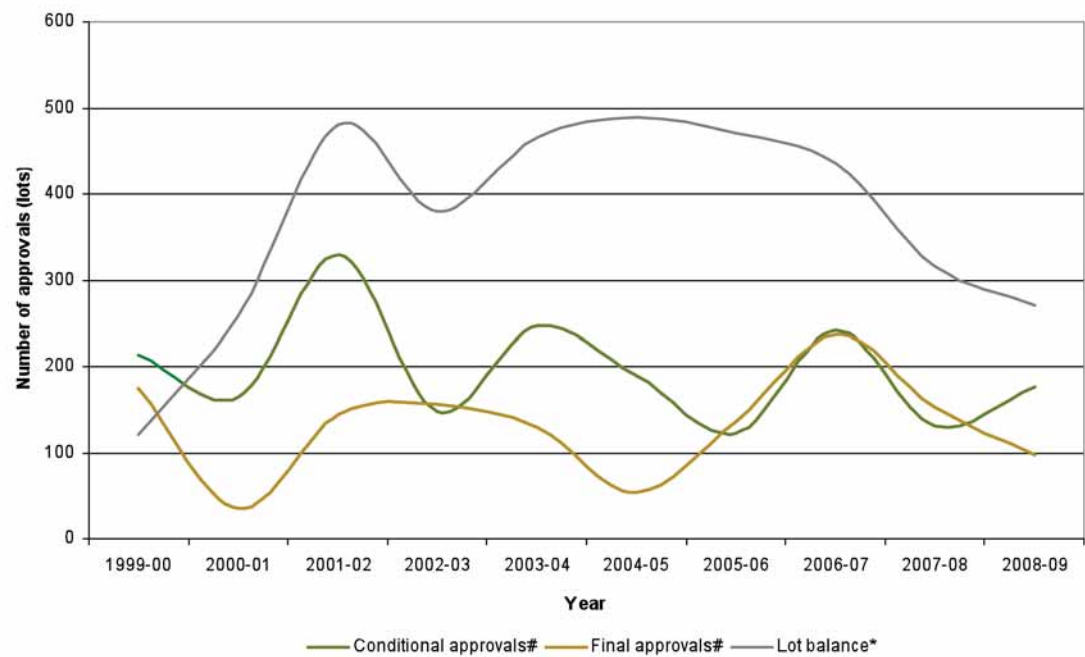


Source: Australian Bureau of Statistics, Catalogue 8731.0 – Building Approvals, Australia (2009)

Figure 2: Shire of Broome: Number and Value of Building Approvals

1.3. Western Australian Planning Commission (WAPC) subdivision/strata approvals

Figure 2 shows that, on average over the last ten years, 130 residential lots have been created each year. This includes final approvals for the purposes of subdivision, boundary realignment, amalgamation and road purposes. Final approvals peaked in 2006-07 at 237 lots. At 30 June 2009, there were valid conditional approvals in place for the subdivision of 270 residential lots.



* As at 30 June each year. Refers to conditional approvals for which construction or servicing has not yet commenced, or is currently under way (i.e. has not reached final approval stage).
Includes subdivision/strata approvals for the purposes of subdivision, amalgamation, boundary realignment, resubdivision and road purposes.
Source: Department of Planning approvals database (2009)

Figure 3: Subdivision Approvals 1999 - 2009

Zoned land supply

As is shown in Table 3, in December 2009, there were approximately 970 ha of land zoned residential or development. Approximately 400 ha (41 per cent) was identified as being undeveloped. Large areas of undeveloped zoned land are located at Broome North (234 ha), Areas at Cable Beach south (58 ha) and areas adjacent to the airport.

Zone	Status	Area (ha)
DEVELOPMENT	Developed	263.05
	Undeveloped	383.11
DEVELOPMENT Total		646.16
RESIDENTIAL	Developed	307.11
	Undeveloped	16.64
RESIDENTIAL Total		323.75
TOTAL		969.91

Source: Department of Planning internal databases (2009)

Table 3: Zoned Land Supply

1.4. Cost of Housing

The land supply in Broome has largely been constrained by the long running Rubibi Native Title Claim by the Yawuru people. The limited supply of land and the increase in population has led to increased prices of both land and housing. The claim resolution in late February 2010 has freed the supply of land in Broome with developments such as Broome North occurring in partnership with the traditional owners.

The high cost of both buying and renting housing and the lack of affordable housing in Broome is an issue raised by virtually all stakeholders. SIA Volume 1 (Scope and Profile), reports that the 2006 Census gives the median weekly rent as \$163 per week in Urban Broome, which is close to the median rent in Western Australia (\$170 per week) and only 5 per cent, below the Perth median rent of \$180. This is probably due to the housing subsidy paid to many employees in Broome. However, as shown in Table 4, the KDC's review of Broome's private housing and unit rental weekly cost and availability from local real estate web sites and private rentals advertised through the Broome Advertiser provides a significantly different picture. It illustrates a seasonal fluctuation in weekly rental cost and with the median private rent in December 2009 at \$550 per week.

	BROOME	
	Available Property	Median
14/09/07	64	\$600
19/11/07	62	\$638
14/03/08	34	\$550
09/06/08	15	\$617
26/09/08	59	\$688
03/12/08	75	\$570
10/03/09	82	\$650
20/07/09	73	\$630
02/10/09	65	\$590
02/12/09	109	\$550

Source: KDC

Table 4: Rental properties cost over time

Table 5 illustrates the increase in rental cost according to the number of bedrooms, from a median of \$425 a week for a property with one bedroom to \$950 for a house with five bedrooms. The table also illustrates that in December 2009, most houses available for rent were in the 2 and 3 bedroom category.

BEDROOMS	BROOME	
	Properties Available	Median
1	18	\$425
2	32	\$470
3	35	\$600
4	23	\$750
5+	1	\$950
TOTAL	109	\$550

Source: KDC

Table 5: Rental properties available at 2 December 2009

According to the Real Estate Institute of Western Australia (REIWA) and reflected by Table 6, in 2009 Broome's median housing cost was \$635 000, second only to Karratha. Derby is the major population centre in the secondary impact area and its median house price of \$330 000 is just over half the median price of Broome. For this reason, a number of stakeholders have raised their concern that the proposed development of the LNG Precinct might impact on the availability of housing in Derby as well as on Broome. This issue is discussed later in this section.

HOUSING - Regional Comparison of Median House Sales

Town	Year to June			
	2003	2007	2008	2009
Karratha	\$235,000	\$555,000	\$689,000	\$700,000
Broome	\$290,000	\$620,000	\$715,000	\$635,000
Port Hedland	\$170,000	\$400,000	\$535,000	\$586,250
Kununurra	\$166,000	\$347,500	\$497,000	\$480,000
Perth Metro	\$209,800	\$453,830	\$462,000	\$430,000
Mandurah	\$186,000	\$449,000	\$424,500	\$380,000
Albany	\$166,125	\$407,000	\$413,000	\$366,500
Bunbury	\$152,000	\$380,000	\$370,000	\$350,000
Geraldton	\$126,000	\$331,500	\$352,500	\$347,500
Derby	\$127,500	\$265,000	\$360,000	\$330,000
Kalgoorlie	\$143,250	\$260,000	\$312,500	\$327,000
Carnarvon	\$100,500	\$290,000	\$292,500	\$305,000

Source: Real Estate Institute of Western Australia

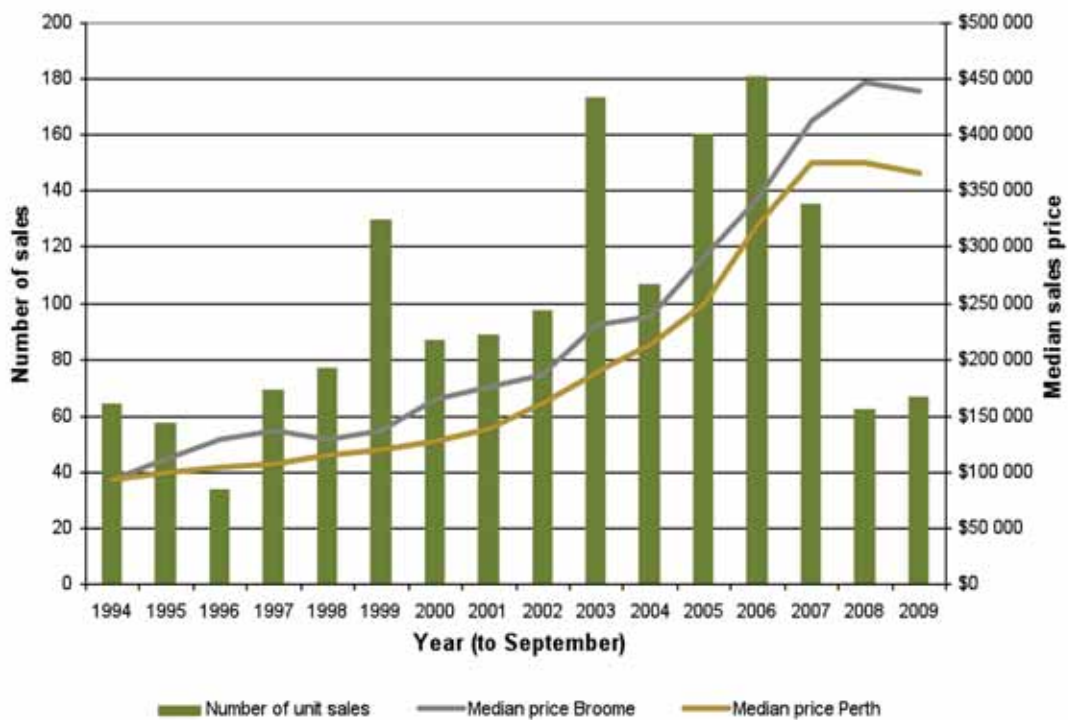
Table 6: Regional Comparison on Median Housing Sales (KDC 2009)

The Real Estate Institute of Western Australia sales indicates that the median sales price for houses, units and vacant residential lots in the Broome urban area is significantly higher than that recorded for the Perth metropolitan region. At the end of the September quarter 2009 the median price in Broome for houses was \$640 000 (Figure 4), units \$440 000 (Figure 5) and land \$305 000 (Figure 6). This compares with values of \$442 500 (houses), \$366 500 (units) and \$222 000 (land) for the Perth metropolitan region.



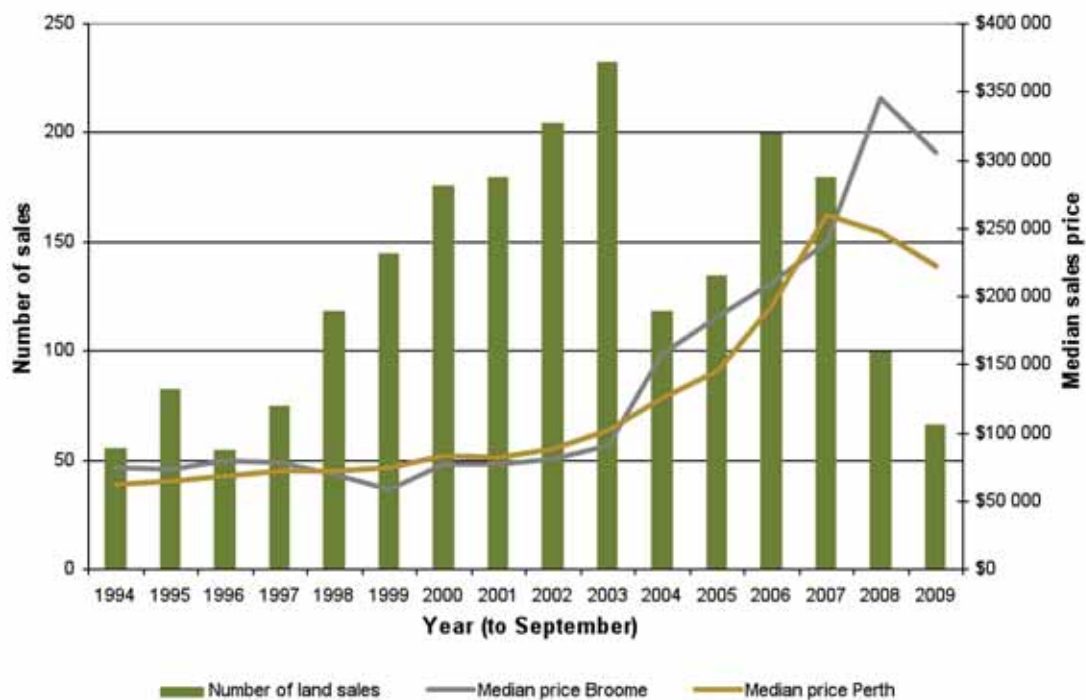
Source: Real Estate Institute of Western Australia (2009)

Figure 4: Median house sales price in Broome vs Perth



Source: Real Estate Institute of Western Australia (2009)

Figure 5: Median unit sales price in Broome vs Perth



Source: Real Estate Institute of Western Australia (2009)

Figure 6: Median land sales price in Broome vs Perth

1.5. Broome North

Broome North is the current name of LandCorp's new area of land release north of Roebuck Estate. The development was announced in mid-2009 and is intended to meet Broome's long-term housing needs. In October 2009, the Shire of Broome endorsed both the overall Broome North District Development Plan, a long term spatial planning framework to guide the future subdivision and development of the Broome North land, and the Local Development Plan that provides more detail for the first stage of Broome North. LandCorp has undertaken a process of community consultation and a planning design forum. Although LandCorp is a facilitator of land development it plans to enable the development of the full spectrum of housing from social housing and service worker accommodation through to medium income housing and including first home owner housing.

The overall District Development Plan for Broome North encompasses approximately 694ha and provides for around 4,900 lots. It is located north of Gubinge Road and is bordered by Broome Road to the east and Lullfitz Drive to the west. Fairway Drive runs east-west through the middle of the site. The planning framework provides for a series of discrete, walkable neighbourhoods separated by open space as well as two local activity centres comprising approximately 3,000m² of retail floor space and sites for two future primary schools, a high school and private education. It includes the extension of the existing Blue Haze light industrial estate, three sites for tourism purposes located west of Fairway Drive, future public transport route and sites for the future expansion of water and power facilities (Shire of Broome Website 2009).

The Local Development Plan provides a more detailed plan for the first stage of the Broome North development. This first stage is located north of Gubinge Road, south of Fairway Drive and is bordered by the Blue Haze light industrial estate to the east.

Broome North Stage 1 consists of approximately 125ha and provides mechanisms to provide affordable housing opportunities through innovative split coding incentives and a diversity of residential housing options to accommodate the diverse needs of the Broome community. The first stage of Broome North includes:

- a 4.5ha site for a future primary school and early childhood learning centre,
- a Local Activity Centre at the heart of the village, intended to accommodate a 1,500m² supermarket, shops, offices, consulting rooms, community facilities and 'shop-top' housing
- around 570 residential dwellings; with approximately 65% single houses, 21% smaller duplex lots and 15% grouped housing sites
- a site for a future tennis club
- extension of the existing Blue Haze light industrial estate including a range of lot sizes including 15% of 1500-2000m² lots, 65% of 2000-3000m² and 15% of 3000-4500m² lots (Shire of Broome 2009).

LandCorp intends Broome North to be flexible and respond to Broome's housing needs. Planning at a district level is in place for 4,900 lots and on a local level for 469 lots. Subdivision plans have been lodged for 185 residential and 72 light industrial lots (pers. comm. LandCorp 03.12.09). Constraints to LandCorp's responsiveness include the 8 month dry season building window and the capacity of Broome's local builders.

While LandCorp can facilitate the provision of land for the range of social housing, the onus is on the relevant government departments and non-government agencies to allocate sufficient funding for the development of housing to meet demand.

ANNEXURE B

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1. INTRODUCTION

An LNG precinct is planned to be developed near James Price Point in the Kimberley, 60km north of Broome. The LNG precinct will comprise LNG processing facilities for a capacity up to 50Mtpa including supporting utilities and supporting infrastructure. Gas for the LNG precinct will be sourced from the Browse basin and surrounding fields.

The workforce to manage and construct the onshore LNG facilities, the offshore facilities, subsea drill centres / tie-backs and pipelines will be largely fly-in / fly-out through Broome.

Long-term operational personnel may be a combination of fly-in / fly-out and Broome residential.

This document summarises the workforce forecasted under various development scenarios for the LNG precinct. The cases analysed include:

Case 1 – No development of Precinct

Case 2 – 15Mtpa LNG Precinct within 15 years

Case 3A – 25Mtpa LNG Precinct within 25 years

Case 3B – 35Mtpa LNG Precinct within 25 years

Case 4 – 50Mtpa LNG Precinct within 30 years

The analysis has been focused on defining the Australian based management, engineering and fabrication / construction workforce. No detailed modelling of the manufacturing or offshore fabrication workforce is included in this report.

2. WORKFORCE FORECAST ASSUMPTIONS

The following development scenarios have been considered and the workforce forecasts analysed.

Case 1 – No development of Precinct

Case 2 – 15Mtpa LNG Precinct within 15 years

Case 3A – 25Mtpa LNG Precinct within 25 years

Case 3B – 35Mtpa LNG Precinct within 25 years

Case 4 – 50Mtpa LNG Precinct within 30 years

Due to the uncertainty around the technical solutions, phasing and contracting approaches, a range reflecting the potential workforce impacts has also been assessed. No differentiation between Perth based management and site based construction management has been made during the actual construction phase. However, pre-FID management and engineering personnel are assumed to be Perth based for all related Australian based workforce.

For each of the cases analysed the various assumptions have been made. The assumptions made are summarised in the following sections.

2.1.1 Case 1 – No development of Precinct

The key assumptions attributable to Case 1 are:

- Final Investment Decision (FID) date isn't defined;
- Initial development assumes development of Browse Basin fields with an offshore export pipeline back to Karratha;
- The basis for the workforce loading is premised on the development of the Browse

Basin fields and tied back to the Karratha. The scope comprises the following:

- o Various upstream facilities;
- o Interfield pipelines;
- o Offshore export pipeline to Karratha (assumed all export pipeline workforce are routed via Broome);
- o Construction of supply base in Broome;
- Workforce in Karratha to support the following is not included:
 - o Onshore infrastructure and utilities to receive gas;
 - o Any debottlenecking on existing facilities; and
 - o No additional LNG Processing trains are allowed.
- Upstream facilities and gravity based structures are fabricated in SE Asia; and
- Additional campaigns and ongoing drilling & completions will continue subject to flowrates and backfill requirements.

2.1.2 Case 2 - 15Mtpa LNG Precinct within 15 years

The key assumptions attributable to Case 2 are:

- FID for the initial development is 2012;
- The basis for the workforce loading is premised on the Precinct LNG Development in the Kimberley by Foundation Proponent comprising the following:
 - o Various upstream facilities;
 - o Interfield pipeline
 - o Export pipeline
 - o Onshore infrastructure and utilities; and
 - o Three LNG Processing trains (nominal 12 MTPA total capacity)

- Additional campaigns and ongoing drilling & completions will continue out to circa 2030.
- Adoption of a downstream modular execution strategy with modules fabricated in SE Asia;
- Upstream facilities are fabricated in SE Asia;
- A fourth LNG processing train is ready for start-up circa 2022;
- Gas for the 4th LNG train is sourced from a field in the Browse basin and is developed via a subsea tieback to the existing offshore facilities (ie no additional offshore facilities are required); and
- Turnaround maintenance is scheduled every 5 years with any overlapping conflicts managed out.

2.1.3 Case 3A - 25Mtpa LNG Precinct within 25 years

The key assumptions attributable to Case 3A are:

- FID for the initial development is 2012;
- The basis for the workforce loading is premised on the Precinct LNG Development in the Kimberley by foundation proponent comprising the following:
 - o Various upstream facilities;
 - o Interfield pipeline
 - o Export pipeline
 - o Onshore infrastructure and utilities; and
 - o Three LNG Processing trains (nominal 12 MTPA total capacity)
- Additional campaigns and ongoing drilling & completions will continue out to circa 2030.
- Downstream modular execution strategy with modules fabricated in SE Asia;
- Upstream facilities are fabricated in SE Asia;
- Four additional LNG processing trains are built in sequence with the separation optimised to avoid workforce conflicts;
- Additional subsea tiebacks and upstream facilities are fabricated in SE Asia and installed offshore;
 - o Gas for the 4th LNG train is sourced from a field in the Browse basin and is developed via a subsea tieback to the existing offshore facilities (ie no additional offshore facilities are required);
 - o Gas for the 5th and 6th LNG Trains is sourced from a range of fields in the Browse basin that require additional deepwater or shallow water facilities to access the reservoir. Workforce to support the installation of these facilities is included;

- o Interfield and export pipelines to tieback the facilities to either the shelf based platform or directly to the onshore facility would be required. Workforce for the installation of these pipelines is included;

- Additional development drilling programs (excluding any appraisal drilling) to source the additional gas reserves is required and the workforce has been included;
- Turnaround maintenance is scheduled every 5 years with any overlapping conflicts managed out.

2.1.4 Case 3B – 35Mtpa LNG Precinct within 25 years

In addition to the assumptions for Case 3A, the following key assumptions are also attributable to Case 3B:

- It is assumed that a second proponent will develop an additional ~10mtpa LNG capacity facility within the precinct through the development of three LNG Trains;
- FID for the 1st of the three trains would be during 2022 with start-up achieved circa 4 years later;
- Infrastructure, utilities, expanded marine facilities and additional LNG and condensate storage would be required to support the 3 train development. This work is assumed to be undertaken in parallel with the 1st train;
- The 1st LNG train will be followed by a second and third LNG train developed by the second proponent;
- The additional LNG trains will be separated by 6-12 months depending on the
- Additional construction accommodation is required to support the development of LNG trains in parallel by both proponents;
- Additional accommodation for operational personnel is provided;
- Major offshore facilities are required comprising typically a deepwater floating facility and additional shelf based facilities. These are fabricated and installed based on a schedule to support the commencement of LNG processing from each additional LNG Train;
- Additional export pipeline from the offshore processing facility to the onshore LNG facilities;
- An ongoing drilling campaign to support a 3 train development continues for 5 years.

2.1.5 Case 4 – 50Mtpa LNG Precinct within 30 years

In addition to the assumptions for Case 3B, the following key assumptions are also attributable to Case 4:

- Four additional LNG processing trains are built by the second proponent in sequence with the separation between LNG trains optimised to avoid workforce conflicts;
- Additional subsea tiebacks and upstream facilities are fabricated in SE Asia and installed offshore;
 - o Gas for the 4th LNG train is sourced from a field in the Browse basin and is developed via a subsea tieback to the existing offshore facilities (ie no additional offshore facilities are required);
 - o Gas for the 5th and 6th LNG Trains is sourced from a range of fields in the Browse basin that require additional deepwater or shallow water facilities to access the reservoir. Workforce to support the installation of these facilities is included;
 - o Interfield and export pipelines to tieback the facilities to either the shelf based platform or directly to the onshore facility would be required. Workforce for the installation of these pipelines is included;
- Additional development drilling programs (excluding any appraisal drilling) to source the additional gas reserves is required and the workforce has been included;

2.1.6 General Assumptions

The following assumptions apply to all cases:

- Workforce for the installation and construction of modular Greenfield LNG Trains is in a range from 5500 to 8000 direct and indirect personnel. The wide range accounts for variations in the success of the construction program and the potential for program acceleration;
- Expansion of LNG facilities requires a combination of Greenfield and Brownfield work. The workforce requirements for expansion trains are therefore higher than the workforce requirements for Greenfield LNG Trains;
- No allowance has been made for the workforce constraints of multiple trains being constructed by 2 different proponents.
- Operational workforce for a typical LNG train is assumed to be between 140 – 180 personnel.

- Operational workforce for typical upstream facility plus marine support is assumed to be between 90 – 140 personnel, dependent on the manning philosophy and the size and functionality of the facility. For the purpose of this analysis deepwater facilities are assumed to be unmanned and shallow water facilities are manned.
- Major turnaround maintenance is scheduled for each major facility every 5 years. Workforce for turnarounds varies between 500 – 1000 personnel dependent on the size of the facility and the planning for the shutdown.
- Ongoing drilling programs assume an ongoing workforce of 100 – 150 personnel which covers drill rig personnel and support boat personnel.
- A general assumption is made with regard to the accuracy of the figures proposed. The range applied is -10% + 30%. This range is allocated to account for changes in contracting strategy, success in execution and variations in construction productivity.

2.2 WORKFORCE HISTOGRAMS

Various workforce histograms are included in the Appendix B – Australian Workforce Histograms (Cases 1 – 5). The histograms in Appendix B are a reflection of the figures contained in Appendix A – Australian Workforce Forecasts (Cases 1 – 5). These figures are a representation of the Australian based workforce.

3. APPENDIX A – AUSTRALIAN WORKFORCE FORECASTS (CASES 1 – 5)

Year	Case 1 – No Development for 20 years											
	Construction					Operational						
	Supply Base	Offshore	Total	Range Above	Range Below	Supply Base	Offshore	Total	Range Above	Range Below	Combined Range	Combined Range
1(FID)	84	84	168	218	151						218	151
2	100	186	286	371	257						371	257
3	120	249	369	480	332						480	332
4	120	299	419	545	377						545	377
5	20	771	791	1,028	712						1,028	712
6	20	1558	1578	2,051	1,420						2,051	1,420
7	20	569	589	766	530						766	530
8		215	215	280	194	20	65	85	111	77	390	270
9		120	120	156	108	20	65	85	111	77	267	185
10		120	120	156	108	20	65	85	111	77	267	185
11		150	150	195	135	20	65	85	111	77	306	212
12		120	120	156	108	20	65	85	111	77	267	185
13		170	170	221	153	20	65	85	111	77	332	230
14		120	120	156	108	20	65	85	111	77	267	185
15		876	876	1,139	788	20	65	85	111	77	1,249	865
16		339	339	441	305	20	65	85	111	77	551	382
17		120	120	156	108	20	65	85	111	77	267	185
18		80	80	104	72	20	65	85	111	77	215	149
19						20	65	85	111	77	111	77
20						20	65	85	111	77	111	77
21						20	65	85	111	77	111	77
22						20	65	85	111	77	111	77
23		50	50	65	45	20	65	85	111	77	176	122
24						20	65	85	111	77	111	77
25						20	65	85	111	77	111	77
26						20	65	85	111	77	111	77
27						20	65	85	111	77	111	77
28						20	65	85	111	77	111	77
29						20	65	85	111	77	111	77

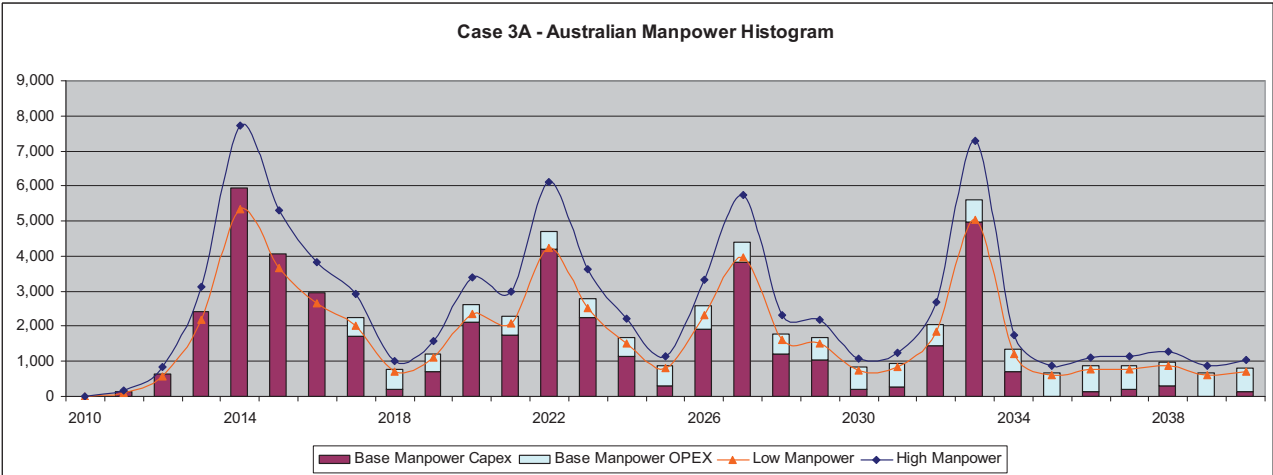
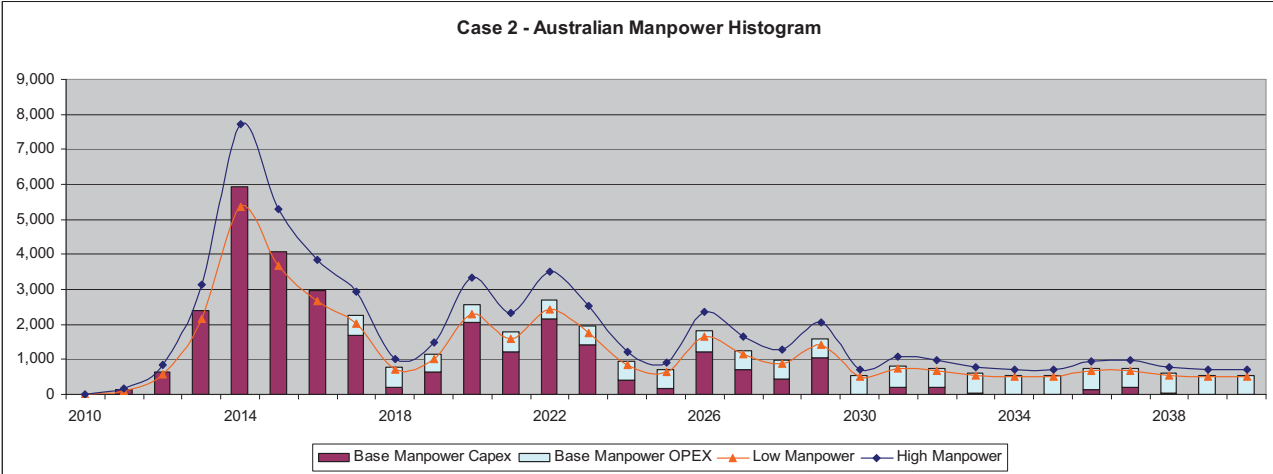
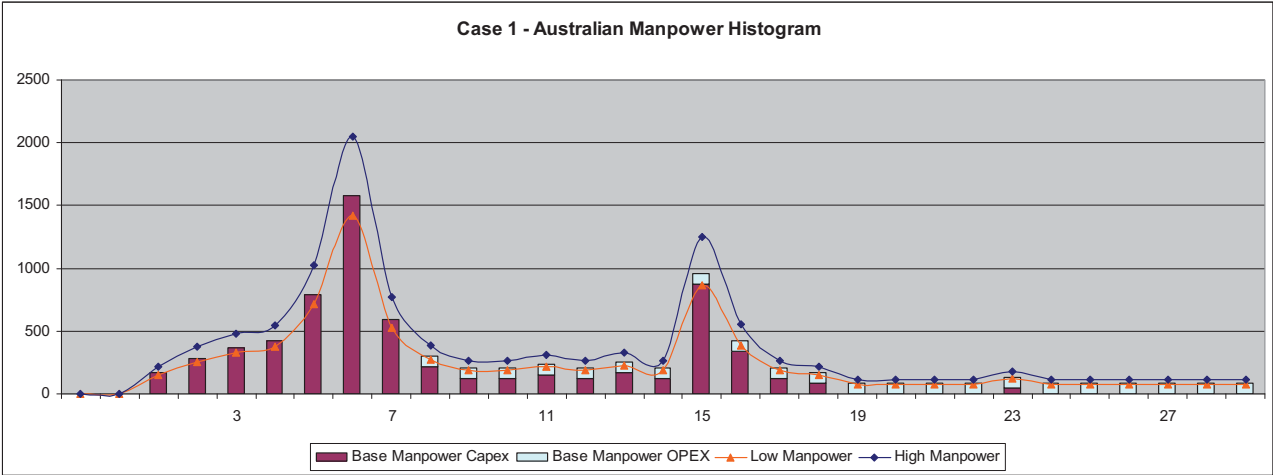
	Case 2 – Low Case – up to 15 mtpa over 15 yrs															
	Construction Workforce										Operational Workforce					
	Trains 1-3	Offshore	Trains 4	Offshore	Total	Range Above	Range Below	Trains 1-3	Offshore	Trains 4	Offshore	Total	Range Above	Range Below	Combined Range	
2010																
2011	123				123	160	111								160	111
2012	402	238			640	833	576								833	576
2013	2,135	274			2,409	3,131	2,168								3,131	2,168
2014	5,415	528			5,943	7,726	5,349								7,726	5,349
2015	2,620	1,457			4,077	5,300	3,669								5,300	3,669
2016	2,090	867			2,957	3,844	2,661								3,844	2,661
2017	1,193	421	18	70	1,702	2,212	1,532	555				555	722	500	2,934	2,031
2018		169	3	46	218	284	196	555				555	722	500	1,005	696
2019		120	472	40	632	822	569	503				503	654	453	1,476	1,022
2020		60	1,779	220	2,059	2,677	1,853	503				503	654	453	3,331	2,306
2021		377	756	80	1,213	1,577	1,092	566				566	736	509	2,313	1,601
2022	200	1,290	678		2,168	2,818	1,951	503		25		528	686	475	3,505	2,426
2023		1,407			1,407	1,829	1,266	503		43		546	710	491	2,539	1,758
2024		399			399	518	359	503		43		546	710	491	1,228	850
2025		160			160	208	144	503		43		546	710	491	918	635
2026		1,094	75	50	1,219	1,585	1,097	566		43		609	792	548	2,376	1,645
2027	205	508			713	927	642	503		43		546	710	491	1,637	1,133
2028	54	392			446	580	401	503		43		546	710	491	1,290	893
2029		1,034			1,034	1,345	931	503		43		546	710	491	2,054	1,422
2030								503		43		546	710	491	710	491
2031		90	75	50	215	280	194	566		43		609	792	548	1,071	742
2032	200				200	260	180	503		43		546	710	491	970	671
2033		50			50	65	45	503		43		546	710	491	775	536
2034								503		43		546	710	491	710	491
2035								503		43		546	710	491	710	491
2036			75	50	125	163	113	566		43		609	792	548	954	661
2037	200				200	260	180	503		43		546	710	491	970	671
2038		50			50	65	45	503		43		546	710	491	775	536
2039								503		43		546	710	491	710	491
2040								503		43		546	710	491	710	491

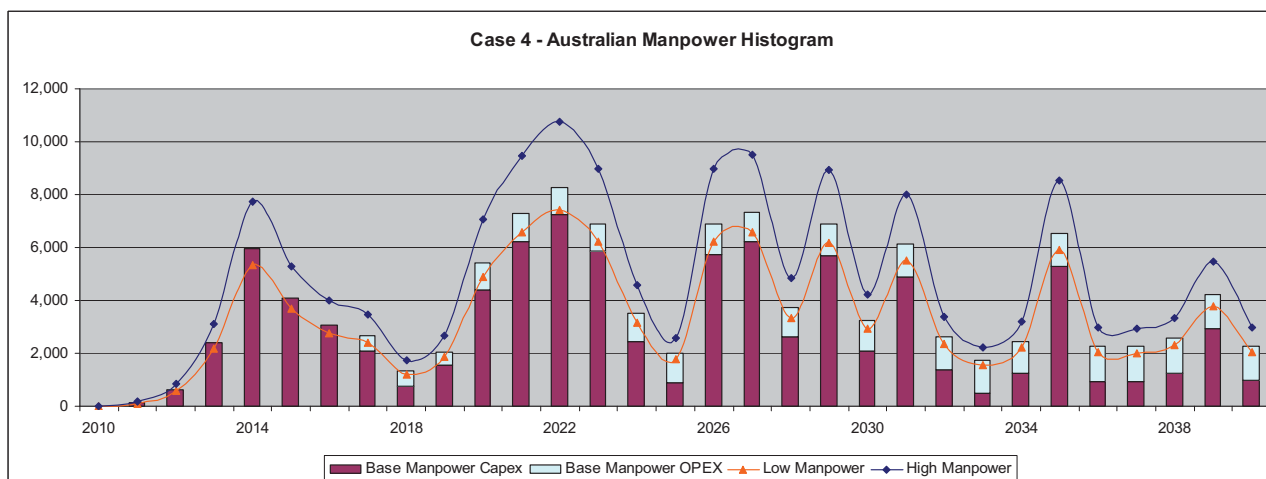
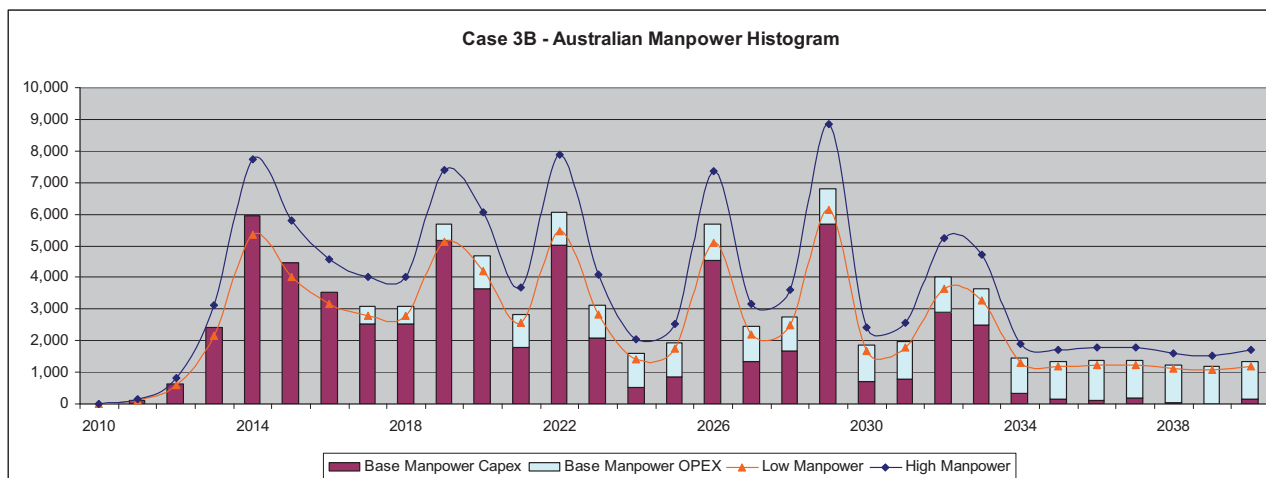
Case 3A – Medium Case – 25 mtpa over 25 yrs																			
	Construction Workforce										Operational Workforce								
	Trains 1-3	Offshore	Trains 4	Offshore	Trains 5-6-7	Offshore	Total	Range Above	Range Below	Trains 1-3	Offshore	Trains 4	Offshore	Trains 5-6-7	Offshore	Total	Range Above	Range Below	Combined Range
2010																			
2011	123						123	160	111										160
2012	402	238					640	833	576										833
2013	2,135	274					2,409	3,131	2,168										3,131
2014	5,415	528					5,943	7,726	5,349										7,726
2015	2,620	1,457					4,077	5,300	3,669										5,300
2016	2,090	867					2,957	3,844	2,661										3,844
2017	1,193	421	18	70			1,702	2,212	1,532	555						555	722	500	2,934
2018		169	3	46			218	284	196	555						555	722	500	1,005
2019		120	472	40	18	70	720	936	648	503						503	654	453	1,101
2020		60	1,779	220	3	46	2,108	2,740	1,897	503						503	654	453	3,394
2021		377	756	80	472	49	1,734	2,254	1,560	566						566	736	509	2,990
2022	200	1,290	678		1,779	238	4,185	5,440	3,766	503		25				528	686	475	6,126
2023		1,407			756	83	2,246	2,919	2,021	503		43				546	710	491	3,629
2024		399			678	73	1,149	1,494	1,034	503		43				546	710	491	2,204
2025		160			9	124	294	382	264	503		43		43		589	766	530	1,148
2026		1,094	75	50	574	125	1,918	2,493	1,726	566		43		43		652	848	587	3,341
2027	205	508			2,877	230	3,820	4,966	3,438	503		43		43		589	766	530	5,732
2028	54	392			618	130	1,194	1,552	1,075	503		43		43		589	766	530	2,318
2029		1,034					1,034	1,345	931	503		43		86		632	822	569	2,166
2030					113	80	193	251	174	503		43		86		632	822	569	1,073
2031		90	75	50	23	16	254	330	229	566		43		86		695	904	626	1,234
2032	200				1,080	148	1,428	1,856	1,285	503		43		86		632	822	569	2,677
2033		50			4,198	724	4,972	6,464	4,475	503		43		86		632	822	569	7,286
2034					605	98	703	914	633	503		43		86		632	822	569	1,735
2035										503		43		129		675	878	608	878
2036			75	50			125	163	113	566		43		129		738	959	664	1,122
2037	200						200	260	180	503		43		129		675	878	608	1,138
2038		50			150	100	300	390	270	503		43		129		675	878	608	1,268
2039										503		43		129		675	878	608	878
2040					75	50	125	163	113	503		43		129		675	878	608	1,040

Case 3B – Medium Case – 35 mtpa over 25 yrs																								
	Construction Workforce												Operational Workforce											
	Trains 1-3	Offshore	Trains 4	Offshore	Trains 5-6-7	Offshore	Trains 8-9-10	Offshore	Total	Range Above	Range Below	Trains 1-3	Offshore	Trains 4	Offshore	Trains 5-6-7	Offshore	Trains 8-9-10	Offshore	Total	Range Above	Range Below	Combined Range	Combined Range
2010																								
2011	123								123	160	111												160	111
2012	402	238							640	833	576												833	576
2013	2,135	274							2,409	3,131	2,168												3,131	2,168
2014	5,415	528							5,943	7,726	5,349												7,726	5,349
2015	2,620	1,457					21	377	4,475	5,817	4,027												5,817	4,027
2016	2,090	867					106	451	3,514	4,568	3,163												4,568	3,163
2017	1,193	421	18				178	647	2,526	3,284	2,274	555								555	722	500	4,006	2,773
2018		169	3	46			1466	846	2,530	3,289	2,277	555								555	722	500	4,011	2,777
2019		120	472	40	25		3594	860	5,180	6,735	4,662	503								503	654	453	7,388	5,115
2020		60	1,779	220	3	46	1230	323	3,661	4,759	3,295	503								1006	1308	905	6,067	4,200
2021		377	756	80	512	49			1,774	2,306	1,596	566								1069	1390	962	3,696	2,558
2022	200	1,290	678		2626	238			5,032	6,541	4,528	503		25						1031	1340	928	7,881	5,456
2023		1,407			520	155			2,082	2,707	1,874	503		43						1049	1364	944	4,071	2,818
2024		399			13	124			536	697	482	503		43						1049	1364	944	2,060	1,426
2025		160			574	125			859	1,117	773	503		43		43				1092	1420	983	2,536	1,756
2026		1,094	75	50	2990	310			4,519	5,875	4,067	566		43		43				1155	1502	1040	7,376	5,107
2027	205	508			534	96			1,343	1,746	1,209	503		43		43				1092	1420	983	3,166	2,192
2028	54	392			1080	148			1,674	2,176	1,506	503		43		43				1092	1420	983	3,595	2,489
2029		1,034			4011	636			5,682	7,386	5,113	503		43		86				1135	1476	1022	8,862	6,135
2030					615	103			718	933	646	503		43		86				1135	1476	1022	2,409	1,668
2031		90	75	50			574		789	1,026	710	566		43		86				1198	1557	1078	2,583	1,788
2032	200						2695		2,895	3,764	2,606	503		43		86				1135	1476	1022	5,239	3,627
2033		50					2441		2,491	3,238	2,242	503		43		86				1135	1476	1022	4,714	3,263
2034							320		320	416	288	503		43		86				1135	1476	1022	1,892	1,310
2035					150				150	195	135	503		43		129				1178	1531	1060	1,726	1,195
2036			75	50					125	163	113	566		43		129				1241	1613	1117	1,776	1,229
2037	200								200	260	180	503		43		129				1178	1531	1060	1,791	1,240
2038		50							50	65	45	503		43		129				1178	1531	1060	1,596	1,105
2039												503		43		129				1178	1531	1060	1,531	1,060
2040					150				150	195	135	503		43		129				1178	1531	1060	1,726	1,195

Case 4 – High Case – 50 mtpa over 30 yrs																															
		Construction Workforce														Operational Workforce															
		Trains 1-3	Off-shore	Trains 4	Off-shore	Trains 5-6-7	Off-shore	Trains 8-9-10	Off-shore	11-12-13-14	Off-shore	Total	Range Above	Range Below	Trains 1-3	Off-shore	Trains 4	Off-shore	Trains 5-6-7	Offshore	Trains 8-9-10	Off-shore	11-12-13-14	Off-shore	Total	Range Above	Range Below	Combined Range			
2010																															
2011	123											123	160	111														160	111		
2012	402	238										640	833	576														833	576		
2013	2,135	274										2,409	3,131	2,168														3,131	2,168		
2014	5,415	528										5,943	7,726	5,349														7,726	5,349		
2015	2,620	1,457										4,077	5,300	3,669														5,300	3,669		
2016	2,090	867						106				3,063	3,981	2,756														3,981	2,756		
2017	1,193	421	18	70				21	377			2,099	2,729	1,889	555											555	722	500	3,451	2,389	
2018		169	3	46				106	451			776	1,008	698	555												555	722	500	1,730	1,198
2019		120	472	40	25	70		178	647			1,551	2,017	1,396	503												503	654	453	2,671	1,849
2020		60	1,779	220	3	46	1,466	846				4,420	5,746	3,978	503						503						1006	1308	905	7,054	4,883
2021		377	756	80	512	49	3,594	860				6,228	8,096	5,605	566						503						1069	1390	962	9,485	6,567
2022	200	1,290	678		2,626	238	1,871	323				7,226	9,393	6,503	503		25				503						1031	1340	928	10,733	7,431
2023		1,407			520	155	3,747	25				5,854	7,611	5,269	503		43				503						1049	1364	944	8,974	6,213
2024		399			13	124	1,710	23	113	80		2,462	3,200	2,215	503		43				503						1049	1364	944	4,564	3,159
2025		160			574	125			23	16		898	1,168	808	503		43		43		503						1092	1420	983	2,587	1,791
2026		1,094	75	50	2,990	310			1,080	148		5,747	7,471	5,172	566		43		43		503						1155	1502	1040	8,972	6,211
2027	205	508			534	96	150	100	4,007	639		6,239	8,111	5,616	503		43		43		503						1092	1420	983	9,531	6,598
2028	54	392			1,080	198			727	184		2,635	3,425	2,371	503		43		43		503						1092	1420	983	4,845	3,354
2029		1,034			4,011	624			23	16		5,709	7,421	5,138	503		43		86		503		43				1178	1531	1060	8,953	6,198
2030					615	98	150	100	1,093	14		2,070	2,691	1,863	503		43		86		503		43				1178	1531	1060	4,222	2,923
2031		90	75	50					4,031	657		4,903	6,374	4,413	566		43		86		503		43				1241	1613	1117	7,987	5,529
2032	200				75	50	150	100	626	181		1,382	1,796	1,243	503		43		86		503		86				1221	1587	1099	3,383	2,342
2033		50			75	50			219	105		499	649	450	503		43		86		503		86				1221	1587	1099	2,237	1,548
2034									1,080	148		1,228	1,596	1,105	503		43		86		503		86				1221	1587	1099	3,183	2,204
2035					150	100	150	100	4,089	698		5,287	6,873	4,758	503		43		129		503		86				1264	1643	1138	8,516	5,896
2036									656	134		915	1,190	824	566		43		129		503		129				1370	1781	1233	2,971	2,057
2037	200				75	50	150	100	243	122		940	1,222	846	503		43		129		503		129				1307	1699	1176	2,921	2,022
2038		50			75	50			814	263		1,252	1,627	1,126	503		43		129		503		129				1307	1699	1176	3,326	2,303
2039									2,228	686		2,914	3,788	2,623	503		43		129		503		129				1307	1699	1176	5,487	3,799
2040					150	100	150	100	355	117		972	1,264	875	503		43		129		503		129				1307	1699	1176	2,963	2,051

4. APPENDIX B – AUSTRALIAN WORKFORCE HISTOGRAM
(CASES 1 – 5)





Annexure C: Stakeholder Engagement

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1. Introduction

The Social Impact Assessment (SIA) is being undertaken with a program of stakeholder engagement. The stakeholder engagement plan is contained in Annexure A and reflects the formal SIA stakeholder engagement process. A separate community engagement process forms part of the strategic assessment of the project.

The SIA stakeholder engagement reflected in the plan was conducted in two phases – the first before a final site within the general James Price Point area was selected and the second phase once the final site had been selected. Delays in deciding on the final site meant that phase two was conducted once there were two potential sites near to one another.

The community consultation that was undertaken for the Precinct was based on the best available information at the time. This included the peak workforce for the foundation proponent's initial construction as estimated at 2500-3500 workers. Shortly before this document was to be released, the potential foundation proponent revised the peak workforce upward to around 6000 workers. The population modelling reported on in this report was revised but the community consultation reported in this document was not repeated because the potential foundation proponent was about to commence their project level SIA and community engagement would occur around the revised figures.

This report has been compiled over time and this is reflected in the changes in name changes from Kimberley LNG (KLNG) to Kimberley Browse LNG (KBLNG) and finally to Browse LNG (BLNG).

2. Stakeholder Consultation

2.1. Stakeholders Consulted

The following stakeholders were informed about the potential development of the Precinct and were consulted regarding their issues. Consultation occurred either with the organisation directly or as part of the SIA workshops. This engagement is outlined in more detail in the stakeholder engagement plan.

2.1.1. Local Government

- Shire of Broome Council and officers
- Shire of Derby West Kimberley councillors and officers

2.1.2. State Government

- Regional Impacts Working Group
 - o Department of State Development (DSD)
 - o Department of Planning

- o LandCorp
- o Department of Fisheries
- o Department of Regional Development and Lands
- o Department of Indigenous Affairs
- o Tourism WA
- o Kimberley Development Commission
- o Department of Health
- o Department of Education and Training
- o Department of Water
- Broome-based representatives of State Government departments and agencies including Planning, Health, Education and Training, Agriculture, Fisheries, Sport and Recreation, Environment and Conservation, Police, Housing, Tourism, Indigenous Affairs, Disability Services, Kimberley Development Commission, LandCorp, Broome Port Authority
- Perth-based representatives of State Government departments and agencies including Planning, Transport, Health, Education and Training, Housing, Fisheries, Tourism, Treasury and Finance, Indigenous Affairs
- Regionally based representatives of the Department of Water and Main Roads
- Environmental Protection Authority

2.1.3. Commonwealth Government

- Department of Resources, Energy and Tourism (DRET)
- Department of Environment, Water, Heritage and the Arts (DEWHA)
- Commonwealth-appointed facilitator, Bill Gray
- Australian Sports Commission (Broome representative)
- Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA)

2.1.4. Service Providers

- Both Perth and Broome-based service providers were consulted, (at workshops for example) including:
 - o Water Corporation
 - o Telstra
 - o Norwescom

- o Horizon Power
- o Toxfree (Waste)
- o Tartal Kura Maya-Bidyadanga Health Clinic
- o Anglicare
- o Broome Medical Centre
- o Kimberley Division of General Practice
- o Djaringo Training
- o Catholic Education Office Broome
- o Kimberley TAFE
- o Notre Dame University
- o Kimberley Group Training
- o Circle Broome Housing Group
- o Kimberley Aboriginal Medical Services Council (KAMSC)
- o Foundation Housing
- o Australian Red Cross
- The social services review also contacted the following organisations and groups for capacity information and existing issues:
 - o Australian Red Cross Blood Service
 - o Burderkin Youth In Action Inc
 - o Broome Dental Clinic
 - o Broome Hospital
 - o Broome Medical Clinic
 - o Broome Doctors Practice
 - o Broome Regional Aboriginal Medical Services
 - o Child Health Clinic
 - o CRS Australia
 - o Disability Services Commission
 - o Dr Neil Jensen
 - o Homelessness Action Group
 - o Kimberley Aboriginal Medical Services Council
 - o Kimberley Community Drug Service Team
 - o Kimberley Division of General Practice Ltd
 - o Kinway Counselling Service/Anglicare
 - o Kullarri Patrol
 - o Marnja Jarndu Women's Refuge
 - o Men's Outreach Service
 - o Milliya Rumurra Alcohol and Drug Rehabilitation Centre
 - o St John Ambulance
 - o Tartal Kura Maya – Bidyadanga Health Clinic
 - o WA Cancer Support Group
 - o WA Country Health Service (includes: Kimberley Aged and Community Services, Kimberley Mental Health and Drug Service, Kimberley Population Health Unit, Broome Hospital, Regional Medical)

2.1.5. Business and Industry

- Woodside Energy Ltd
- Broome Chamber of Commerce
- Toll Mermaid
- Clipper Pearls
- Broome International Airport
- Magabala Books, Arts and Culture
- Linneys Pearls
- Kimberley Clothing
- Roberts Day
- Goolarri Media

2.1.6. Community

- North-West Expo (2-3 May 2009)
- DSD SIA Open Day (17 September 2009)
- Shire of Broome LNG Forum (18-19 September 2009)
- Broome Historical Society

2.1.7. Indigenous Organisations

- Kimberley Land Council (KLC)
- Lingiari Foundation
- Yawuru Prescribed Body Corporate (PBC)

3. SIA Workshops

A number of workshops were held, mainly with service providers, to inform them about the proposed development of the Precinct and the potential development scenarios. The workshops all followed a similar format with an introduction from the facilitator, followed by presentations on the overall development of the Precinct from DSD, an overview of Woodside's potential project, and an overview of the SIA. Some of the projects had additional presentations such as a presentation by LandCorp, on the new Broome North development at the Land and Housing Workshop, and a presentation on the planning aspects of Sense of Place from the Planning consultants, working on the Broome North development, at the Sense of Place Workshop.

The workshops focused on the potential social impacts from both the primary impact area (James Price Point area extending to Broome) and the secondary impact area (Dampier Peninsula, Derby and Bidyadanga). All the workshops were attended by DSD and Woodside. Further attendees are listed below in the discussion of each workshop.

3.1. Sport and Recreation Workshop

The Sport and Recreation Workshop was held on 22 June 2009 at the DSD offices in Broome and was attended by representatives from the Departments of Sport and Recreation, Education, Fisheries, Planning, Environment and Conservation, Police, the Kimberley Development Commission, the Shire of Broome, Tourism WA, Garnduwa, the Broome Fishing Club, the Broome International Airport and representatives from a number of sporting groups.

The notes from the workshop are contained in Annexure B1.

3.2. Infrastructure Workshop

The Infrastructure Workshop was held on Thursday, 6 August 2009 at the DSD offices in Broome. The workshop was facilitated by Duncan Ord, who was previously the Executive Director for the Kimberley Browse LNG Project at DSD.

The workshop was attended by representatives from the following organisations:

Department of Planning, Department of Transport, Kimberley Development Commission, Shire of Broome, Main Roads, Broome Port Authority, Norwescom, Broome International Airport, Broome Chamber of Commerce, Water Corporation, Toxfree, Horizon Power and Toll Mermaid.

The Shire of Derby/West Kimberley, Main Roads, LandCorp, Department of Housing, Department of Regional Development and Department of Agriculture were invited but were unable to attend.

The notes from the workshop are contained in Annexure B2.

3.3. Land and Housing Workshop

The Land and Housing Workshop was held on Tuesday, 11 August 2009 at the DSD offices in Broome. The workshop was facilitated by Allan Tranter of Creating Communities, responsible for community consultation on LandCorp's Broome North Project. In addition to the presentations given by DSD and Woodside, Paul Ferrante of LandCorp gave an overview of the Broome North Development.

The workshop was attended by the State Departments of Planning, Regional Development and Lands, Housing, and Indigenous Affairs, as well as LandCorp, the Shire of Broome, Kimberley Development Commission, Foundation Housing, Broome Air, and the Australian Red Cross.

The following organisations were invited to the workshop but were unable to attend: KLC, Broome Diocese, Lingiari Foundation and the Indigenous Coordination Centre.

The notes from the workshop are attached as Annexure B3.

Prior to the Housing and Land Workshop, a number of housing and land-specific stakeholders were consulted. These included the representatives of LandCorp, the Department of Housing and Foundation Housing in Perth and representatives from the Department of Housing and the Broome Homeless Action Group in Broome. Housing issues also featured in interactions with most non-housing stakeholders including the Shire of Broome and the Department of Health.

3.4. Health

The Health Workshop was held on Thursday, 12 August 2009 at the Mangrove Hotel in Broome. The workshop was facilitated by Dianne Katscherian of the Department of Health who conducted the first phase of a Health Impact Assessment. The following organisations attended the workshop: the Department of Health, Indigenous Coordination Centre, Shire of Broome, Australian Red Cross, Tartal Kura Maya-Bidyadanga Health Clinic, Broome Doctors Practice, Anglicare, Broome Medical Clinic, Kimberley Aboriginal Medical Service Council Men's Outreach Service and the Kimberley Division of General Practice.

Several other organisations were invited to the workshop but were unable to attend, including The Cancer Council WA, Unity of First People of Australia and Milliya Rumurra Alcohol and Drug Rehabilitation Centre.

The notes from the workshop are attached as Annexure B4.

3.5. Education and Training

The Education and Training Workshop was held on 8 September 2009 at the DSD offices in Broome. The workshop was attended by representatives of the State Departments of State Development, Planning, Indigenous Affairs, Education and Training, and the Commonwealth Departments of Education, Employment and Workplace Relations and FAHCSIA, Woodside, the KLC, Djaringo Training, Kimberley Group Training, Kimberley TAFE, Broome Chamber of Commerce, Notre Dame University. In addition, a number of organisations were invited but not able to attend, including the Kimberley Institute and the Yawuru PBC.

The notes from the workshop are attached as Annexure B5.

3.6. Sense of Place/Heritage

The Sense of Place Workshop was held on 10 September 2009 in Broome and was attended by around 30 people representing the State Departments of Planning, Transport and Indigenous Affairs, Shire of Broome, Tourism WA, Broome Chamber of Commerce, the KLC, the Commonwealth Department of Environment, Water, Heritage and the Arts, Magabala Books Arts and Culture, Kimberley Aboriginal Medical Services Council, the Broome Historical Society and a number of long-term residents and business owners in Broome.

In addition to those who attended, a number of other organisations were invited but were unable to attend. These included the local Member of the Legislative Council and the Member of the Legislative Assembly, Tourism North West, Catholic Diocese, Broome Visitors Centre, Yawuru PBC, Broome Turf Club, Kimberley Aboriginal Law and Culture Centre, Lingiari Foundation, Pearl Producers Association and a number of long-time Broome residents, local identities and business owners.

The notes from the workshop are attached as Annexure B6.

4. SIA Community Engagement

A number of formal community sessions have been held as part of the SIA where the broader community has had an opportunity to provide input into the SIA. These included:

- the North West Expo
- the DSD SIA Open Day
- the Shire LNG Forum
- Shopping Centre Information Sessions at both shopping centres in Broome.

4.1. Community Engagement

The SIA community engagement has taken place within the context of a broader stakeholder engagement process. This has largely consisted of fact sheets and community updates in the Broome Advertiser. The fact sheets are available at the Shire offices, the library and at all events and are available on the DSD website. Regular two-weekly community updates were published in the Broome Advertiser from July to December 2009. The community updates that appeared are attached as Annexure C.

The community engagement has been particularly difficult because of the level of indecision around the development of the Precinct. Throughout 2009, Woodside, as the most likely foundation proponent, continually deferred their decision whether to process Browse Basin gas in the Kimberley or in Karratha in the short term. In early 2010 the Browse LNG Development Joint Venture selected the Browse LNG Precinct as its preferred option for the project's onshore processing facilities.

The SIA engagement questionnaires completed at the SIA Open Day, the Shire LNG Forum and both Shopping Centre Information Sessions are intended to provide an insight into community members' issues and opinions. The results are not statistically significant as a number of anti-project activists completed questionnaires and made comments at the Open Day and/or Shire LNG Forum and at the Shopping Centre Information Sessions. The Information Sessions were particularly useful in reaching the general Broome population and bore out the findings of the Tourism Impact Assessment and Fisheries Industry Impact Assessment that characterised the attitudes in Broome as being split, between those against and those for the development of the Precinct with a large number of community residents who are unsure.

4.2. NorthWest Expo

The NorthWest Expo was held over the weekend of 2-3 May 2009. DSD had a display booth at the Expo, as did Woodside. The Expo provided an opportunity for members of the public to ask questions about the proposed LNG Precinct. Several of the fact sheets were available for community members to take away. Although this forum was mainly an information-provision opportunity, community members were asked to indicate their broad issues of concern and 32 community members filled in a brief questionnaire. The results of this questionnaire are shown in Table 1. They were also asked to complete a form if they were interested in being invited to an SIA event. People who indicated their interest were invited to the DSD SIA Open Day.

ISSUES OF MOST CONCERN TO THE PUBLIC	NUMBER OF RESPONSES	
General business and employment impacts	19	59%
Environmental	17	53%
Recreational fishing, boating	16	50%
Housing, health, education roads etc	14	44%
Lifestyle	14	44%
Aboriginal issues	12	38%
Tourism	9	28%
Commercial fishing, pearling aquaculture	5	16%
Others (please specify)	8	25%

- Heritage, Indigenous and Tourism
- Indigenous Tourism
- Jobs for Aboriginals

Table 1: NorthWest Expo Comments

4.3. DSD SIA Open Day

The DSD SIA Open Day was held from 2pm to 6pm on 17 September 2009 at the DSD offices in Broome. The Open Day was to provide an opportunity for members of the community to ask questions about all aspects of the SIA. As the background to the project is comparatively complex, the advice from the communications specialist was to film the three presentations that had been given at all workshops. These presentations would then be continually played in a room off the main offices. This would give the community members attending the Open Day a background to the proposed development of the Precinct and the strategic approvals, as well as Woodside's development plans should the Kimberley option be selected, and an overview of the strategic SIA being undertaken as part of the strategic assessment.

The different subcomponents of the SIA and Woodside were represented at booths. These included the Departments of State Development, Fisheries (Fishing Industry Impact Study) and Planning (the Dampier Peninsula Land Use Plan), TourismWA (Tourism Impact Assessment) as well as Woodside as the most likely foundation proponent. Members of the community would then have an opportunity to discuss issues related to the specific studies.

The Open Day was advertised in the Broome Advertiser and in a leaflet drop in all post office boxes. Broome does not have residential mail delivery. The people who attended the Open Day were asked to indicate their issues of concern and add any issues that had not been included. They were also invited to comment on the day.

A contingent of anti-project activists circulated incorrect information about the Open Day. They advertised that the Open Day was at 2pm and their main criticism was that the Open Day was not a community forum for people to ask questions. An activist sabotaged the presentations and brought the people who had been watching the presentation into the larger room to confront the DSD staff about the project.

People attending the Open Day were asked to complete a questionnaire. The same questionnaire was used at the Shire of Broome LNG Forum on the subsequent two days and the results of the questionnaires have been aggregated into Table 2.

4.4. Shire of Broome LNG Forum

On Friday, 18 and Saturday, 19 September 2009 the Shire of Broome facilitated an LNG Forum. A number of organisations set up booths and the broader community was invited to attend to find out about the proposed LNG Precinct. Representatives of DSD, KLC, the Port and Airport, Woodside, Save the Kimberley and Environs Kimberley were represented at the forum. Presentations were made on the second day by all those with a presence at the forum as well as selected other organisations such as Tourism WA. Questions were not taken during the presentations but people were directed to the organisational representatives after the presentations.

Community members were invited to complete the same questionnaire as at the SIA Open Day and the results of the aggregated questionnaire are shown in Table 2. A total of 71 people completed the questionnaire at both the SIA Open Day and the Shire of Broome LNG Forum.

ISSUES OF MOST CONCERN TO THE PUBLIC	NUMBER OF RESPONSES	
Potential changes to Broome's unique character or 'sense of place'	61	86%
The availability of housing, including affordable housing	58	82%
Access to recreational areas near the Precinct	55	77%
Indigenous issues	55	77%
The capacity of health services	55	77%
The capacity of existing town utilities	50	70%
Potential impacts to tourism	49	69%
Potential impacts to commercial fishing and pearling	45	63%
The capacity of education services	45	63%
Potential impacts to recreational fishing	44	62%
The capacity of the police and the justice system	41	58%
Others (please specify)	50	70%
<ul style="list-style-type: none"> • Unhappy with public consultation for the LNG Precinct • Concern for sense of place/community • Environment • Fishing ,tourism and recreational • Heritage and Indigenous 		

Table 2: SIA Open Day and Shire of Broome LNG Forum

4.5. Shopping Centre Information Sessions

Shopping Centre Information Sessions were held at both of the shopping centres in Broome:

- the Paspaley Plaza on Friday, 4 and Saturday, 5 December 2009
- the Boulevard Shopping Centre on Friday, 29 and Saturday, 30 January 2010.

At the Paspaley Plaza, 41 people were surveyed and the results are shown in Table 3. There were considerably more comments supporting LNG development at the Precinct than at the previous community information opportunities.

At the Boulevard Shopping Centre, 53 people were surveyed and the results are shown in Table 4.

Table 5 shows the combined questionnaire responses from the SIA Open Day, the Shire of Broome LNG Forum and the two Shopping Centre Information Sessions.

ISSUES OF MOST CONCERN TO THE PUBLIC	NUMBER OF RESPONSES	
The capacity of health services	23	56%
Potential changes to Broome's unique character or 'sense of place'	22	54%
Potential impacts to tourism	19	46%
Access to recreational areas near the Precinct	18	44%
Indigenous issues	18	44%
Potential impacts to recreational fishing	18	44%
The availability of housing, including affordable housing	18	44%
The capacity of existing town utilities	18	44%
Potential impacts to commercial fishing and pearling	15	37%
The capacity of education services	14	34%
The capacity of the police and the justice system	14	34%
Others (please specify)	26	63%
<ul style="list-style-type: none"> Indigenous/heritage issues Community infrastructure Education and training Concern for 'sense of place'/community 		

Table 3. Questionnaire results from the Paspaley Plaza Shopping Centre Information Session

ISSUES OF MOST CONCERN TO THE PUBLIC	NUMBER OF RESPONSES	
Potential changes to Broome's unique character or 'sense of place'	34	64%
The availability of housing, including affordable housing	34	64%
The capacity of existing town utilities	34	64%
The capacity of health services	34	64%
Access to recreational areas near the Precinct	29	55%
Indigenous issues	28	53%
Potential impacts to recreational fishing	25	47%
Potential impacts to tourism	22	42%
The capacity of the police and the justice system	22	42%
Potential impacts to commercial fishing and pearling	21	40%
The capacity of education services	21	40%
Others (please specify)	33	62%
<ul style="list-style-type: none"> Indigenous/heritage issues Community infrastructure Education and training Concern for 'sense of place'/community 		

Table 4. Questionnaire results from the Boulevard Shopping Centre Information Session

ISSUES OF MOST CONCERN TO THE PUBLIC:	COMMUNITY CONSULTATION DAYS	
	TOTALS: 165 people surveyed over the combined three community consultation events.	
	Total number of people who thought this was an issue	Total percentage of people who thought this was an issue
Potential changes to Broome's unique character or 'sense of place'	117	71%
The capacity of health services	112	68%
The availability of housing, including affordable housing	110	67%
Others	109	66%
Access to recreational areas near the Precinct	102	62%
The capacity of existing town utilities	102	62%
Indigenous issues	101	61%
Potential impacts to tourism	90	55%
Potential impacts to recreational fishing	87	53%
Potential impacts to commercial fishing and pearling	81	49%
The capacity of education services	80	48%
The capacity of the police and the justice system	77	47%

Table 5. Questionnaire results from the Broome Open Day Session, Paspaley Plaza and Broome Boulevard Shopping Centre

Annexure A

Browse LNG Strategic Social Impact Assessment

Stakeholder Consultation Plan

(Updated 14 June 2010)

1. Introduction

The Browse LNG (BLNG) process provides for the establishment of an LNG Precinct for the onshore processing of gas from the Browse Basin. The strategic Social Impact Assessment (SIA) considers the potential social impact of the Precinct under four potential development scenarios and forms a component of the Strategic Assessment for State and Commonwealth approval.

This document provides an overall plan for the community consultation for the strategic SIA of the Precinct. Further project specific SIAs, including community consultation, should be undertaken for development at the Precinct.

Figure 1 illustrates the key role of community consultation throughout the SIA process. The consultation process aims to provide information on the process, the overall Precinct and its anticipated impacts and gather community concerns so that these can be addressed in the SIA Management Plan.

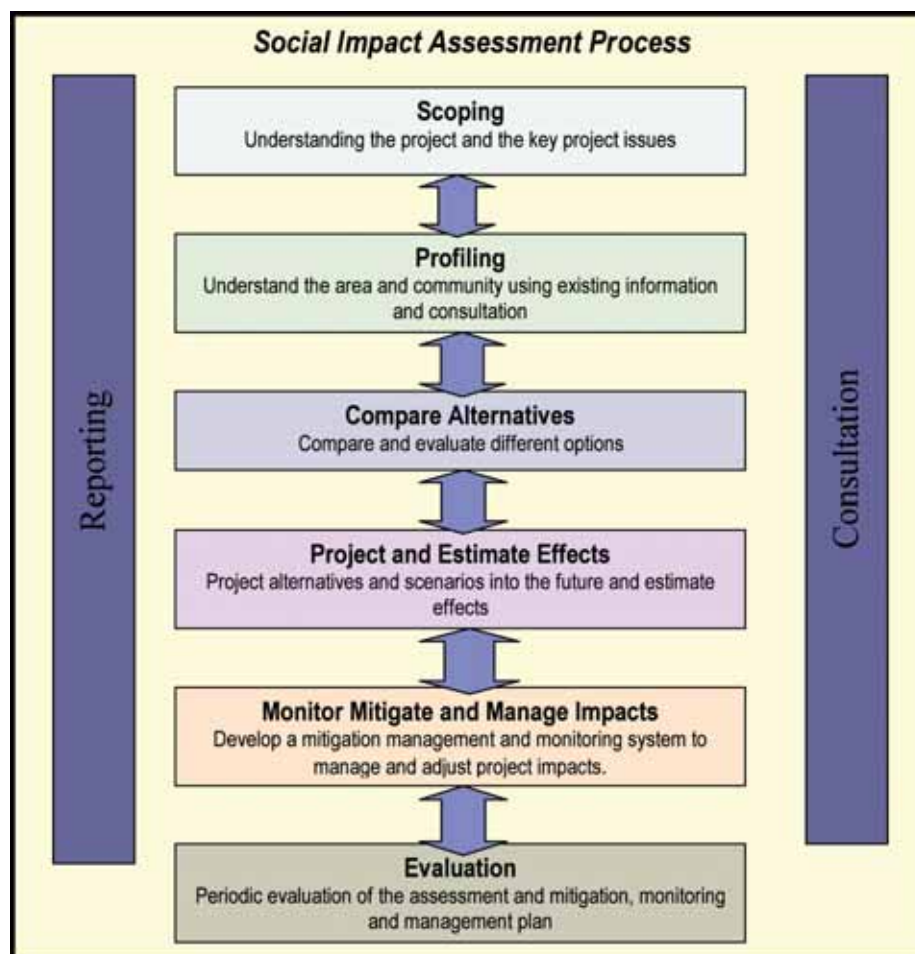


Figure 1: The Social Impact Assessment Process

The SIA contains a number of specialist studies as is indicated in Figure 2:

- The Fishing Industry Impact Study is being managed by the Department of Fisheries (DOF 37/2008) and the contract for the RFQ (Request For Quote) was awarded to Dr Guy Wright. His contract was extended to include Aboriginal fishing issues as well as the commercial and recreational fishing issues covered in the RFQ. The main component of the study was completed in early 2010 and is available through the DSD and Department of Fisheries websites. The customary fishing component will be incorporated into the Strategic Assessment.
- The Tourism Impact Assessment is being managed by Tourism WA (TWA 39/2009) and the tender was awarded to Broome-based Kadar Pearson and Partners Pty Ltd. The Tourism Impact Assessment was completed in June 2009.
- The Aboriginal Social Impact Assessment (ASIA) is being managed by the Kimberley Land Council and DSD. The key finding of the ASIA will be incorporated into the Strategic Assessment of the Precinct.
- The Infrastructure Assessment is being coordinated by the Department of Planning and includes an assessment of the infrastructure needed for the Precinct as well as for the expansion of Broome.

Each of these studies contains a community consultation component to gather community issues about the Precinct and these feed into the SIA Management Plan.

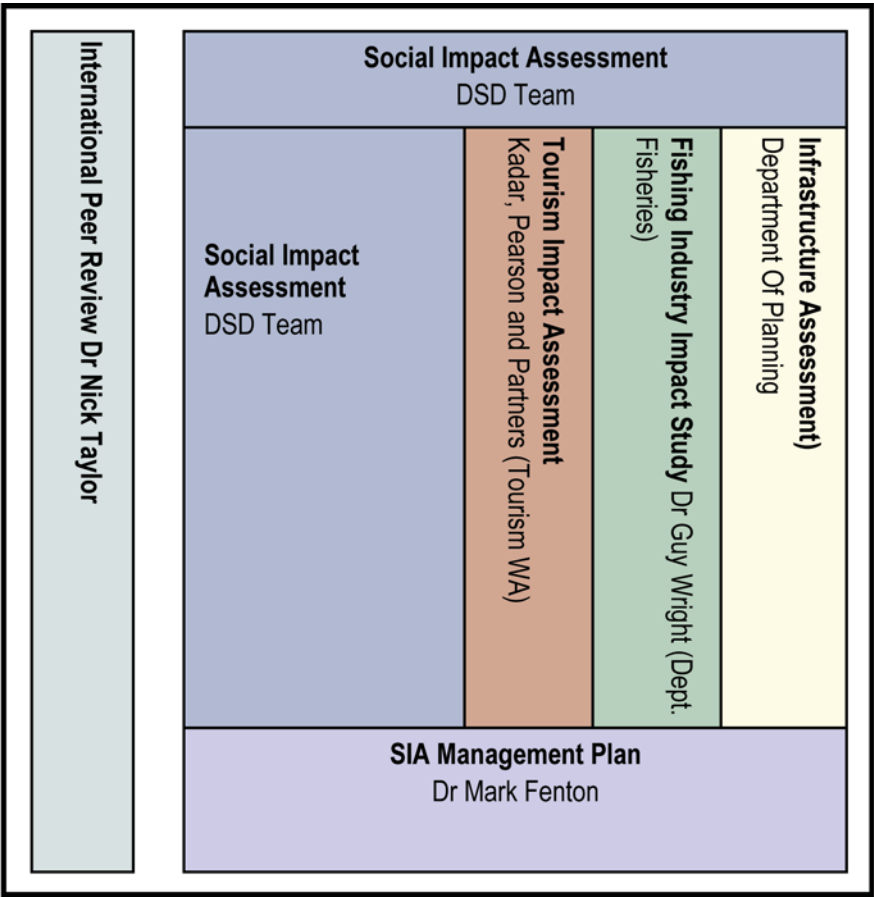


Figure 2: Components of the Social Impact Assessment

2. Stakeholder Consultation Program

The BLNG consultation is being undertaken in two phases:

- Phase 1 occurred prior to the final site being agreed to and focused on the SIA process being undertaken.
- Phase 2 was prompted by the selection of the final site and discusses the overall Precinct and the various development scenarios, the anticipated population impacts and gathers community concerns.

There will need to be a further phase of community consultation.

2.1. Stakeholder Consultation Phase 1 (January – May 2009 - Completed)

Phase 1 occurred before the final site for the LNG Precinct had been decided and agreed to by the Traditional Owners. The purpose was to provide information to a range of stakeholders on the process that was being followed. The focus was on profiling and assessing the 'before change' project area.

Consultation included:

Broome:

- Shire of Broome (both council and officers)
- State Government departments and agencies based in Broome
- Telephone interviews with Broome-based service providers
- KLC, Lingari Foundation
- Chamber of Commerce representatives
- Toll Mermaid
- Clipper Pearls

Western Australian Government Agencies

- Regional Impacts Group (State agencies)
- Environmental Protection Authority
- Department of Health
- Department of Education
- Department of Treasury and Finance

Commonwealth:

- The Department of Resources, Energy and Tourism (RET)
- The Department of Environment, Water, Heritage and the Arts (DEWHA)
- The Commonwealth-appointed facilitator, Bill Gray

Industry

- Woodside Energy Ltd

Community

- North-West Forum

2.2. Stakeholder Consultation Phase 2 (June 2009–January 2010 - Completed)

Community consultation for the specialist studies (ASIA, tourism, fishing, pearling and aquaculture) was undertaken within those studies and is therefore excluded here.

2.2.1. Stakeholders

Government

- Shire of Broome and Local Council
- Local State and Commonwealth agencies

Service Providers

- Sport and Recreation
- Education and Training
- Health
- Infrastructure (roads, waste, water, electricity, telecommunications, port, airport)
- Land and Housing

Other

- Sense of Place Workshop

Local Groups

- Small business
 - Chamber of Commerce
- General community
- Broome Historical Society

2.2.2. Consultation Methods

A range of consultation methods are planned, depending on the situation. These include:

Interactive Consultation

- Presentations followed by questions and answers
- Focus/Discussion Groups

- Open Day
- Shopping Centre Displays

Information Provision (with the option for follow-up)

- Web Site
- Fact Sheets
- Media (Newspaper, Radio)

These activities are captured in the KLNG Communications Plan.

2.2.3. Methodology

Existing Groups

Where possible, presentations and focus groups were arranged with existing groups within or adjacent to an existing scheduled meeting such as Shire Council, Chamber of Commerce and the like. This approach usually meant that more people were able to participate as they already made a commitment to attend the meeting. The usual format was a presentation about the project, the process and population projections, followed by a question and answer session.

Focus Groups/Workshops

Where there was no existing formal grouping but a number of agencies or businesses had a common interest, a focus group or workshop was organised.

Open Days

The NorthWest Expo provided an opportunity to explain the project to community members during phase 1 of the consultation. As part of phase 2, a series of open days were held where members of the public were able to ask questions of the BLNG project team. These included the SIA Open Day on 17 September 2009 and the Broome Shire Forum on 18 and 19 September 2009.

Shopping Centre Displays

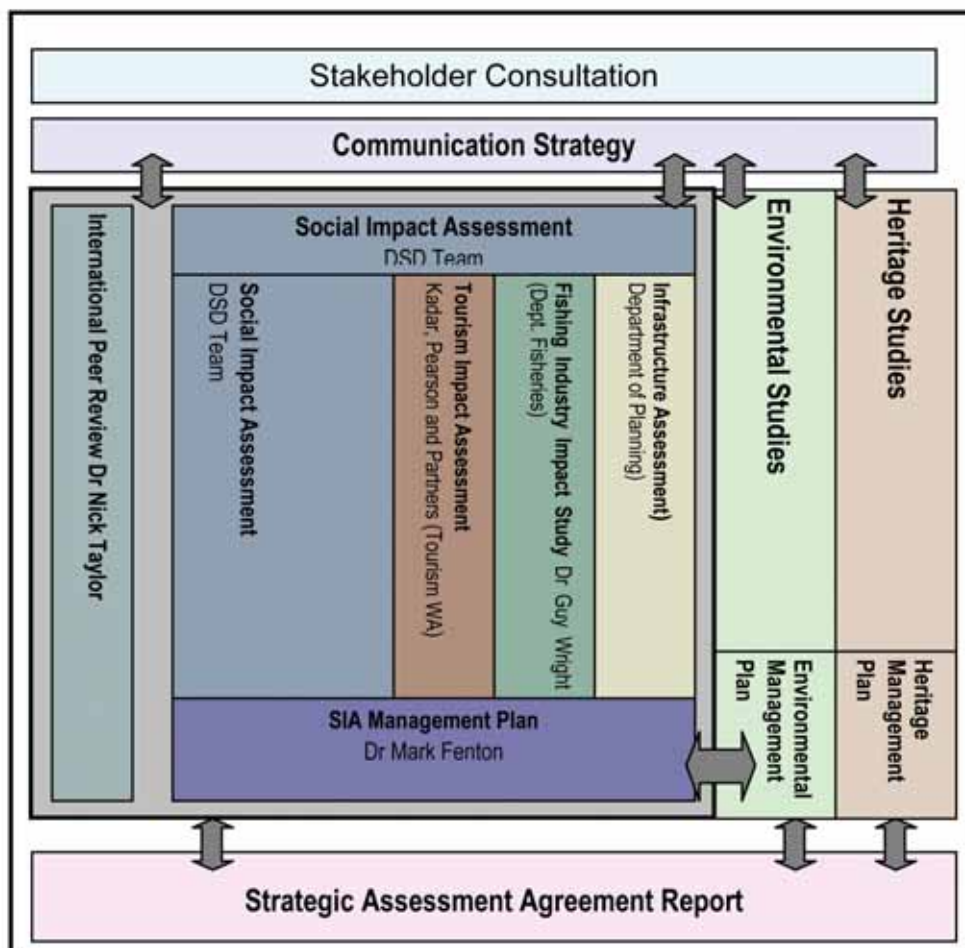
There are two shopping centres in Broome and staffed shopping centre displays were held in each of these. The Paspaley Plaza Information Session was on 4-5 December 2009 and the Boulevard Information Session was held on 29-30 January 2010.

2.2.4. Consultation Timeline

Phase 1 consultation commenced in January 2009 and continued until May 2009.

Phase 2 consultation commenced in June 2009 and, due to project timelines continued until January 2010. A further phase of consultation may be required.

2.2.5. Relationship of SIA to other studies



Annexure B: SIA Workshop Notes

- B1: Sport and Recreation Workshop
- B2: Infrastructure Workshop
- B3: Land and Housing Workshop
- B4: Education and Training Workshop
- B5: Health Workshop
- B6: Sense of Place Workshop

B1: Sport and Recreation Workshop

Kimberley Browse LNG Project

Social Impact Assessment Workshop: SPORT AND RECREATION

WORKSHOP NOTES

Date: 22 July 2009

Time: 9:30am-12:30pm

Venue: Department of State Development -
Broome Office
Woody's Arcade, Dampier Terrace

Facilitator: Duncan Ord, Executive Director, Kimberley
LNG Project, DSD

Registration/Tea & Coffee 0915-0930

Presentations 0930-1020

- Welcome & KBLNG Project Summary
Duncan Ord
- Woodside – Proponent Perspective
Alec Cumming
- KBLNG Social Impact Assessment
Andrea Jardine-Orr

Morning Tea 1020-1035

DISCUSSION 1035-1230

Introduction by Duncan Ord

There was a discussion about how impacts are assessed. It is important to get approvals and that the possible proponent wants to ensure that all issues within the community are dealt with. The company is looking at what is proposed to be built and the stressors of that, plus social and environmental impacts.

There was discussion around risk assessment, including dredging and measuring it. The local environmental factors need to be taken into account. There is a need to look at the particular problems in the Kimberley and the possible solutions.

With regard to recreational fishing, the lack of launching facilities is causing a loss of income.

A lot of people camp and fish at James Price Point (JPP) during the holidays. There is a consideration to set up camping at Bard Creek and Quondong Point.

JPP to Quondong Point is rated very highly by recreational fishers. Many boats will travel all over the area.

There was a comment that if Cape Leveque Road is sealed, the whole of the Buccaneer archipelago is opened up for fishing.

There was a discussion around the impact of light spill from fishing. It was generally agreed that it would not be a large problem. There are strategies that can be used to minimise upward light spill from the plant.

There was a question about boat movement. There will be approximately five boats a week during operations.

Fishing from international vessels and supply vessels is an issue so there is a need to manage contractors. There are two separate phases, the building phase and the operational phase. Under the operational phase the company has a lot of control over the vessels.

A concern was raised about FIFOs (Fly-in/Fly-out workers), as they often have boats, which can affect fish stocks.

The last creel survey was in 1999 and the lack of baseline data is a concern, since it only went up to Broome.

Recreational fishers have issues with a breakwater and its impact on the tides, and circulation of water. Also the effect it can have on fish and the coastline itself.

Coastal Access and Recreation

If there is a sealed road to the site it will further increase access to the site. Traditional Owners want to continue using the Manari Road. However, there was an argument made that the Manari Road is not liked by some Aboriginal communities due to the access it provides. WorleyParsons want to find the highest level. The offshoot would be about 10km north of where the Cape Leveque Road is currently sealed.

Illegal camping is a significant issue now, so proper camping will need to be put in place.

Two-wheel drives cause major damage to the 4WD roads.

The opinion was raised that most people who camp up there do shore fishing.

It was pointed out that most workers would be FIFO.

Recreational fishing is at the extent of its capacity at the RecFishing centre at the Port.

There was a concern that the analysis of the population growth in Broome North is too small. It was noted that the Government is working closely with the state demographer on the issues and that we believe we are correct in our analysis.

There was discussion around projected population growth.

There are problems with overcrowding at schools and there is very little ability to expand.

The Government believes that Broome north can provide town land that could help with this development.

The camps near site will have their own recreational facilities and the workers will maybe only get one day off between their shifts.

There was a question regarding social services issues, in particular with relationship problems. The response was that companies undertake those services themselves.

There was a query regarding the future of the Broome Airport. The response was that the current airport can deal with population growth for 25 years, but the project could bring that forward, as well as the possible use of light aircraft (choppers etc) from another location. It is not proposed to build an airstrip for the Precinct

A view was expressed that the LNG project should use its “might” to help with getting money for more social infrastructure.

A comment was made around the issue of “locals” pay rates to provide facilities for “grey nomads” and others.

There are difficulties for the police with young aboriginal kids and their disadvantage. There is a need for more capacity to deal with these issues. The new police station is already at capacity, and population growth will require more resources.

It was discussed that there is a need for a range of skills (teachers, doctors, nurses, aged care etc) and there is no provision for training for this. It was stated that those issues are being worked on.

With regard to access on the peninsula, it was noted that there could be a roadhouse system on the road to Cape Leveque where people have to get a permit to access the area.

It was noted that conservation issues, land use zones, etc are being closely looked at.

It was stated that DSR is undertaking an Indigenous plan. Through that process, it was suggested that the sporting facilities are poor at best. It would be good to see some investment in that through this process. It was stated that there is also a need for a community sport and recreation officer in each community.

It was stated that with an influx of tourists there will be more fishers, so therefore there will be a need for more rangers. It was suggested that there could be an Indigenous ranger program.

The Port of Broome has looked at a second finger wharf, and that information is with the Minister. They are also looking at upgrading the boatlifter facility.

B2: Infrastructure Workshop

**Kimberley Browse
LNG Project**

**Social Impact Assessment Workshop:
INFRASTRUCTURE**

WORKSHOP NOTES

Date: Thursday 6 August 2009

Time: 8:45am – 3:00pm

Venue: Department of State Development -
Broome Office
Woody’s Arcade, Dampier Terrace

Facilitator: Duncan Ord, Executive Director, Kimberley
LNG Project, DSD

Registration/Tea & Coffee 0845-0915

Welcome: Duncan Ord 0915-0930

Presentations 0930-1045

- KBLNG Project Summary
Gary Simmons
- Woodside – Proponent Perspective
Alec Cumming
- KBLNG Social Impact Assessment
Andrea Jardine-Orr

Morning Tea 1045-1100

DISCUSSION 1100-1500

Introduction

The impact assessment process was explained and participants received photocopies of excerpts from the *Kimberley LNG Precinct – Scope of the Strategic Assessment* document relating to infrastructure.

Discussion included explanation of impact assessment as an iterative process, sources of impact, environmental factors and risk rating.

It was emphasised that this workshop aimed to identify and fill-in gaps relating to infrastructure issues.

The Department of Planning is conducting an infrastructure audit and assessment.

The workshop discussed the following infrastructure issues:

- 1) Airport
- 2) Roads
- 3) Waste Management
- 4) Ports
- 5) Water
- 6) Electricity
- 7) Telecommunications

1) AIRPORT

Broome International Airport issues

- Last year, Broome Airport catered for 400,000 passengers, which was a 7% increase on the previous year. This year there has been a 9% increase in passengers. These increases can be attributed to both tourism and the oil and gas industry.
- The Broome Airport is experiencing tourism growth but it also needs a mix with corporate travel to support it.
- Qantas has three services per day and Virgin has two services per day.
- There is the possibility of Broome Airport servicing flights from Singapore in the future. One view was that this would require support from corporate travellers in addition to tourists.
- A heliport with two hangars services the oil and gas industry.
- The Broome Airport is sensitive to community concerns and there is a noise management plan and an active group with Broome Shire and community representation.
- Surveys conducted about the Broome Airport suggest that people like its current location.
- The current runway has significant capacity and there is capacity for a code three runway.
- The workshop discussed the capacity of Broome Airport to cope with a potential increase in demand for parking. There were divergent views. Unlike Karratha, workers are more likely to be bussed to the LNG Precinct, therefore reducing the potential number of vehicles.
- There is a Master Plan for the Broome Airport until 2025 including upgrading of the terminal, taxiways, noise management plan and parking.
- The Airport Master Plan is being considered by the Broome Shire over the next three months.
- The Airport Master Plan can be updated to take into account expansion planning for James Price Point Precinct needs.
- The new Broome Airport site is 13km from the Broome town. Moving of the Broome Airport would be undertaken in stages.
- The new airport will require a review of past environmental approvals.
- Some stakeholders suggested that a lead time of four to five years would be required for the relocation of the airport.
- Aircraft fuel is transported from storage at the Port to Broome Airport via Gubinge Road.

Helicopter Flight Paths

- Helicopter traffic is a new component to serve offshore platforms and is likely to increase significantly.
- Helicopter flight paths out of Broome include a training circuit in the south, around the port. Flight training is the biggest concern with residents due to the need for circling.
- The airport has worked with the Department of Environment and Conservation on helicopter paths to avoid nesting birds.
- Helicopter companies are professional and have expressed a desire to work with the community to minimise impacts.

Lombadina/Djarindjin Airstrip

- There is an emergency airstrip at Lombadina/Djarindjin.
- This airstrip has a sealed runway and lights. Strategically, it enables de-manning and refuelling of aircraft.
- Djarindjin currently has three fuel tanks.
- Inpex has emergency fuel supplies at the Djarindjin airstrip and there is a possibility that other companies could enter into a sharing agreement for emergency supplies.
- An operator for the Djarindjin Airstrip was appointed at the end of last year on behalf of the Djarindjin Aboriginal Corporation.

General LNG Precinct Issues and Discussion

- The Precinct will not have its own airstrip and will use the Broome Airport for Precinct and offshore requirements (e.g. Fly-in/Fly-out workers).
- The Broome community is fairly tolerant regarding noise issues from the airport but if noise increases they may be less tolerant.

- This is likely to be more of an issue during construction rather than production at the Precinct.
- The workshop discussed whether the workers would be separated from other passengers at the airport. Timing and scheduling of flights will be important to manage this issue. In addition, the workers' Code of Conduct could be used to prevent disruptive alcohol consumption.
- There is a possibility that there may be Fly-in/ Fly-out workers coming through Singapore, but there are likely to be more workers from other Australian states (e.g. Pluto sourced 10% of its workforce from Queensland and up to 10% from New South Wales).
- A related issue is what other gas projects would be underway at the same time as the Precinct as they would increase competition for workers.

2) ROADS

General

- The Department of Planning's Infrastructure Assessment includes roads. Preliminary maps have been formed and these will be further developed. The broader task is to look at impacts beyond the Precinct.
- The workshop discussed the concept of an infrastructure service corridor in the Dampier Peninsula, linking the LNG Precinct with Broome. This corridor will include road linkages.
- Initially, it is envisaged that Cape Leveque Road will be linked with the Precinct. The conversation with Main Roads and the Shire has just been initiated and the concept will be developed further.
- The infrastructure services corridor may be 200m wide and allow the future possibility of a gas pipeline (but gas will not necessarily be transported this way).
- Envisaged that the access road will eventually be sealed, with an all weather highway configuration/ standards.
- A freight demand and road needs assessment will be conducted to look at current and expected Precinct impacts.

Indigenous Issues

- Main Roads is working with the Shire of Broome, it will need to upgrade the existing seal and intersections.
- Main Roads has completed some initial testing of the existing Broome-Cape Leveque Road and would be interested in completing a ground search for gravel sources and quality but needs approval from Aboriginal stakeholders.

- The LNG project is in negotiations with KLC and Native Title claimants to resolve Native Title and land use agreements. This could include the potential to build a gas pipeline in the future. Hence, the idea of an infrastructure corridor to allow for potentialities.
- Mapping of potential infrastructure would be useful to provide to Indigenous groups soon so that they can provide input.
- The Precinct access road needs clearance from traditional land owners.

Traffic and Road Standard Issues

- The main traffic requirements relating to the LNG Precinct would be buses to and from the airport.
- The workshop discussed the standard of road required and it was agreed that highway standard is assumed.
- It is likely that infrastructure for the construction camp will be transported to the Precinct by road.
- If the breakwater structures come by road it will be a major impact.
- The meeting agreed that the access road to the Precinct is on the critical path for the project. The Main Roads regional office will require funding for a gravel search and alignment definition study.

Road Access Issues

- Improved roads in the Dampier Peninsula can improve the ability for Indigenous communities to provide workers for the Precinct.
- The Sport and Recreation Workshop raised the possibility that improved roads could provide recreational road users with access to sensitive areas, which would need to be managed.
- An ongoing issue in the Kimberley has been that tourists are using roads to access sensitive areas. This issue is now coming to a head.
- The workshop agreed that it is important to try to limit road usage that is not Precinct related.
- Heritage approvals have not yet been obtained for these roads.

Timelines for Heritage Process, Engineering and Building of Roads

- Heritage listing timeline is unclear. Some departmental advice suggests the time needed to obtain heritage approval would mean that building could start in mid-2011 and finish by the end of 2012.
- This timeline would impact on Woodside's potential construction phase and other options such as using existing roads and sealing parts of the road would need to be considered.

- A sealed road is required for the transport of supplies.

Actions

- Discussion between the State and Woodside regarding the timing of road upgrades is required.
- Department of State Development will consult with Main Roads regarding timeframes for the upgrading of roads. Deadlines may need to be brought forward, including potentially speeding up the sealing of Cape Leveque Road.

3) WASTE MANAGEMENT

- The existing waste management facility has a limited lifespan and the number of years that the site can continue to operate adequately is being determined.
- The existing facility is on reserve land at the end of Buckleys Road and it has been extinguished of native title.
- There are risk management issues related to gas storage right next to the waste management site.
- The waste management site needs to be large enough for the growing town of Broome, as well as offshore and onshore developments.
- How to combine operations for the most efficient program possible.

New Waste Management Site

- Very beginnings of negotiation for a new waste management site and potential future locations are being identified.
- If the future site is inside the Rubibi area, it will have to be negotiated separately.

Preliminary Waste Estimates for Onshore Facility During Construction

The following are very preliminary waste estimates for the onshore facility for the initial three train development, over five years:

- Largest proportion of waste would be Class 2 landfill (Broome currently has Class 2 landfill): 15,000-20,000m³. A lot of this would come from the workers' accommodation camp
- Toxic waste: 250-300m³
- Scrap/recyclable metal: 35-75m³
- Toxic chemicals in drums: 10-25m³

Preliminary Waste Estimates for Operations

The following are preliminary estimates for operations and are annual figures:

- Class 2 landfill: 4000-8000m³

- General recyclables: 375-750m³
- Toxic Waste: 185-375m³
- Mercury (filters) contaminated waste: 30-60m³ (to be sent to Switzerland for treatment)
- Chemical drums: 15-30m³
- Scrap/recyclable material: 7-15m³
- Class 4 landfill: 1-3m³ (highly hazardous, e.g. radioactive)
- Fluorescent tubes: up to 3m³
- These waste estimates represent a 10-20% increase to Broome's existing waste. There is the technical capacity to deal with waste in Broome.
- The preliminary estimates relate only to the direct impact from Woodside and not potential waste from indirect sources.
- Waste from the offshore rigs will be managed by Woodside.

Waste Water

- Produce water will be treated on site, probably using an evaporation pond (at the Precinct).
- Potential concentrated brine from reverse osmosis will be piped offshore and dispersed.
- There is a desalination plant on each platform.

Dampier Peninsula Land Use Plan

- The Dampier Peninsula Land Use Plan (Department of Planning) will link with the Shire of Broome's Local Planning Strategy. A comprehensive study will be required to identify a site for a Class 2 landfill.
- There are a number of ad-hoc waste sites in operation in the Dampier Peninsula – would need to organise and coordinate this in the future.
- Department of Planning has spoken to communities/outstations not against bringing waste to a central facility.

Conclusion

- Waste management is getting close to being a critical path issue.

4) PORTS

Port at the Precinct

- Department of Transport – Marine Safety needs to be involved in a port site layout plan.
- From a marine safety perspective, the port at the Precinct could have a port authority governing structure. This structure should not detract from industry's management of the Precinct.

- During the construction phase:
 - o expect vessels with large modules from Australia or rest of the world: ~1/day
 - o additional traffic, particularly from offshore activity: might have more than 40 vessels in the field on any one day
 - o support for drilling operation, supply of drill rigs: initial phase of development won't need a massive increase in drilling – 6-10 wells over a two year period.
- During operations:
 - o expect the number of LNG tankers to the port to be a little less than one tanker/day for the first 15mtpa (~300 LNG tankers/year),
 - o LNG tankers need tugs to bring them in and safety berths.
- Management of marine facilities has not yet been decided.
- LPG tankers: up to 20/year
- Condensate tankers: up to 20/year
- By far, most vessels would be LNG vessels and less than one tanker/day.
- Integrated Marine Facility – some of the supply activities integrated with processing of LNG but not for other platforms or proponents.
- Workshop discussed the possibility of the support base being based at the Precinct. Stakeholder views on the location of a support base were diverse.
- The Precinct is primarily for LNG processing.
- Quarantine facilities will be included in the Precinct.
- Breakwater structure approximately 400m long, large amount of rock or concrete, potentially road transport, a range of options considered.

Broome Port

- The existing exploration supply base in Broome is supporting rig tenders and could comfortably support four to five rigs for exploration in the long term.
- Broome Port Authority has jurisdiction from Wyllie Creek to Station Hill.
- Oil and gas industry is very important for Broome Port. It accounts for 59% of the Port's revenue, compared to pearling, which accounts for 2%.
- Lead time of two to three years is required for port expansion.

- New jetty in the vicinity of \$160-200 million, no environmental approval yet.
- Potential for port to be an Infrastructure Australia project.
- Land availability issues are being addressed with Yawuru.

Other Issues

- The supply base is a running issue and a WorleyParsons report has been completed, on behalf of the State Government.
- Woodside is likely to need a 400m breakwater and is looking at alternatives including concrete case-ons, traditional rock or not using a breakwater.

Conclusion

- Many infrastructure issues, including ports, are close to being critical task issues.

5) WATER

Precinct and Offshore Water Requirements

- Options for water supply to the Precinct include using a surface aquifer or desalination of ocean water.
- During the pioneering phase, may use potable water initially for the Precinct while other options are developed.
- Drilling requirements are not big – closed systems are used and there is a one-off supply of drill water. Industry proponent would not need to use Broome water supply (except in very initial stages).

Accommodation Requirements

- Water required for workers' accommodation will depend on timing.
- Accommodation will require facilities to make potable water and in the short-term will need to use water from the surface aquifer (Broome supply).
- The pioneering stage is complicated at any greenfields site.
- A water plan is required for early works.

Broome Water Requirements

- There is water in the P1 aquifer to supply Broome to 2050.
- There are 10.6 gegalitres/year of sustainable capacity to draw on. At the moment, 4.5 gegalitres/year are used by the town.
- Three new bores have just been drilled. Expansion would predominantly be to the north.
- Previous discussions with the Department of

Water suggest that the capacity of the aquifer may have been over-estimated in the past.

Actions

- Need for follow up with Department of Water and the Water Corporation regarding possible over-estimation of Broome's water supply capacity.

6) ELECTRICITY

Precinct Requirements

- The Precinct will be able to generate power internally and be self-sustaining in terms of power needed for the plant during operations.
- Offshore operations will also be self-sustaining.
- Workers' accommodation (during construction) can be powered by diesel generators.
- Power arrangements for workers' accommodation during operations have not yet been decided.
- The Precinct itself is likely to have limited impact on the Broome power supply.
- These power requirements do not include requirements of third party contractors. They would need power supply from Broome.

Broome Expansion

- Infrastructure in Broome will grow.
- There are proposed plans for commercial and residential development in Broome North. Therefore, need to increase electricity capacity.
- Surveying for a new sub-station in Broome North is being undertaken to provide capacity for Broome North and Cable Beach.
- An expansion plan will be discussed at the Broome Planning meeting later in August 2009.
- The new sub-station will allow for more capacity in the area around Broome Road. Not certain whether there is capacity for the Water Corporation borefield, or if this will be required.

7) TELECOMMUNICATIONS

Precinct Issues

- Telecommunications for the Precinct will be largely self-sufficient.
- There will be no mobile phones on the Precinct site itself. During construction, mobile phone coverage would be required, areas vary.
- Providing communication for accommodation areas will need to be planned.
- Fibre optic link may be required during operation, satellite is not suitable.

Broome Issues

- With adequate planning time, telecommunications can be adequately provided for any expansions to the town of Broome.
- ADSL is limited by the length of copper cable.
- Currently assessing possibilities at Broome North.

OTHER DISCUSSION

- There will be upcoming DSD-organised workshops on Housing and Land, Health and Heritage issues.

B3: Land and Housing Workshop

Kimberley Browse LNG Project

Social Impact Assessment Workshop: LAND AND HOUSING

WORKSHOP NOTES

Date: Tuesday 11 August 2009

Time: 8:45am – 3:00pm

Venue: Department of State Development -
Broome Office
Woody's Arcade, Dampier Terrace

Facilitator: Allan Tranter, Creating Communities

Registration/Tea & Coffee 0845-0915

Welcome: Allan Tranter 0915-0930

Presentations 0930-1030

- KBLNG Project Summary
Gary Simmons
- Woodside: Proponent Perspective
Craig Gosselink
- KBLNG Social Impact Assessment
Andrea Jardine-Orr
- Broome North Development
Paul Ferrante

Morning Tea 1030-1100

DISCUSSION 1100-1500

Introduction

An overview of the environmental risk assessment process was provided to participants.

The workshop aimed to identify gaps and ensure all issues were included.

Key Issues

Introduction/General

- Native Title and land supply were significant issues in Broome.
- Some of the biggest issues relate to the provision of infrastructure.
- Advice of potential growth in Broome in the past was not heeded by some service providers.
- Need to ensure infrastructure providers are aware of the rate of growth and rate of development.
- The need for adequate telecommunication, which is prepared for growth was discussed, including the benefits of fibre optic cables to be used for future development.
- Some questioned whether all government agencies are prepared for growth – an overall coordinated approach is required.
- An infrastructure assessment is being coordinated by the Department of Planning.

Housing – General Issues

- The workshop discussed the time and costs associated with building a house in Broome and how this has changed in the last 18 months. It is now much more expedient but large transport costs apply to building material.
- Building materials have to come from the south.
- It is likely there will be a blend of FIFO workers and resident workers in Broome.
- Property owners deciding to trade up/down will add to overall supply of housing.
- There is a need for public transport, particularly when Broome North comes on stream.
- It took a few years for Roebuck Estate's identity to grow.
- Need for a new (lower) price point north of Gubinge Road.

Land Use

- It is important to not lose sight of land required for industrial and commercial purposes, otherwise, inappropriate land may be used for these purposes.
- LandCorp has just completed a future land supply (including industrial) analysis to be presented at the Broome Planning Forum next week.
- General discussion relating to the number of lots available at Broome North and the property market.

Cost of Housing

- What issues need to be taken into consideration in the management plan to avoid exorbitant house prices and rents?
- Need to inform community that there will be provision for land supply in the future when the LNG Precinct is constructed.
- Reduce panic so that buyers do not pay high prices for house/land.
- This message is built into land release.
- Infrastructure issues will be covered in the Infrastructure Assessment being completed by the Department of Planning.
- Issues relating to power supply and water supply remain critical issues.

Social Housing

- What social housing provision is being made? Main concerns include overcrowding in housing and in reserves. Some Indigenous people choose to camp as they feel safer than being in overcrowded houses.
- Current waiting list for social housing is five years.
- Concern that the attraction of workers to the LNG Precinct may result in the displacement of existing local residents.
- Social housing is not the same as entry level affordable housing. Social housing issues are related to government budgets for providing housing for people who can not afford to rent or buy at lowest level.
- The Indigenous benefits package includes an allocation of \$50 million for housing.
- There is a need to ensure that there is not too much social housing in any one area.
- A 'new living' project in Old Broome was suggested. This project could prevent the development of ghettos.
- Previous land releases included a percentage given to Indigenous Traditional Owners.
- Not only physical infrastructure is required but also service infrastructure such as access to mental health services.

Affordable Housing

- A significant concern is that if the LNG Precinct goes ahead, rental demand will increase and result in higher rents. New buildings could be owner-occupier or investor.
- Affordable housing needs to be addressed to make sure service providers can afford to rent.

- There is also a concern that benefits will not flow through to Broome. Affordable housing provided by not-for-profit agencies subsidise rentals from 30-70% of the market for workers. These people leave town after awhile because they “have had enough”.
- One idea is to build houses for businesses to house their workers.
- If the Government subsidises housing, funding for staff is going to housing resulting in less personnel being employed.
- There will be a large number of transient people working in construction that will need accommodation.
- An artificial rental market exists as government employees have subsidised housing. Many other renters can not compete in the market and leave the town.
- A high percentage of government workers come to Broome without family, however occupy family homes (mainly 4x2).
- The Kimberley has 450 GROH/GEHA leases, with over 300 of these in Broome. The Department of Housing and Works owns 90 of these.
- There is a high percentage of share houses in Broome, sometimes renters do not even have a bedroom. Average \$200 a week rent for occupants.

Waste Management Issues

- There will be waste management issues associated with an increase in population.
- There is low capacity for recycling.
- Waste management issues were discussed in detail at the DSD Infrastructure Workshop.

FIFO Workers

- There will not be an additional airstrip at the Precinct. Workers may be bussed to worker accommodation camps from the airport. These details are still being developed.
- Woodside generally uses commercial airlines and fully flexible fares (leaving discount fares available for others).
- Transport issues are still being worked through but charter flights, behavioural code of conduct issues are being considered.
- Woodside’s Pluto LNG Project has a portion of overseas workers. If overseas workers were employed at the Precinct, it may help support a Singapore service to/from Broome.
- The Pluto Project employed up to 10% of workers from Qld and 10% from NSW which may help a direct flight from Brisbane.

- Airport capacity can be managed if scheduling is right.

FIFO vs Residential Workforce

There are lessons learnt from the payment of allowances for FIFO or residential workers in other projects.

- In general, workers from Perth with high school age children prefer FIFO arrangements.
- Twelve-hour shifts can have detrimental effects on workers’ participation in community and voluntary activities.
- Woodside would have less control over contractors and the construction workforce.
- The core management team would be made up of Woodside employees and they will manage the contractors on site.
- Options for direct employees include some personnel receiving a relocation allowance when it is a requirement for them to live in town.
- FIFO employees may not be given a living away from home allowance if they choose to live in Broome.
- There is a potential tourism opportunity if controlled day tours are provided to plant workers on their days off.

Water Issues

- Water availability affects land release. Water issues were raised at the Infrastructure Workshop.
- Water runoff and drainage of recycling water will be discussed at the Broome North Workshop conducted by LandCorp.

Road Issues

- Transport to the Precinct including arterial road networks need to be considered.
- Upgrade of Broome Cape Léveque Road turn off to Manari Road. There are options to branch off. All upgrades and new roads to traverse to the Precinct site would be at Great Northern Highway specifications.
- Most materials to the Precinct would come via sea.
- The main impact on roads would be third party contractors, busses and occasional heavy haulage.

Supply Base Issues

- What noise impact would the supply base have on the community?
- The location and operation of the supply base has not yet been decided. Currently, the main focus is on the Precinct and its vicinity.
- James Price Point could be used for transporting materials to the site, taking pressure off Broome port.
- Woodside will also have traffic management plans to deal with issues.
- There is a supply base for the oil and gas industry regardless of whether the Precinct goes ahead or not.

Other issues

- There is a need for funding to be allocated to enhance Broome's commercial area. There are operators interested in relocating to Broome from Karratha.
- There could be issues if a fishing charter boat is relocated to the Dampier Peninsula and nearby islands, instead of Broome.
- Availability of broadband telecommunication in regional areas.

B4: Education and Training Workshop Kimberley Browse LNG Project

Social Impact Assessment Workshop: EDUCATION

WORKSHOP NOTES

Date: Tuesday 8 September 2009

Time: 11:30am – 5:00pm

Venue: Department of State Development -
Broome Office
Woody's Arcade, Dampier Terrace

Facilitator: Gary Simmons,
Kimberley LNG Project, DSD

Registration/Tea & Coffee 1130-1145

Welcome: Gary Simmons 1145-1200

Presentations 1200-1300

- KBLNG Project Summary
Gary Simmons
- Woodside – Proponent Perspective
Emma White
- KBLNG Social Impact Assessment
Andrea Jardine-Orr

Lunch 1300-1330

Presentations Continued 1330-1345

- DEEWR Education Presentation
Gary Powell

DISCUSSION 1345-1700

Department of Education, Employment and Workplace Relations (DEEWR) – “Closing the Gap”

Gary Powell gave a background to the “Closing the Gap” education activities undertaken by the Commonwealth Government. They intend working with the steering committee to develop a framework, an action plan as well as partnership agreement for infrastructure development in the Kimberley. A small taskforce has been engaged with the KLC to look at training and education opportunities on Browse Basin LNG developments. The overall goal of “Closing the Gap” is to maximise Indigenous employment opportunities

There was a general discussion about the need to develop Indigenous education and training opportunities. There are many constraints, as delivering education and training initiatives in the Kimberley is expensive and difficult. There is a need for a comprehensive review of existing service providers, the barriers to effective service delivery and what changes can be made. A workshop participant mentioned that the education and training funding formula needs reworking as it is weighted against remote areas. It was agreed by the workshop participants that a tailored approach should be developed for funding, curricula and the involvement of mentors. An example of trainers living in borrowed accommodation because the rent in Broome was beyond the limits of the funding was given. A further Kimberley-wide issue is the need for more localised training, such as training facilities on the Dampier Peninsula. The concept of a Trade School on the Dampier Peninsula was mooted.

Current Services and Constraints

Kimberley TAFE

Kimberley TAFE has good facilities but needs to strengthen its trade facilities. It has the capacity to increase its services as the land is owned by the Department of Environment and leased to TAFE. It does not have a facility on the Dampier Peninsula and a mobile caravan may fulfil the need on the peninsula. TAFE trainers deliver 440,000 hours a year to 100% capacity (50% in Broome) and would like to increase their core capacity. This expansion would need increased facilities and partnerships.

Across the State, the Department of Education and Training (DET) is constructing more buildings but the focus is on the South West, however, there is not a lot of space to fit new buildings. There needs to be more facilities in the Kimberley, but not necessarily buildings, for example mobile facilities could be used. DET is interested in expanding the use of mobile facilities. The Kimberley region has had quite a bit of expansion. DET believe it would be good to move away from conventional thinking - steer away from bricks and mortar until the delivery method is right. What Kimberley TAFE offers is quite constrained and the courses offered are trades-related or geared to male oriented professions. More than half of the TAFE students in the Kimberley are older than 24 years.

Accommodation for students is a concern, both students in the Kimberley and for students who go to Perth to learn. It was suggested that TAFE could provide support in this area as it has the capacity to expand its accommodation by a further 60 beds. However, DET can only put up a business case for things that are vested in the Minister for training and accommodation would fall outside this scope. DET would be happy to work with other groups and departments on this issue. Current facilities are for students aged 18 years or over but there is frequently a need to accommodate younger students.

The focus is currently on getting people job-ready but there are issues with accommodation and with limited places for trainees. An example was given of a second year electrician who can't get into a TAFE or a private Registered Training Organisation even though that person has accommodation. There are also problems with the bureaucratic process involved with enrolling in TAFE. In addition, there needs to be more support for people travelling long distances.

Partnerships may be the key moving forward. More research into where the partnerships may come from needs to occur and they don't have to come from WA based organisations. TAFE has just started a partnership with Charles Darwin University in the Northern Territory.

Notre Dame University

Notre Dame recently completed a review of its three campuses in Broome, Fremantle and Sydney and found that there is capacity to grow in all areas. The review found that there needs to be more seamless integration with the VET providers. Prof Lyn Henderson-Yates, the Deputy Vice Chancellor of Notre Dame University is creating a Centre for Indigenous Study, "Caring for Country", to promote excellence in Indigenous education and would like to grow its research capacity. Notre Dame wants to go into remote communities to get children to reengage with education.

The university's staff are working to capacity or beyond and they are short of both office space and teaching space and there is no large lecture theatre. The university would like to get out to communities but delivering programs off campus is problematic and there is no funding for that at the moment. Notre Dame is looking at mechanisms to deliver more programs from its Fremantle campus.

Kimberley Land Council

The KLC have employed a consultant to focus on education and training. At the time of the workshop, the KLC had been conducting scoping studies with the communities to look at both community and individual aspirations but had not yet reached a conclusion.

The KLC education and training initiative is looking at programs from preschool right through the education process that can have measured outcomes, for example, the VET in schools program. The KLC is looking at developing programs to address the needs of students in the lower end of high schools. The KLC has applied for funding to develop job readiness training. Higher education providers are interested in working in the Kimberley but more work needs to be done in this area and funding needs to be sought. The Commonwealth Government has only awarded 172 grants out of 3000 applications.

The KLC has prepared a draft 'Kimberley Group Training Document' that can be made available.

There needs to be a centralised place on the Dampier Peninsula in partnership with the State and industry, to give training in the support services for the gas industry. The trade school idea is supported by other industries. Work contracts are guaranteed by Woodside's Heads of Agreement deal. A vocation and skills audit needs to be conducted.

Kimberley Group Training

Kimberley Group Training is a not-for-profit training organisation. It has capacity to increase programs in the Kimberley but there are significant barriers such as the high case loads of trainers. One issue is that it needs to lease premises and can't expand because of limited infrastructure. Moving to smaller premises would allow field officers to better deliver the service. The concept of either TAFE or Notre Dame providing "incubator space" was raised.

Department of Indigenous Affairs

The DIA is limited by current funding issues. Commonwealth-State partnerships will give it more capacity to deliver education programs. One option is to start using a Woodside-sponsored apprenticeship scheme.

Department of Education, Employment and Workplace Relations (DEEWR)

DEEWR sees one of the key issues as retaining quality teaching staff. One of the areas that should be looked at is what is needed to sustain a good core of teachers. One suggestion would be to develop a national centre for excellence in remote teaching. One of the programs being delivered in the East Kimberley is an in-house teaching facility.

DEEWR also suggested that the school system doesn't have enough autonomy. Catholic and public schools in Broome don't have spare capacity. The need is so great we have to move away from a competitive environment to attract the right teachers to get school attendance rates higher.

B5: Health Workshop

Kimberley Browse LNG Project

Social Impact Assessment Workshop: HEALTH

WORKSHOP NOTES

Date: Wednesday 12 August 2009

Time: 8:45am – 4:30pm

Venue: Mangrove Hotel, Broome

Facilitator: Dianne Katscherian, Department of Health

Registration/Tea & Coffee 0845-0915

Welcome: Dianne Katscherian 0915-0930

Presentations 0930-1030

- KBLNG Project Summary
Gary Simmons
- Woodside: Proponent Perspective
Craig Gosselink
- KBLNG Social Impact Assessment
Andrea Jardine-Orr

Morning Tea Break 1030-1045

Part 1: Identifying Impacts 1045-1230

Lunch Break 1230-1330

Part 2: Risk Assessments 1330-1445

Afternoon Tea 1445-1500

Part 3: Risk Management 1500-1615

Where to Next and Close 1615-1630

Outcomes of Broome Health Workshop

Impacts on health from the Project

Aspect	Factor	Potential Impact	Mitigation	Comment
Discharge of CO ₂	Health	Attract mosquitoes and increase risk of mosquito borne disease	Appropriate draining to prevent water ponding, Mosquito monitoring and control programs. Carbon trading/carbon permits	
Discharge of greenhouse gases (CO ₂)	Climate and Health	Contribute to climate change impacts	CO ₂ capture and reinjection	
Wastewater storage and treatment	Health	Potential for mosquito breeding in water ponding, storage and treatment facilities	Appropriate design and management to prevent mosquito entry and breeding	
Construction of Precinct adjacent to suspected mosquito breeding sites	Health	Exposure of workforce to risk of mosquito borne disease	Create buffer zone around identified breeding zones, mosquito monitoring and management, appropriate fitting of insect mesh and repellent use by workforce	Extent of impact depends on final design and layout of Precinct infrastructure
Use, storage, transport and disposal of hazardous materials (fuel, chemical and waste)	Health	Exposure of workforce to hazardous materials and risk of hazmat spill	Proponent to train workforce on appropriate handling of hazardous materials, emergency response and ppe	Lack of clarity around Aust. Govt/State/Local govt. responsibility
Discharge of combustion products (NO _x , SO _x and CO)	Air quality	Exposure of workforce to air pollution	Ongoing air quality monitoring	
Clearing of vegetation and construction activities	Air quality	Release of dust into atmosphere	Preserve some vegetation as wind breaks, use dust control methods eg water tanks, hydromulch etc	
Development of Precinct on pristine land	Social cohesion	Increased tension and division in the community ie 'for' vs 'against' the Precinct		
FIFO construction workforce	Family stability	Increased potential for family disruption to family life, family breakdowns and disruption to care of dependents	Proponent to establish an employee assistance program to provide relationship awareness/education. Proponent to commit to an appropriate roster to reduce impact on families (eg 2 on, 1 off)	
Introduction of workforce and establishment of infrastructure in cyclone prone area	Community/worker safety	Exposure of workforce to cyclone risk	Worker accommodation village to be cyclone rated. Proponent to invest in emergency preparedness and provide training to staff	
Introduction of FIFO construction workforce to Kimberley	Health	Potential for worker heat stress	Proponent to develop policy on heat stress avoidance (focus on hydration, shade, hats, protective clothing) and hours of duty during summer and restrictions on work above agreed temperatures	Greatest risk may be for FIFO workers (non-locals) not accustomed to the climate. Monthly average day time temperatures are not less than 30 degrees C
Worker use of recreational/ environmental waters during work breaks	Health	Potential exposure to irukandji jellyfish and crocodiles	Proponent to educate workers on risks in the area and to invest in signage at known risk spots	

Outcomes of Broome Health Workshop

Impacts on health from the workforce

Aspect	Factor	Potential Impact	Inherent Risk	Mitigation	Comment
Influx of predominantly single, male FIFO construction workforce.	Health	Mixing of men with money with vulnerable women leading to increased rate of STIs	Low	Code of conduct for workforce and training/ education and development of recreational infrastructure at accommodation Village. Proponent to consider 'closed camp' during work breaks and to invest in a Recreational program of organised activities	Difficulty enforcing 'closed camp' for a construction workforce of 3500
Influx of single, male workforce on Broome on weekends/work breaks	Health	Increased demand for sex workers and sexual assault	Low	Code of Conduct and development of recreational infrastructure at accommodation Village. Proponent to consider 'closed camp' during work breaks and to invest in a Recreational program of organised activities	
Incursion of workforce on Broome on weekends/work breaks	Health	Increased drug and alcohol use related harm in community. May undermine benefits of alcohol restrictions with if workers are mobile	Low	Code of Conduct for workforce and training/ education and development of recreational infrastructure at accommodation Village. Proponent to consider 'closed camp' during work breaks and to invest in a Recreational program of organised activities. Dry camp policy. Regular, random drug and alcohol testing of workers	Note ban on sale of takeaway King Brown bottles of beer, 2L cask wine and full strength beer. Most Indigenous communities have prohibitions on alcohol, drugs and other deleterious substances. Workforce consumption of alcohol/ drugs should not lead to a rise in substance abuse in Indigenous communities
Influx of well paid workforce	Cost of living	Increased demand for limited goods/services including fresh produce may marginalise already disadvantaged groups	Medium	Proponent to train and recruit from local population including Indigenous communities where possible. Proponent to invest in joint venture with Indigenous communities to establish market gardens to sell fresh produce to the community	
Influx of workforce to Broome on weekends/work breaks	Sense of place	Increased road traffic and risk of traffic accidents	Medium	Proponent to commit to 'closed camp' for workers during work breaks	This may relate to worker access to vehicles on work breaks. Linkages with drug/alcohol use. Code of Conduct may have indirect benefits
Increase in population	Sense of place	Introduction of traffic lights etc to manage increased traffic	Medium	Proponent to engage with the community on appropriate traffic management. 'Closed camp' policy during work breaks may limit increase in traffic in Broome	
Influx of overseas workers on 457 visas	Health	Potential for quarantine breaches if health checks on incoming workers are inadequate	Major	Proponent to commit to thorough health checks of overseas workers employed on 457 visas	
Increased population and use of recreational and environmental waters	Water Quality	Potential for reduction in water quality with increased use by increased population, coupled with lack of sanitation facilities at isolated beach locations		Proponent to invest in sanitation facilities at popular recreational/environmental waters	Should Proponent provide organised recreational activities for construction workers during work breaks to ensure 'closed camp' (i.e. workers do not travel to Broome for recreation), funding to improve facilities at recreational locations may be appropriate

Outcomes of Broome Health Workshop

Impacts on health services and infrastructure

Aspect	Factor	Potential Impact	Inherent Risk	Mitigation	Comment
Influx of FIFO construction workforce and permanent operational workforce	Health services and infrastructure	Increased pressure on GPs, emergency departments, mental health, midwives, dentists, specialists	Major	Proponent establishment on-site clinic for workforce including GP, mental health (EAP), dental. Proponent investment in emergency dept. Health worker accommodation to be subsidised by DOH or additional tax incentives to help attract health workers	Note large construction workforce will be temporary. The permanent operational workforce will be much smaller 200-350?
Increased incidence of emergency events	Emergency services	Increased pressure on emergency response	Major	Proponent to invest in emergency services (fire, ambulance, SES, RFDS, airlift capacity) and to sponsor FTE volunteers in partnership with Fire, Ambulance	Current hospital bed ratio is 4.1 beds per 1000 population plus 10 private hospital beds. (SIA Scope and Profile Vol 1)
Competition for labour	Health services	Health workers leaving existing employment to work at Precinct leading to reduction in qualified health professionals	Medium	Proponent to limit the number/type of lures offered to attract staff	Risk of incidents will remain throughout life of operation
Influx of permanent operational workforce	Family support	Increased demand for child care and insufficient places to cater for growing population	Medium	Proponent to invest in local child care services	
Influx of permanent operational workforce	Housing	Increased demand for already unaffordable housing likely to marginalise disadvantaged groups, and increase in homelessness	Medium	Proponent to provide accommodation for the temporary construction workforce and invest in housing for the permanent operational workforce	
Increased number of tourists	Health services	Increased pressure on health services	Low		Housing and land shortages
Increase in population	Health services	Increased pressure on local government service delivery	Medium	Decision to be made about responsibility for environmental health management. Proponent to provide EH services to the Precinct	Query whether the Precinct will result in increased tourism to the area?
Increased air traffic through Lombadina and Broome airports	Noise/Sense of Place	Community exposed to increased noise levels from Broome and Lombadina airports and early morning/late evening flight times			

B6: Sense of Place Workshop

Kimberley Browse LNG Project

Social Impact Assessment Workshop: SENSE OF PLACE

WORKSHOP NOTES

Date: Thursday 10 September 2009

Time: 8:45am – 4:30pm

Venue: Department of Environment and
Conservation Conference Room,
111 Herbert Street, Broome

Facilitator: Ian Baxter

Registration/Tea & Coffee 0845-0915

Welcome: Ian Baxter 0915-0930

Presentations

- Terry Bailey (Commonwealth Department of Environment, Water, Heritage and the Arts)
- Peter Ciemitis (Roberts Day)
- KBLNG Project Summary
Gary Simmons
- Woodside – Proponent Perspective
Alec Cumming
- KBLNG Social Impact Assessment
Dr Andrea Jardine-Orr

Workshop Sessions

- 1: Identifying Broome's Sense of Place
- 2: Identifying the Impacts of a LNG Precinct on the Sense of Place of Broome

DISCUSSION: Maintaining Broome's Sense of Place

Outcomes from the Sense of Place Workshop are provided in the facilitator's report, as follows:

1. Introduction

The Sense of Place Workshop held on 10 September in Broome was attended by about 30 people representing the State Departments of Planning; Transport; and Indigenous Affairs; Shire of Broome; Tourism WA; Broome Chamber of Commerce; the KLC; the Commonwealth Department of Environment, Water, Heritage and the Arts; Magabala Books, Arts and Culture; Kimberley Aboriginal Medical Services Council; the Broome Historical Society; and a number of long-term residents and business owners in Broome.

In addition to those who attended, a number of other organisations were invited but were unable to attend. These included the local Member of the Legislative Council and the Member of the Legislative Assembly; Tourism NorthWest; Catholic Diocese; Broome Visitors Centre; Yawuru PBC; Broome Turf Club; Kimberley Aboriginal Law and Culture Centre; Lingiari Foundation; Pearl Producers Association; and a number of long-time Broome residents, local identities and Business owners.

The workshop was facilitated by Ian Baxter and was structured around a series of presentations to establish the concept of a "Sense of Place", with additional input from Woodside and the Department of State Development (DSD) on the likely nature of activities resulting from the operation of the proposed KLNG Precinct and a brief presentation from DSD on the SIA process.

The facilitator commenced proceedings by welcoming participants and outlining the purpose of the workshop and the format for the day.

2. Workshop Objectives

- Identify what is meant by Sense of Place and how this applies to Broome.
- Identify any potential positive and negative impacts on Broome's Sense of Place that may arise from the development.
- Identify the level of potential risk to Broome's unique character from the project.
- Ascertain any gaps in the SIA scope and profile.

3. Presentations

3.1. Presentation: Terry Bailey

Terry Bailey, Assistant Secretary of the Natural and Indigenous Heritage Branch (Federal Government Department of the Environment, Water, Heritage and the Arts), began the day's formal presentations.

Since July 2008, Terry has been responsible for the preparation of natural and Indigenous World Heritage nominations, assessment of natural and Indigenous places for the National Heritage List (NHL), and the management of Australia's natural and Indigenous World and National Heritage properties.

Terry provided us with a background to the Kimberley National Heritage assessment, an explanation of national Heritage Criteria and gave a summary of the preliminary historic heritage findings for the area. Terry explained the reasons for undertaking the assessments and how they relate to the establishment of a LNG Precinct to process the proposed Browse Basin gas off the Kimberley coast.

The key points of his presentation were as follows:-

- A standard national heritage list assessment is being conducted by the National Heritage Council. They are looking for heritage values within an area of 22.5 million hectares. It started in 2008 and is due to conclude by June 2010.

- A criterion can have heritage value if it has natural, indigenous, historic or other heritage value.
- Nine criteria cover events, process, rarity, research potential, aesthetics, technical achievement, significant people, social value and places that are important as part of Indigenous tradition.
- The threshold for inclusion on the NHL is high, the place must be significant.
- Assessment is done through comparative analysis - how does it compare with other similar places, where is the best representation, what is its integrity and authenticity?
- Comparative analysis is across the entire continent, so being important locally is not sufficient.
- For the Kimberley, inspirational landscapes methodology is being used, which means it needs to have outstanding beauty associated with it. There are about six areas of high aesthetic value in the Kimberley, including Windjana Gorge, Geike Gorge, King George Falls, Mitchell River NP, King Leopold Ranges Park.
- In a national comparative analysis other considerations will include:
 - o European explorers - Sir John and Alexander Forrest, William Dampier landing at Karrakatta Bay
 - o Military activities - WWII at Kalumburu
 - o Pastoralism - droving cattle, Derby Warf, Broome Meatworks - but these stories are also strong in the East Kimberley so may not be of national importance
 - o European pearling industry - stories around use of Indigenous labour, exemption of White Australia policy.

3.2. Presentation: Peter Ciemitis

The second presenter was Peter Ciemitis. Peter is Senior Associate with one of Australia's leading urban design practices, Roberts-Day. Peter is an award winning designer and planner, practicing for almost 30 years, and producing plans and strategies for a broad range of places ranging from major suburban communities, town centres, and waterfronts, and is currently producing the plan for Broome North. He has considerable expertise in the complex field of "Sense of Place".

Peter talked about the measures of Sense of Place in a world, environmental and local context. He applied this theory to Broome quoting its long Indigenous history, its historical, geographic and economic connections with Asia. He outlined the relevance of the Transect model and how it can be used to plan new communities in sympathy with their physical surroundings.

Key points of his presentation were as follows:

- The term, "Sense of Place" was first coined by Prof George Seddon in his book in 1972 "A Sense of Place", it is now used to talk about a connection to place.

Measures of Place:

- Sense of Place in the world
- Sense of Place in the environment
- Response to local place

A Place in the World

Considerations are Broome's:

- Long Indigenous history (stories and significance)
- Historical, economic and geographical links with Asia
- Tourism 'hot spot' (both high and low end)
- Distance from supplies of goods and resources, raising costs and leading to a life of austerity and simplicity.

A Sense of Place in the Environment

- Pindan country, big wind, gentle breezes
- Rich ecology
- Big Open (to be in the CBD and see wide open spaces in the distance)
- Big Wet, Big Dry
- Indigenous plants as well as echoes of an exotic, tropical past
- Drainage to accommodate large amounts of water - this breaks up the urban environment, creates needed space
- Ecological links, cultural links
- Walking environment
- Buildings - austere materials (others too expensive to transport), simplified architecture, cyclone hardening, houses designed for the place, brings an informality

Response to Local Place

- Use of transect in nature. A way to understand that when you move through the land, things change, the soil, the amount of rainfall, the vegetation, fauna as you move through different transects
- Apply similar logic to the design and layout of communities. Look at how communities move through a natural condition, to bush environments to suburban areas to the centre of the city

- Settlements should respond to the human form, be 'walk able', have a discernable edge
- Bush living - need to have community spaces and roads that are more informal Buildings should respond to the environmental condition and be set back from the roads
- Suburban living - i.e., Cable Beach, Old Broome. Community spaces need to be usable by a lot of people, more ordered. Roads have footpaths, more shade. Buildings are closer to the roads.
- Town living - community spaces are central places
- Sense of place influenced by past, current and future stories, by respect for environmental conditions, by both local and global uniqueness, by the way we respond to the detail of place making

3.3. Presentation: Gary Simmons

Gary Simmons, Director of Project Support, Department of State Development. Gary has been involved in the Kimberley Development Taskforce since 2007. He provided a briefing on the LNG Precinct project and approvals process. Gary explained the consultation process being followed by government and outlined the proposed impact assessment methodologies to be used.

Gary advised that they would be able to identify any issues of concern and gaps in information related to Sense of Place through this process. A process of ongoing consultation would also be established and the outcomes from this workshop would be made available to participants.

3.4. Presentation: Alec Cumming

Alec Cumming from Woodside is currently a member of the Browse Basin LNG Development Leadership Team in Woodside. He outlined Woodside's role in the Browse Basin development and the volume of gas that could be expected to be extracted from the reserves. He also outlined the advantages and disadvantages of processing the gas at two alternative sites being James Price Point or at the Burrup.

He presented a preliminary concept plan of how an LNG Plant would look if constructed at James Price Point, the area of land and sea required including the buffer zones and how the gas would be piped to the Precinct.

Alec advised that employment for their project would be between 2500-3500 during the construction phase, reducing to 200-400 during operations. There would be a mix of residential and Fly-in/Fly-out (FIFO) personnel.

He stated that Woodside were committed to working with government and other agencies to increase the capacity of local businesses and local people, they are committed to Indigenous education and training and employment and to local business development.

3.5. Presentation: Dr Andrea Jardine-Orr

Dr Andrea Jardine-Orr is the coordinator of the Social Impact Assessment and currently works for the Department of State Development while on secondment from the Department of Planning.

Andrea outlined the purpose of a Social Impact Assessment (SIA) process and described the spatial boundaries of the impact assessment. The SIA's primary impact area includes the immediate Precinct area and the urban area of Broome. The secondary impact area includes the Dampier Peninsula, Derby and Bidjadanga.

Andrea outlined some of the key issues that would be considered as part of the study, including the impact on services and infrastructure resulting from the expected increase in population due to the LNG Precinct development.

Key points of her presentation are as follows:

SIA is a process to anticipate and manage change. The Strategic SIA of the Precinct is considering four potential development scenarios for the Precinct over time.

The process followed included –the iterative stages of Scoping, Profiling, Projection, Mitigation and Management, Monitoring

- DSD has released the first of three SIA volumes, the Scope and Profile and is working on assessing the impacts.
- SIA structure - SIA includes four specialist studies: Infrastructure; Tourism IA; Fisheries, Pearling, Aquaculture IA; ASIA.
- The whole process will be peer reviewed by Dr Nick Taylor (IAIA), with Dr Mark Fenton responsible for the social management plan.
- Preliminary key issues include - population increase (from Precinct and supply base), changes to Sense of Place, business impacts
- Using Precinct development scenarios over time:
- No development within 20 years
- Low - 15 Mtpa over 15 years
- Medium - 25 Mtpa over 25 years
- High - 50 Mtpa over 30 years - The Precinct area is designed for the high scenario.
- Broome is growing fast with or without this project - KLNG population projection scenario:
- Medium development – assuming 10% construction workforce in Broome and 50% of operational workforces will see the population grow from c.17,000 in 2011 to 30,000 in 2030 (however, eminent demographer Bernard Salt recently estimated that Broome could be 100,000 by mid century).

4. Workshop Sessions

Workshop sessions were informal sessions where participants were asked to form groups of four to five people and to discuss the concept of 'a Sense of Place'. Groups then reported back to the larger group with a summary of the key points raised during discussions. These key points were captured on a white board at the front of the room by the facilitator. The facilitator introduced this session with a brief power point presentation of images reflecting how others saw Broome from an external perspective.

4.1. Workshop Session 1: Identifying Broome's Sense of Place

The facilitator explained that the purpose of this session was to:

Establish the workshop participants' views of what is meant by Broome's Sense of Place....participants will be asked to reflect on what makes Broome what it is today. What draws people to it, why people enjoy living, working and recreating here and what values are important to them?

4.1.1. Summary of values considered important by participants:

- Diversity of industry and culture
- Buildings that respect the environment, are simple, functional, and use local materials
- Unique cultural influences, the cosmopolitan 'feel' of the place, multicultural heritage
- Non industrial feel
- Sense of pristine, wilderness - inspiring, artistic and readily accessible
- Uninhabited landscape
- Outdoor living, connectedness to nature and the natural cycles
- Isolation of Broome, from other big centres
- Indigenous achievements and pride from non-indigenous people of the achievements
- Impact of the Catholic Church on Indigenous people
- The climate has a strong influence as do the distance from any other large centres and the fact it is on its own, maintains its laid back style
- Going to Cable Beach every day, the climate, friendly people, no racial tension
- It has still got a laid back style, 'Broome Time'
- There isn't really a "Broome" person, people come here to be a Broome person
- Retention of the close proximity of the airport ...is a favourable quirk of living in Broome.

Participants also identified a number of concerns/issues that needed managing to preserve the Sense of Place of Broome and these are included in the summary of Workshop Session 2.

4.2. Workshop Session 2: Identifying the impacts of an LNG Precinct at James Price Point on the Sense of Place of Broome

Participants were again asked to operate in groups of six to eight people with a leader to present findings and to document and present their findings after 20 minutes. The facilitator explained the purpose of this session as follows:

The aim here is to identify both the positive and negative issues attributable to the establishment of the LNG Precinct on the Sense of Place values that you have documented in Session 1 and then consider how any negative impacts might be eliminated or ameliorated.

Participants tended not to discriminate between the establishment of a Precinct and the growth and changes associated with the Precinct and the natural growth that has already occurred and is expected to continue due to tourism and other development.

4.2.1. Summary of issues presented:

- A lack of forward planning during recent growth periods to cope with change in demand.
- Transient nature of Broome's population and scarcity of skilled people to undertake seasonal jobs.
- Concerned about the risks of sex, drugs etc and the potential moral shift in the town of a large FIFO workforce. *Woodside response..... Due to closed nature of the camps, not sure workers will impact Sense of Place. Long term operational workers will integrate more into the community, also camp site would be fully contained with recreational facilities, entertainment etc. They will not have free rein into town.*
- Protecting and respecting Indigenous culture, Indigenous seasons, indigenous flora and fauna.
- Broome lacks any arts facilities, function centres, or museums to preserve and promote culture and the arts.
- Need for more volunteers and sponsorship for the arts (growth could positively impact this).
- Need more support for festivals and art events which currently struggle.
- Growth can lead to a loss of the friendly community feel of the place (high growth rate over the last 15 years).
- Small rate payer base and high demands.

- Wage discrepancy leads to disharmony.
- How do you manage human capital within the built environment? Who creates the Sense of Place?
- The issue here today is that the sense of Broome has been dissipated over a period of time. We need to ensure that this doesn't continue with more growth.
- There could be a problem with planes landing so near the town and the potential increases in flights? *No one has a problem with the jets but people are complaining about the light aircraft and the helicopter noise (disagreement over this issue - apparently the people have been polled over the noise issue and none raised it as a problem).*
- Possible impacts on the airport with tourists sharing planes with workers impacting on the welcoming Sense of Place of Broome. *Woodside response: May just put on charter flights for workers. Also may be a protocol for workers travelling, in terms of behaviour.*
- Need to consider issues of supply base workers who will be based in Broome. There are consequential impacts of this. Increased activity with a supply base installation in Broome could cause loss of amenity. *Woodside response: Not many people realise that there are 300 people employed by the Port of Broome and supply base, and they are not visible.*
- There is one issue related to this Precinct and a separate issue related to the industrialisation of Broome, especially around the support industries needed. *Woodside response: Many of these industries are already here. We are not going to be building up heavy industry in Broome. Goods will merely be trafficked through Broome from other places. Limited increase during drilling phase.*
- Workers with families are less of a risk that single workers operating on a FIFO basis. *Woodside response: Alec explained that most of the construction workforce would be FIFO, however there would be a large number of permanent workforce as well.*
- Concern about pollution in the water around the port and impacts on bird and fish life. *Woodside response: LNG powered tankers will avoid spill problems though conventional tugs will probably be used and will need to refill.*
- Impacts on whales. *Woodside response: Ship movements during their initial project should not be more than a boat a day. We have done a lot of research on whales and will be using this research in project planning.*
- Communications from government. There needs to be integrity and openness to establish goodwill.

- Why hasn't there been better delivery of information to the communities, using local media, TV stations? *Gary explained how the community had been engaged to date and that a higher level of communication would occur once it was clear in which direction the project was going.*
- What will be the visual impact of the LNG Precinct development? *Woodside response: Visual issues have tried to minimise impacts as far as possible.*

5. Maintaining the “Sense of Place” of Broome – Key Points

- Built form and landscape - there are some planning instruments that can be built into guidelines. There should be design guidelines to maintain Broome's Sense of Place in the architecture - maybe need a “Sense of Place Vision” that can feed into all of the other guidelines (note that the Shire maintains control of development in Chinatown through its Chinatown Development Policy, this area is also subject to approvals from the Heritage Council of WA).
- Can use planning instruments to achieve these outcomes, for example, projects should have a community art component built in as a requirement.
- In the global arts industry WA arts doesn't really feature, apart from Indigenous art, most of which comes from this region. Broome is the hot spot of Indigenous art. Art competitions could be established similar in scale to the Cossack Art Awards program. Subsidised transport of works must be included.
- Need investment in local training to ensure job benefits are realised and don't just go to FIFO or external workers.
- Community health and wellbeing is measured by the health of its arts. Growth of Broome needs to provide opportunity for expression of social and cultural interests. Need to keep building infrastructure for culture and the arts - sport and recreation have a more, well established infrastructure (see note above relative to cultural facilities).
- Maximise permanent workforce based in Broome and minimise FIFO workforce.
- Protect and respect Indigenous culture.
- Growth can lead to a loss of the friendly, small community feel.
- Need to protect the old families of Broome, as the cultural gate keepers. They should be brought into more decision making roles?

- The sense of Broome has been dissipated over a period of time. We need to ensure that this doesn't continue with more growth. Need to establish the Sense of Place that has been lost due to recent growth and strengthen what is left.
- Affordability, wage disparity needs to be addressed to ensure human values are retained.
- Minimise noise interference from helicopter traffic and review airport management of FIFO workforce.
- Ensure any increased traffic resulting from Supply Base, if located in Broome, is isolated from residential areas. Need to be careful that ancillary industries are put far away, i.e., inland
- Ensure all environmental issues related to marine activities are properly addressed.
- Minimise visual impact of LNG Precinct on landscape.

6. Broome 2030

Participants were asked to reflect on what Broome would be like in 2030 and what characteristics would endure through the growth period if adequately addressed in future planning.

- A living multi-cultural community reinforced by facilities, funding and recognition of Indigenous culture. Recognition of "cultural guardians".
- Interpretation/celebration of its history and culture through art/planning documents.
- The climate and its distance from other major centres of population should ensure that much of Broome's character is retained.
- Broome's size and geographical configuration will limit development to North Broome and therefore assist in retaining its physical character.
- Future development will mean that people are further from the beach but Cable Beach will still be a major drawcard.
- It will still have a laid back style - 'Broome Time'

7. Synopsis

7.1. Concept of Sense of Place

Participants expressed a good understanding of what makes Broome what it is, perhaps summarised as follows:

"Broome is a town with grit! It has industry but it is not over bearing. Its geographical configuration between the Sea and the Bay is unique. The rich red of the Pindan and aquamarine colours of the water provide a stunning contrast of colours. It has a unique and changing character between the Sea and the Bay as dictated by the tidal variances. It has a uniquely cosmopolitan mix of peoples with good racial harmony. It has a pleasant warm tropical climate, wonderful beaches and laid back lifestyle. Its remoteness from other major centres

reinforces the independence and integrity of the local community."

When considering the impact of new industry on Sense of Place, the starting point is Broome today, not Broome of yesteryear. Broome today is a thriving town primarily dependent on the tourism industry but with an underlying industry based on pearling and pastoral activities and to a lesser extent oil and gas.

7.2. Impact of a Kimberley LNG Precinct development

Participants were given a comprehensive briefing of the likely impacts from a population perspective, the nature of the workforce that would be initially involved in the construction stage of the gas development and subsequently when the plant is fully operational.

This was placed in context with the growth of Broome over a number of years to date and the likely growth patterns over the next 20-30 years irrespective of whether the Precinct went ahead or not.

Interestingly, few participants saw growth as a threat that couldn't be managed, including due to a proposed LNG plant, more that it was inevitable. However, they did foresee some issues that would need to be addressed to avoid the Karratha/Port Hedland scenarios where the physical and social impact of industry was more obvious. It was noted, however, that the location of the primary industry at James Price Point, some 60kms north of Broome, is a major point of difference in the two scenarios.

The increase in activity related to a Supply Base based in Broome with associated increases in air traffic, particularly helicopters, has potential to have more impact on the ambience of Broome. Woodside, however, pointed out that currently the Browse Basin was being serviced by the Supply Depot in Broome and that they couldn't foresee any significant increase in traffic with the LNG Precinct construction and operational phases.

Management of spills resulting from increased use of the Port facilities was a concern.

Residents seem quite accustomed to the regularity of air traffic due to the close proximity of the current airport to the town. In fact this is often mentioned in favourable terms as one of the idiosyncrasies that make Broome different to other towns.

Participants identified a number of issues that needed to be addressed related primarily to the unprecedented growth in the region over the last 10-15 years in particular. Many of these issues relate to inadequate infrastructure that includes education, hospital and transport facilities, to name a few, that are outside the scope of this report but will be addressed in the overall SIA evaluation.

There are, however, some aspects that do have an impact on Sense of Place that should be recognised as having potential to maintain or even strengthen the characteristics of Broome, that define Sense of Place from a community perspective.

For instance, a compelling argument was put forward to enhance the cultural/performance infrastructure in Broome, to capitalise on the talent that already exists particularly within the Indigenous and multicultural population. Broome is seen as a centre for Indigenous art that is under resourced and would benefit from an increase in investment.

The cost of housing and accommodation in Broome is already quite high and can be anticipated to rise further with the establishment of the LNG Precinct over and above the growth in tourism.

This has implications for some disadvantaged groups and those in service industries. Increased demand could also lead to the redevelopment of many areas of the old town as land supply is exhausted. Maintaining the traditional Sense of Place epitomised by the characteristic Broome architecture is seen as an important goal in the future development of the town.

Planning controls were seen as fundamental to maintaining a Sense of Place in Broome, yet it was felt that there was no overall vision for the place. Planning documents such as the Chinatown Development Strategy should be reviewed in the light of the current growth predictions and the aspirations of the community to conserve this piece of Broome's history and its Sense of Place.

It should be noted, however, that there has already been much work carried out. The "Report of the Broome Planning Steering Committee December 2005" addresses many of these issues and should provide broad direction in this context.

8. Conclusion

The facilitator summarised the main issues from the workshop and invited participants to make any last comments. There were none, the facilitator then thanked all present for their contribution to the proceedings and reminded participants of the further opportunity, that would be made available to the community in the following week, for more comment and that the outcome of the workshop would be made available by DSD.

Annexure C: Community Updates

The following advertisements were placed in the Broome Advertiser on the following dates:

Community Update 1 – 23 July 2009

Community Update 2 – 6 August 2009

Community Update 3 – 20 August 2009

Community Update 4 – 3 September 2009

Community Update 5 – 17 September 2009

Community Update 6 – 1 October 2009

Community Update 7 – 15 October 2009

Community Update 8 – 29 October 2009

Community Update 9 – 12 November 2009

Community Update 10 – 26 November 2009

Community Update 11 – 10 December 2009

Community Update 12 – 17 December 2009

Government of Western Australia
Department of State Development

COMMUNITY UPDATE

Kimberley LNG precinct

The Western Australian Government supports development of a Liquefied Natural Gas (LNG) precinct near James Price Point to process offshore gas reserves from the Browse Basin.

The LNG precinct is expected to operate for at least 30 years, generating investment, business and employment, and creating unprecedented opportunities in West Kimberley communities, particularly for Aboriginal people.

Development of the LNG precinct is still subject to Federal and State assessment of potential environmental, heritage and social impacts and evaluation by industry of the economic viability of constructing and operating LNG processing plants at this location.

What is happening now?

The Department of State Development is co-ordinating investigations into the viability of the proposed precinct and its potential impacts on the environment and on Aboriginal heritage.

It is also conducting a Social Impact Assessment (SIA), to understand possible impacts of the project on local people, their lifestyles and local industries.

What is a social impact assessment?

The process involves an assessment of the current situation in Broome and the Dampier Peninsula, including current and future trends in population, employment, housing, community facilities and services and estimating the impact the proposed project could have on these.

This work will help in developing a social impact management plan to gain real benefits for Broome and the communities of the Dampier Peninsula by managing the changes and taking advantage of opportunities that are a direct result of the LNG precinct project.

Is there community involvement?

The social impact assessment is being discussed with the Shire of Broome, local business and community organisations, the tourism and fishing industries and government service providers.

This includes workshops covering topics such as health, infrastructure, recreation, housing, and sense of place/heritage.

Wider community consultation is part of the social impact assessment and management planning process and opportunities for involvement will be advertised soon.

Where can I find out more?


Fact sheets outlining the Government's role in the project are available at the Shire of Broome Administration Centre.

Studies and reports of consultation undertaken will be published on the Department of State Development website.

For more information visit
www.dsd.wa.gov.au/KimberleyLNG

Government of Western Australia
Department of State Development

COMMUNITY UPDATE



Some of the participants at the Social Impact Assessment workshop for recreation and lifestyle with Executive Director Kimberley LNG project Duncan Ord (centre) included: Broome Fishing Club President, Steve McLaughlin; Aussie Hoops Coordinator Broome Basketball, Jodie Lynch; Broome Surf Club President, John McCourt; and Regional Director, Education, Bill Mann.

Kimberley LNG precinct

Social Impact Assessment workshops underway

Recreation and lifestyle was the topic of the first in a series of community workshops held in Broome recently as part of the State Government's Social Impact Assessment on the possible impacts of the proposed Kimberley LNG Precinct.

Service providers and interest groups were invited to hear presentations from the Department of State Development and Woodside Petroleum and then participate in a group discussion.

Steve McLaughlin, President of the Broome Fishing Club said the workshop was excellent.

"The Government has gone about it the right way," he said.

"We have got to look after the fish stocks and it is great to have the opportunity to present our perspective on such a major issue."

"The benefits to the fishing club could be huge which will be a great help to our community."

Other workshops covering health, housing and land, infrastructure and sense of place/heritage are being held during August and September.

How can I get involved?

Interested people and organisations will soon be invited to register to participate in consultation activities being planned for September – details will be advertised in the next Community Update and online at www.dsd.wa.gov.au

The Shire of Broome is also organising a public forum.

More information

Find out more about the Kimberley LNG Precinct Social Impact Assessment at the Department of State Development website.

A Social Impact Assessment – Scope and Profile will be available soon at www.dsd.wa.gov.au/KimberleyLNG


It provides information about the population, economy and community services in Broome, the Dampier Peninsula and the Kimberley generally, including population growth projections. It also details the scale of potential LNG related activity and outlines the Social Impact Assessment process.

Fact sheets about the project are available at the Shire of Broome Administration Centre.

For more information visit
www.dsd.wa.gov.au/KimberleyLNG

Government of Western Australia
Department of State Development

COMMUNITY UPDATE



Participants at the SIA infrastructure workshop were Gary Simmons, Department of State Development; Kelvin Barr, Kimberley Development Commission; Sean Mulhall, Port of Broome; Terry Williams, Narrogin; Inve Seba, Department of Planning; and Garryl Butcher, Shire of Broome.

Kimberley LNG precinct

Housing and health on the agenda

Social Impact Assessment (SIA) workshops involving housing and land, and health providers were recently held in Broome to look at how the development of an LNG precinct might impact the town and the surrounding areas.

"We are committed to working to minimise any social impacts an LNG development may have," Gary Simmons from the Department of State Development said.

"While we have done a lot of preliminary research, these workshops are designed to capture any gaps or issues that haven't been included."

Further workshops on education and sense of place/heritage will be held next month.

Wider community involvement

An open community forum will be held from 2pm to 6pm on Thursday, 17 September at the Department of State Development's office, upstairs, Woody's Arcade, 15 Dampier Terrace, Broome. The forum will provide an opportunity for people to ask questions and find out more information about the project.

The Department will also present at the Shire Forum planned for 18 and 19 September. There will be an opportunity to provide input and feedback at both forums.

For more information email nick.hopkins@dsd.wa.gov.au or phone Nick on 9222 0963.

Tourism study complete

As part of the Social Impact Assessment, a Tourism Impact Assessment, undertaken by Broome-based Kadar Pearson and Partners (KPP), has been completed.

This study looked at a variety of accommodation, land based tours, aerial scenic flights, tourist-focused retail, Indigenous cultural experiences and marine based tourism and how they might be impacted by the development of an LNG Precinct.

It also looked at the potential impacts and benefits to the tourism and hospitality workforce and accommodation, tourism products, including flights, tours and experiences, as well as to Broome's and the Kimberley's sense of place. The report will soon be released by Tourism WA.

More information


Find out more about the Kimberley LNG Precinct Social Impact Assessment at the Department of State Development website www.dsd.wa.gov.au/KimberleyLNG.

The Social Impact Assessment scope and profile document and project fact sheets are now available online. Fact sheets are also available at the Shire of Broome Administration Centre.

For more information visit
www.dsd.wa.gov.au/KimberleyLNG

Government of Western Australia
Department of State Development

COMMUNITY UPDATE



A series of community workshops is being held as part of the Social Impact Assessment.

Kimberley Browse LNG precinct

Community Open Day, 17 September

The Broome community will have the opportunity to find out more about the proposed Kimberley Browse LNG precinct at a community open day on Thursday, 17 September.

The open day will feature presentations that were given at the recent Department of State Development Social Impact Assessment workshops.

There will be an opportunity to provide input and to talk to Department representatives about the project and the Social Impact Assessment. Representatives from Tourism WA, Department of Planning and Department of Fisheries will also be available to answer questions.

The open day will be an informal 'drop-in' event and you can visit whenever you like from 2pm to 6pm. Everyone is welcome and tea and coffee will be available.

When and where?

Community Open Day, Thursday, 17 September from 2pm to 6pm
Department of State Development
Woody's Arcade, (upstairs) 15 Dampier Terrace, Broome

If you can't make it to the open day, the Department will also host a display at the Shire Forum at the Broome Recreation and Aquatic Centre on Friday 18 and Saturday 19 September and will give a presentation on Saturday between 11:30am and 12:30pm. For more information email nick.hopkins@dsd.wa.gov.au or phone Nick on 9222 0963.

Education and Sense of Place/Heritage workshops

Workshops involving stakeholders in Education and Sense of Place/Heritage will be held next week. These workshops conclude the current round of community consultation involving service providers.

"The input we have received from the participants has been extremely valuable," Social Impact Assessment Coordinator Andrea Jardine-Orr said.

"It will help us identify any gaps in the process and the information will be integrated into the overall management plan."

Did you know...

Even without the LNG development, trends indicate continued growth in population in Broome well above the State average – from 14,706 in 2006 (pre-census) to 22,100 in 2021 and to 26,800 in 2031.

Read more about this and other interesting local research in the Social Impact Assessment Scope and Profile report at www.dsd.wa.gov.au/KimberleyLNG

More information


Find out more about the Kimberley Browse LNG Precinct Social Impact Assessment at www.dsd.wa.gov.au/KimberleyLNG

The Social Impact Assessment Scope and Profile report and project fact sheets are now available online. Fact sheets are also available at the Shire of Broome Administration Centre.

For more information visit
www.dsd.wa.gov.au/KimberleyLNG

Government of Western Australia
Department of State Development

COMMUNITY UPDATE



Education workshop participants included Traditional Owner negotiating committee members Anthony Watson and Wayne Barker; the Department of State Development's Gary Simmons; Simone Wardle, Kimberley Group Training; Marree Gail, KLC and Ian Perdrisat, Majala.

Kimberley Browse LNG precinct

Service provider workshops complete
Workshops for local service providers to have input into the Social Impact Assessment wrapped up last week. The final sessions focused on Education and Sense of Place.
"We'd like to thank all stakeholders who participated in the workshops for sharing their valuable local knowledge," Project Director Gary Simmons said.
"Their input will be pivotal to the development of a management strategy for the precinct to protect the integrity of Broome and Dampier Peninsula and to maximise the potential benefits the project will bring to the community."

Have your say at the community open day
The Broome community now has the opportunity to provide input into the Social Impact Assessment process.
A community open day on Thursday 17 September is being hosted by the Department of State Development with representatives from the Departments of Planning, Fisheries and Tourism WA. The open day format was chosen to allow as many people as possible to have the opportunity to participate.
As well as having your say, you will be able to ask questions and find out more about the proposed Kimberley Browse LNG Precinct and watch the presentations that were given at the recent service provider workshops.
The open day is an informal, "drop-in" event and you can visit whenever you like from 2pm to 6pm. Everyone is welcome and tea and coffee will be available.

When and where?
Department of State Development
Woody's Arcade, (upstairs) 15 Dampier Terrace, Broome
For more information email nick.hopkins@dsd.wa.gov.au or phone Nick on 9222 0963. If you miss the open day, the Department will also have representatives available at the Shire Forum at the Broome Recreation and Aquatic Centre on Friday 18 and Saturday 19 September. Presentations will be made on Saturday between 10:30am and 12:30pm.


Tourism Impact Assessment report now available
A Tourism Impact Assessment, commissioned by Tourism WA as part of the Social Impact Assessment, is now available online. The study surveyed industry stakeholders, visitors and resident groups asking a range of questions including: whether tourism and development can co-exist; what benefits could development bring; and how an LNG development would influence their plans to return to Broome. To find out more go to www.dsd.wa.gov.au/KimberleyLNG

More information
Find out more about the Kimberley Browse LNG Precinct at the Department of State Development website www.dsd.wa.gov.au/KimberleyLNG. Fact sheets are available online and at the Shire of Broome Administration Centre.

For more information visit
www.dsd.wa.gov.au/KimberleyLNG

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COMMUNITY UPDATE



Participants at the recent Sense of Place workshop (above) included Mike Windle, Broome Chamber of Commerce; Neil Marshall, Department of Indigenous Affairs; Ross Star, Broome Historical Society; Peter Biber, Department of Transport; Kimberley Regional Manager and Councillor Chris Maher.

Kimberley Browse LNG precinct

Community open day
A recent community open day, held at the Department of State Development office in Broome, provided an opportunity for local people to voice their opinion on the Kimberley Browse LNG precinct. Members of the Department's Kimberley Browse LNG project team, Woodside representatives and other government agencies, including Tourism WA, Fisheries and Planning, were on hand to answer questions and provide information.
Recorded presentations from the service provider workshops played during the open day and were designed to provide continuous information to allow as many people as possible to participate.
"The open day was held in the interests of open and honest communication," Project Director Gary Simmons said.
"We'd like to thank all the local community members who took the time to attend and participate."
"People were able to have their questions answered directly, provide feedback, or ask for written responses."

Shire Forum
The Department was pleased to participate, along with other interest groups, in a community forum hosted by the Shire of Broome. A presentation was given and presenters were available to answer questions and provide information to the general community.
"We will continue to consult with the Broome community and with specific interest groups, as we work together to achieve a project that will be positive for Broome, for communities on the Dampier Peninsula and for Western Australia," Acting Deputy Director General Gail McGowan said.

What's next?
A Strategic Assessment will be undertaken by an independent contractor. The Strategic Assessment will involve reviewing technical and scientific studies carried out by the WA Government and Woodside Energy Limited and a risk assessment of building the LNG precinct at James Price Point – the information gathered will be presented in a written report.
The WA Government will soon announce the successful contractor for the coordination of the Strategic Assessment Report. Part of the contract includes further opportunities for the local community to provide input into the assessment process.

More information
Find out more about the Kimberley Browse LNG precinct at the Department of State Development website www.dsd.wa.gov.au/KimberleyLNG
Fact sheets on the project, presentations given at the Social Impact Assessment workshops, the Social Impact Assessment Scope and Profile report and the Tourism Impact Assessment report are all available on the website. Fact sheets are also available at the Shire of Broome Administration Centre.

For more information visit
www.dsd.wa.gov.au/KimberleyLNG

Government of Western Australia
Department of State Development

COMMUNITY UPDATE



Negotiations on an Indigenous Land Use Agreement are continuing between the State Government and Traditional Owners.

Kimberley Browse LNG precinct

Agreement paves way forward

A preliminary development agreement for the Kimberley Browse LNG precinct was signed between the State Government and Woodside Energy Limited at the beginning of October.

The agreement will allow key studies and planning for an LNG processing precinct for Browse Basin gas at James Price Point to progress.

As part of the agreement, Woodside was appointed as a foundation commercial proponent for the precinct and as a partner with the State Government in bringing the project to completion.

"The agreement marks an important step forward in the development of the Kimberley Browse LNG precinct," Acting Deputy Director General Gail McGowan said.

"This work will move us closer to delivering major benefits for the Kimberley and the local community, with the project to create hundreds of long-term jobs and millions of investment dollars."

Over coming months, several near and on-shore studies will take place to gather information needed to obtain environmental, heritage and other approvals.

Kimberley LNG video

A video on the proposed Kimberley LNG precinct is now available to view on-line by following the link from the department's website www.dsd.wa.gov.au/KimberleyLNG

Featuring interviews from local community members, Traditional Owners and government representatives, it focuses on some of the potential impacts of the LNG precinct on areas such as the environment, tourism and local employment, as well as the benefits to be gained by the local community and future generations.

What's next?

Negotiations on an Indigenous Land Use Agreement are continuing between the State Government and the Kimberley Land Council, representing the Traditional Owners.

Development of the LNG precinct will be based on agreements made with the Traditional Owners to protect Aboriginal heritage and cultural interests at the site while identifying benefits for Aboriginal people if the precinct is developed.

The State Government has contracted an environmental consultancy, AECOM, to coordinate the draft Strategic Assessment Report.

The report will enable the precinct site and proposal to be fully assessed by State and Federal regulatory authorities.

More information


Find out more about the Kimberley Browse LNG precinct at the Department of State Development website www.dsd.wa.gov.au/KimberleyLNG

Fact sheets on the project are available online and at the Shire of Broome Administration Centre.

For more information visit
www.dsd.wa.gov.au/KimberleyLNG

Government of Western Australia
Department of State Development

COMMUNITY UPDATE



Kimberley Browse LNG precinct

What's happening now?

Environmental studies by AECOM-Stratagen, contracted by the State Government, and Woodside Energy Limited are underway around the proposed site near James Price Point, 60km north of Broome, and will continue until early next year. The studies will help evaluate the environmental impact of developing the LNG precinct, as part of a Strategic Assessment Report for State and Federal Government agencies.

Negotiations are also continuing with the Kimberley Land Council representing Traditional Owners of land around the location.

Did you know?

- The Kimberley Browse LNG precinct will enable processing of natural gas from the offshore Browse Basin, which so far has proven reserves of 34.6 trillion cubic feet of gas.
- LNG processing 'trains' are not railway transport, but refrigeration plants used to cool natural gas to -162°C, condensing it into a liquid for easier transport and storage.
- The proposed precinct is being developed to cater for at least two LNG producers, but will not be available for other processing industries.
- The precinct will enable Western Australian and local people and businesses to benefit from Browse Basin gas while minimising environmental impacts, by keeping processing at one location on the Kimberley coast.

What's next?

The draft Strategic Assessment Report is expected to be provided for presentation to State and Federal environmental agencies early in 2010.

The report will include information on environmental, economic and social impacts. Very high standards will apply and the project must demonstrate that impacts can be managed. The report will be released for public comment before an approval decision is made.

More information

Find out more about the Kimberley Browse LNG precinct at the Department of State Development website www.dsd.wa.gov.au/KimberleyLNG

Fact sheets on the project are available online and at the Shire of Broome Administration Centre.

For more information visit
www.dsd.wa.gov.au/KimberleyLNG

Government of Western Australia
Department of State Development

COMMUNITY UPDATE



Kimberley Browse LNG precinct

What's happening now?
Flora and fauna studies are being carried out by consultants from AECOM-Stratagen around the proposed precinct site near James Price Point. The company has been engaged by the State Government to prepare a Strategic Assessment Report for State and Federal Government agencies.

"Our project partners are working closely together to meet the project timelines and objectives and get the best possible outcome for the people of Broome and the Dampier Peninsula," Gail McGowan from the Department of State Development said.

"The government recognises the significant environmental and heritage values as well as the economic potential of the region. The strategic assessment process is all about managing the development responsibly."

WorleyParsons Services Pty Ltd has been contracted to prepare a site Master Plan which will also form part of the strategic assessment. Negotiations between Traditional Owners, the State Government and Woodside Energy Limited are also continuing with the aim of reaching agreement on key aspects of the development by mid December 2009.

Did you know?

- A range of benefits have been committed by government and industry to reduce the gap between Indigenous and non-Indigenous communities on the Dampier Peninsula. This includes commitments to real jobs and real training opportunities.
- The State Government has confirmed the precinct will be exclusively for the production of LNG. There will be no development of a broad industrial complex.
- Consultation between Traditional Owners and government is about achieving longstanding sustainable outcomes for Indigenous communities.
- You can view a video about the Kimberley Browse LNG precinct online at <http://www.premier.wa.gov.au/Ministers/Colin-Barnett/Pages/video.aspx> or collect your own DVD copy from the Shire of Broome.

What's next?
More environmental studies will be carried out in November and December 2009 in line with the requirements of the strategic assessment. Further community consultation will form part of the strategic assessment report and details will be released in the coming weeks.

A Master Plan for the precinct is being developed in concert with the Dampier Peninsula Land Use Plan and Local Planning Scheme.

More information
Find out more about the Kimberley Browse LNG precinct at the Department of State Development website www.dsd.wa.gov.au/KimberleyLNG

Fact sheets on the project are available online and at the Shire of Broome Administration Centre.

For more information visit
www.dsd.wa.gov.au/KimberleyLNG

Government of Western Australia
Department of State Development

COMMUNITY UPDATE



Department of State Development officers will be available to answer questions on the Kimberley Browse LNG precinct at Paspaley Plaza on December 4 and 5.

Kimberley Browse LNG precinct

Information pack
As part of the ongoing discussions between the State Government and Traditional Owners, an information pack has been developed with plans as well as questions and answers.

"One of the purposes of the information pack is to assist the Traditional Owners and their families in making decisions about the location of the final site of the LNG precinct in the vicinity of James Price Point," Gail McGowan, Department of State Development said.

The information pack will soon be available to the wider community on the Department of State Development's website.

Did you know?

- The Woodside Browse Joint Venture is planning to develop its Torosa, Brecknock, and Calliance gas fields which are located some 400km north-west of Broome.
- The estimated total undeveloped recoverable reserves of these gas fields is 18 trillion cubic feet of gas and 300 million barrels of condensate.
- A near shore geophysical survey is currently being done in order to collect data, which will describe the surface and sub-surface of the seabed off the coast of James Price Point.
- James Price Point is currently unallocated Crown land which has a Native Title claim over it by the Goolaraboodoo Jabirr Jabirr native title claimants.
- The State Government has committed to only taking land that is required for the precinct, when it is needed, without extinguishing Native Title in the process.

Community display at Paspaley Plaza
The Department of State Development will have a community display at the Paspaley Plaza Shopping Centre on Friday 4 December and Saturday 5 December.

Everyone is welcome to come along and find out more about the Kimberley Browse LNG precinct and the current status of the Social Impact Assessment for Broome and the Dampier Peninsula.

Team members will be at the display from 10am to 6pm on Friday and from 9am to 1pm on Saturday.

Where can I get more information?
Find out more about the Kimberley Browse LNG precinct at the Department of State Development website www.dsd.wa.gov.au/KimberleyLNG. You can also view a video and fact sheets about the precinct on the website. Fact sheets and copies of the DVD are also available from the Shire of Broome Administration Centre.

For more information visit
www.dsd.wa.gov.au/KimberleyLNG

Government of Western Australia
Department of State Development

COMMUNITY UPDATE



A number of surveys, including a coastal shoreline survey, are being done near James Price Point.

Browse LNG precinct

Survey activity
A number of surveys are being carried out by Woodside Energy Limited, as the potential foundation proponent of the Browse LNG development, near James Price Point.

A coastal shoreline survey will collect information on beach profiles and coastal sediments. As part of the survey, research teams will also take transect walks along the coast during low tides. A temporary meteorological station has been installed south of James Price Point to collect data on atmospheric conditions including wind, air temperature, rain and humidity.

A near shore marine biodiversity survey program is also underway. It includes a range of field studies on marine biodiversity in near shore waters of the James Price Point coastal area. The final two program activities include turtle field surveys and a near shore study of the plants and animals that live on the seafloor and their habitat.

Precinct Negotiations
A key focus of the Kimberley Land Council and its Traditional Owner Negotiation Committee has been education, training and employment initiatives to help people prepare for employment opportunities the project will generate. Woodside and the State have given specific commitments to apprenticeships, traineeships and cadetships commencing from early 2010.

A separate working group will also look at Indigenous economic participation opportunities that will arise from social housing initiatives in the Kimberley.

What's next?
A Master Plan for the precinct, port and associated infrastructure should be finalised by the end of 2009.

Finalisation of the draft Strategic Assessment Report for the Browse LNG Precinct is on track to be completed by early 2010 and published once the Environmental Protection Authority has considered the draft.


The State Government is aiming to have a decision on the Strategic Assessment Report and Management Plan by late 2010. Woodside Energy Limited estimates a Final Investment Decision may be as early as 2011.

Where can I get more information?
Fact Sheet 6 "Browse LNG Precinct – Public Information Booklet", which includes frequently asked questions and answers, is now available on the Department of State Development website and at the Broome Shire Council. You can also view a video and fact sheets about the precinct on the website www.dsd.wa.gov.au/BrowseLNG. Fact sheets and copies of the DVD are also available from the Shire of Broome Administration Centre.

For more information visit
www.dsd.wa.gov.au/BrowseLNG

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Information sessions were held locally in early December, with more to follow in the New Year.

Browse LNG precinct

Site agreed for Browse LNG processing precinct
Following extensive consultation with Traditional Owners and consideration of heritage, technical and environmental data, an area just south of James Price Point has been identified as the exact location for the proposed Browse LNG precinct.

The southern site has been chosen because:

- deeper water near the coast will substantially reduce the amount and costs of dredging and blasting required
- impacts on seagrass and other marine habitats will be more manageable
- the land is flatter than the alternative site in the north, reducing the visual impact of the site from the ocean
- impacts on registered Aboriginal heritage sites could be managed.

Heritage Protection Agreement
The State Government, the KLC representing the Traditional Owners and Woodside Energy Limited have negotiated a Heritage Protection Agreement for the Browse LNG precinct project.

The agreement establishes a process for the:

- identification, protection and management of Aboriginal sites on the lands within the LNG precinct
- parties to work together to identify the precise layout of the LNG precinct in order to avoid impacts on heritage where possible
- the State and Woodside to seek necessary approvals to achieve heritage clearances for purposes related to the development of the LNG precinct.

Community consultation
Earlier this month the Department of State Development set up an information display for two days at Paspaley Plaza. The team was kept busy answering questions and providing the latest information to the people of Broome on both days. More information sessions are planned for early in the New Year at the Broome Boulevard Shopping Centre.

Where can I get more information?
Fact sheet 6 which includes a map of the precinct site, an information booklet that includes frequently asked questions and answers, and a DVD on the precinct are available on the Department of State Development website www.dsd.wa.gov.au/BrowseLNG. Copies of all fact sheets and the DVD are also available at the Shire of Broome Administration Centre.

For more information visit
www.dsd.wa.gov.au/BrowseLNG

APPENDICES

- Appendix 1: Tourism Impact Assessment
- Appendix 2: Fishing, Pearling and Aquaculture Impact Assessment
- Appendix 3: Infrastructure Assessment

Available at: www.dsd.wa.gov.au/BrowseLNG

13 REFERENCES

- Australian Broadcasting Authority 2009 *Domestic violence, criminal assault 'not treated equally'* available from <<http://www.abc.net.au/news/stories/2009/06/05/2590606.htm>> [27 November 2009].
- Access Economics 2004, *The Cost of Domestic Violence to the Australian Economy*, Australian Government, Canberra 2004.
- Anthony J 2007, Housing Issues in Broome; a Shelter WA Discussion Paper 2007, Shelter WA.
- Big Island Research 2009, *Fishing Industry Impact Study*; Prepared for the Department of Fisheries, Western Australia, Fisheries Occasional Publication No.78, 2010
- Bromfield, L. and Irenyi, M. (National Child Protection Clearinghouse) 2009, *Child Abuse and Neglect Statistics*, Australian Institute of Family Studies, Melbourne.
- Chamber of Minerals and Energy 2005, *Fly In/Fly Out: A Sustainability Perspective*, available from: <<http://www.cmewa.com.au/UserFiles/File/Publications%20-%20Human%20Resources/FIFO%20Report.pdf>> [25 June 2009]. Chevron Australian 2009 Economic Benefits available at <<http://www.chevronaustralia.com/ourbusinesses/gorgon/economicbenefits.aspx>> [21 October 2009].
- Creating Communities 2009, *Broome North, Social Context Paper* LandCorp September 2009
- Department of Child Protection 2009, *Annual Report 2008-2009*, Western Australian Government, Perth.
- Department of Corrective Services 2009, *West Kimberley Prison*, available from: http://www.correctiveservices.wa.gov.au/W/west_kimberley_prison.aspx [18 November 2009].
- Department of Corrective Services 2008, *West Kimberley Regional Prison Project Fact Sheet*, available from: <http://www.correctiveservices.wa.gov.au/_files/Adult_Custodial/West_Kimberley_Regional_Prison_FAQ.pdf> [1 December 2009].
- Department of Fisheries 2005, *State of the Fisheries Report*, "North Coast BioRegion" 2004-2005
- Department of Fisheries 2008a, *Farming Trochus*, <http://www.fish.wa.gov.au/docs/aqwa/Trochus/index.php> (last accessed March 2008).
- Department of Fisheries 2008b, *State of the Fisheries Report 2007/08*, <http://www.fish.wa.gov.au/docs/sof/2007/sof2007-2008-full.pdf> (last accessed November 2009)

- Department for Planning and Infrastructure 2009, available from: <<http://www.dpi.wa.gov.au/>> [30 April 2009].
- Department of State Development 2009, Kimberley Browse Strategic Social Impact Assessment: Volume 1: Scope and Profile, <http://www.dsd.wa.gov.au/7901.aspx>
- Ferrante, A.M., Fernandez, J.A. & Loh, N.S.N. 2001, *Crime and Justice Statistics For Western Australia: 2000*, Crime Research Centre, The University of Western Australia, Perth.
- Johnson, P. 2001 An Input-Output Table for the Kimberley Region of Western Australia, University of Western Australia, Perth
- KPP Business Development 2009, Tourism Impact Assessment – Kimberley Liquefied Natural Gas (LNG) Project, Tourism Western Australia
- Kimberley Development Commission 2009, Kimberley Development Commission- *A Kimberley Snapshot, 2009*, available from: <<http://www.kdc.wa.gov.au/documents/kdc/KDC>>
- Lievore, D. Australian Institute of Criminology 2003, *Non-reporting and Hidden Recording of Sexual Assault: An International Literature Review*, Office of the Status of Women, Department of Prime Minister and Cabinet, Australian Government, Canberra.
- Nancarrow, H, Lockie, S, Sharma S, 2009 *Intimate Partner Abuse of Women in a Central Queensland Mining Region*, Trends and Issues in Crime and Criminal Justice (No. 378), Australian Institute of Criminology, Canberra.
- O'Brien W, 2008, Problem Sexual Behaviour in Children: A Review of the Literature, Australian Crime Commission, Canberra.
- Planning WA 2009, *Pilbara Regional Profile*, Department of Planning and Infrastructure, West Australian Government 2009.
- Ralph, N., Hamaguchi, K., & Murray, R. 2003, True words - real life: A study of the social and emotional wellbeing of young people in the Kimberley. Plain language report on the preliminary findings. Kimberley Aboriginal Medical Services Council, Broome.
- Shire of Broome, 2009, *Shire of Broome* website, <http://www.broome.wa.gov.au/>
- Taylor, J 2004, *Aboriginal Population Profiles for Development Planning in the Northern East Kimberley*, Centre for Aboriginal Economic Policy Research: Australian National University, Canberra, Research Monograph No. 23.
- Tually, Z. Faulkner D. Cutler, C. and Slatter, M, (Flinders Institute for Housing, Urban and Regional Research, Flinders University) 2008 *Women, Domestic and Family Violence and Homelessness: A Synthesis Report*, Office for Women, Department of Families, Communities, Housing and Indigenous Affairs, Australian Government, Canberra.
- URS, 2009, *Santos GLNG Social Impact Statement Final Report* prepared for Santos Ltd. (http://www.glng.com.au/library/EIS/Appendices/Z_Social%20Impact%20Assessment%20FINAL%20PUBLIC.pdf)
- Western Australian Country Health Service 2008, *Kimberley Clinical Services Plan*, Aurora Projects, August 2008.
- Western Australian Planning Commission (WAPC), 2003, *Onslow Structure Plan*, West Australian Government.
- Worley Parsons 2005, *Onslow Strategic Industrial Area Expansion Study* Department of Industry and Resources, West Australian Government.
- Zubrick SR, Silburn SR, De Maio JA, Shepherd C, Griffin JA, Dalby RB, Mitrou FG, Lawrence DM, Hayward C, Pearson G, Milroy H, Milroy J, Cox A. The Western Australian Aboriginal Child Health Survey: Improving the Educational Experiences of Aboriginal Children and Young People. Perth: Curtin University of Technology and Telethon Institute for Child Health Research, 2006
- Zubrick SR, Silburn SR, Lawrence DM, Mitrou FG, Dalby RB, Blair EM, Griffin J, Milroy H, De Maio JA, Cox A, Li J. The Western Australian Aboriginal Child Health Survey: The Social and Emotional Wellbeing of Aboriginal Children and Young People. Perth: Curtin University of Technology and Telethon Institute for Child Health Research, 2005
- Zubrick SR, Lawrence DM, Silburn SR, Blair E, Milroy H, Wilkes T, Eades S, D'Antoine H, Read A, Ishiguchi P, Doyle S. The Western Australian Aboriginal Child Health Survey: The Health of Aboriginal Children and Young People. Perth: Telethon Institute for Child Health Research, 2004.

Number of Dwellings Required for New Employees (Direct, Indirect and Opportunistic) Resident in Broome

Year	Scenario 1				Scenario 2				Scenario 3A				Scenario 3B				Scenario 4			
	CAPEX	OPEX	TOTAL	MAXLag	CAPEX	OPEX	TOTAL	MAXLag	CAPEX	OPEX	TOTAL	MAXLag	CAPEX	OPEX	TOTAL	MAXLag	CAPEX	OPEX	TOTAL	MAXLag
2011	1	0	1	-14	1	0	1	-71	1	0	1	-155	1	0	1	-176	1	0	1	-231
2012	2	0	2	-13	5	0	5	-66	5	0	5	-151	5	0	5	-171	5	0	5	-227
2013	3	0	3	-12	21	0	21	-51	21	0	21	-135	21	0	21	-156	21	0	21	-212
2014	4	0	4	-12	51	0	51	-21	51	0	51	-105	51	0	51	-126	51	0	51	-181
2015	7	0	7	-9	35	0	35	-37	35	0	35	-121	38	0	38	-138	35	0	35	-197
2016	14	0	14	-2	25	0	25	-47	25	0	25	-131	30	0	30	-147	26	0	26	-206
2017	5	0	5	-10	15	5	20	-52	15	5	20	-136	22	5	27	-150	18	5	23	-209
2018	2	1	3	-13	2	5	7	-65	2	5	7	-149	22	5	27	-150	7	5	12	-220
2019	1	1	2	-14	5	5	10	-62	6	5	11	-145	44	5	49	-128	13	5	18	-214
2020	1	1	2	-14	24	5	29	-43	18	5	23	-133	31	9	41	-136	38	9	47	-185
2021	2	6	8	-7	12	42	55	-17	18	42	60	-96	18	80	98	-79	64	80	144	-88
2022	1	6	8	-8	22	39	62	-10	43	39	83	-74	52	77	129	-48	74	77	151	-81
2023	2	6	8	-7	14	41	55	-17	23	41	64	-92	21	78	100	-77	60	78	139	-94
2024	1	6	8	-8	4	41	45	-27	12	41	53	-104	6	78	84	-93	25	78	104	-129
2025	9	6	15	0	2	41	42	-29	3	44	47	-109	9	82	90	-86	9	82	91	-142
2026	3	6	10	6	13	45	58	-14	20	49	68	-88	47	86	133	-44	59	86	145	-87
2027	1	6	8	8	7	41	48	-24	39	44	83	-73	14	82	95	-81	64	82	146	-87
2028	1	6	7	8	5	41	45	-27	12	44	56	-100	17	82	99	-78	27	82	109	-124
2029	0	6	6	9	11	41	51	-20	11	47	58	-98	59	85	143	-34	59	88	147	-86
2030	0	6	6	9	0	41	41	-31	2	47	49	-107	7	85	92	-85	21	88	109	-123
2031	0	10	10	6	4	68	72	0	4	78	82	-74	14	134	148	-29	84	139	223	-9
2032	0	10	10	6	3	61	65	7	25	71	95	-61	50	127	177	0	24	137	160	-72
2033	1	10	10	5	1	61	62	10	85	71	156	0	43	127	170	7	9	137	145	-87
2034	0	10	10	6	0	61	61	11	12	71	83	73	5	127	133	44	21	137	158	-75
2035	0	10	10	6	0	61	61	11	0	76	76	81	3	132	135	42	91	142	232	0
2036	0	10	10	6	2	68	70	2	2	83	85	71	2	139	141	36	16	153	169	63
2037	0	10	10	6	3	61	65	7	3	76	79	77	3	132	135	41	16	146	163	70
2038	0	10	10	6	1	61	62	10	5	76	81	75	1	132	133	44	21	146	168	64
2039	0	10	10	6	0	61	61	11	0	76	76	81	0	132	132	45	50	146	196	36
2040	0	10	10	6	0	61	61	11	2	76	78	78	3	132	135	42	17	146	163	69
2041	0	10	10	6	0	61	61	11	2	76	76	81	0	132	132	45	0	146	146	86

This table indicates the number of dwellings required to house all new employees (direct, indirect and opportunistic) who will become residents of Broome. MAXLag shows the efficiency and surplus of dwellings for employees against a peak in housing demand.

Figure 9 Number of new residential dwellings required in Broome for the direct and indirect construction and operational workforces (Low Case) EBC (2010)

Number of Dwellings Required for New Employees (Direct, Indirect and Opportunistic) Resident in Broome

Year	Scenario 1				Scenario 2				Scenario 3A				Scenario 3B				Scenario 4			
	CAPEX	OPEX	TOTAL	MAXLag	CAPEX	OPEX	TOTAL	MAXLag	CAPEX	OPEX	TOTAL	MAXLag	CAPEX	OPEX	TOTAL	MAXLag	CAPEX	OPEX	TOTAL	MAXLag
2011	7	0	7	-67	5	0	5	-268	5	0	5	-626	5	0	5	-645	5	0	5	-884
2012	11	0	11	-62	26	0	26	-247	26	0	26	-605	26	0	26	-625	26	0	26	-864
2013	15	0	15	-59	96	0	96	-177	96	0	96	-535	96	0	96	-554	96	0	96	-793
2014	17	0	17	-57	238	0	238	-35	238	0	238	-393	238	0	238	-413	238	0	238	-652
2015	32	0	32	-42	163	0	163	-110	163	0	163	-468	179	0	179	-471	163	0	163	-726
2016	63	0	63	-10	118	0	118	-155	118	0	118	-513	141	0	141	-510	123	0	123	-767
2017	24	0	24	-50	68	34	102	-171	68	34	102	-529	101	34	135	-515	84	34	118	-771
2018	9	5	14	-60	9	34	43	-230	9	34	43	-588	101	34	135	-515	31	34	65	-824
2019	5	5	10	-63	25	31	56	-217	29	31	60	-571	207	31	238	-412	62	31	93	-796
2020	5	5	10	-63	114	31	145	-128	84	31	115	-516	146	62	208	-442	177	62	239	-651
2021	8	24	33	-41	68	162	230	-43	97	162	260	-371	99	307	406	-244	349	307	656	-234
2022	7	24	31	-42	121	152	273	0	234	152	386	-245	282	296	578	-73	405	296	701	-189
2023	10	24	34	-40	79	157	235	37	126	157	282	-349	117	301	418	-233	328	301	629	-260
2024	7	24	31	-42	22	157	179	94	64	157	221	-410	30	301	331	-319	138	301	439	-450
2025	49	24	73	0	9	157	166	107	16	169	185	-446	48	313	362	-289	50	313	364	-526
2026	19	24	43	30	68	175	243	30	107	187	295	-336	253	331	585	-66	322	331	653	-236
2027	7	24	31	42	40	157	197	76	214	169	383	-248	75	313	389	-262	349	313	663	-227
2028	4	24	29	45	25	157	182	91	67	169	236	-395	94	313	407	-243	148	313	461	-428
2029	0	24	24	49	58	157	215	58	58	181	239	-392	318	326	644	-6	320	338	658	-232
2030	0	24	24	49	0	157	157	116	11	181	192	-439	40	326	366	-284	116	338	454	-435
2031	0	31	31	42	17	225	242	31	20	256	277	-354	63	442	505	-145	392	458	850	-39
2032	0	31	31	42	16	201	217	55	114	233	347	-284	232	419	650	0	111	451	561	-328
2033	4	31	35	38	4	201	205	67	398	233	631	0	199	419	618	32	40	451	491	-399
2034	0	31	31	42	0	201	201	71	56	233	289	342	26	419	444	206	98	451	549	-341
2035	0	31	31	42	0	201	201	71	0	249	249	382	12	435	447	204	423	466	889	0
2036	0	31	31	42	10	225	235	38	10	272	282	349	10	458	468	182	73	506	579	311
2037	0	31	31	42	16	201	217	55	16	249	265	366	16	435	451	200	75	482	557	332
2038	0	31	31	42	4	201	205	67	24	249	273	358	4	435	439	212	100	482	582	307
2039	0	31	31	42	0	201	201	71	0	249	249	382	0	435	435	216	233	482	715	174
2040	0	31	31	42	0	201	201	71	10	249	259	372	12	435	447	204	78	482	560	329
2041	0	31	31	42	0	201	201	71	0	249	249	382	0	435	435	216	0	482	482	407

This table indicates the number of dwellings required to house all new employees (direct, indirect and opportunistic) who will become residents of Broome. MAXLag shows the deficiency and surplus of dwellings for employees against a peak in housing demand.

Figure 10 Number of new residential dwellings required in Broome for the direct and indirect construction and operational workforces (Medium Case) EBC (2010)

Number of Dwellings Required for New Employees (Direct, Indirect and Opportunistic) Resident in Broome

Year	Scenario 1					Scenario 2					Scenario 3A					Scenario 3B					Scenario 4				
	CAPEX	OPEX	TOTAL	MAXLag		CAPEX	OPEX	TOTAL	MAXLag		CAPEX	OPEX	TOTAL	MAXLag		CAPEX	OPEX	TOTAL	MAXLag		CAPEX	OPEX	TOTAL	MAXLag	
2011	16	0	16	-153		12	0	12	-617		12	0	12	-1454		12	0	12	-1472		12	0	12	-2015	
2012	28	0	28	-142		62	0	62	-567		62	0	62	-1404		62	0	62	-1422		62	0	62	-1965	
2013	36	0	36	-134		234	0	234	-395		234	0	234	-1232		234	0	234	-1250		234	0	234	-1793	
2014	41	0	41	-129		577	0	577	-51		577	0	577	-889		577	0	577	-907		577	0	577	-1450	
2015	77	0	77	-93		396	0	396	-233		396	0	396	-1070		435	0	435	-1049		396	0	396	-1631	
2016	153	0	153	-16		287	0	287	-342		287	0	287	-1179		341	0	341	-1143		298	0	298	-1730	
2017	57	0	57	-112		165	73	238	-390		165	73	238	-1228		245	73	319	-1165		204	73	277	-1750	
2018	21	11	32	-137		21	73	94	-534		21	73	94	-1372		246	73	319	-1165		75	73	149	-1879	
2019	12	11	23	-147		61	66	128	-501		70	66	136	-1330		503	66	570	-914		151	66	217	-1810	
2020	12	11	23	-147		242	66	308	-320		205	66	271	-1195		356	133	488	-996		429	133	562	-1465	
2021	19	56	75	-94		157	373	530	-99		225	373	598	-868		230	705	934	-550		807	705	1,511	-516	
2022	16	56	72	-98		281	348	629	0		542	348	890	-576		652	680	1,331	-153		936	680	1,616	-412	
2023	22	56	78	-91		182	360	542	87		291	360	651	-815		270	691	961	-523		758	691	1,450	-577	
2024	16	56	72	-98		52	360	411	217		149	360	509	-957		69	691	761	-723		319	691	1,010	-1017	
2025	113	56	170	0		21	360	381	248		38	388	426	-1040		111	720	831	-653		116	720	836	-1191	
2026	44	56	100	70		158	401	559	70		248	430	678	-788		585	761	1,347	-137		744	761	1,506	-521	
2027	16	56	72	98		92	360	452	177		495	388	883	-583		174	720	894	-590		808	720	1,528	-499	
2028	10	56	66	103		58	360	418	211		155	388	543	-923		217	720	937	-548		341	720	1,061	-966	
2029	0	56	56	113		134	360	494	135		134	417	551	-916		736	748	1,484	0		740	776	1,516	-511	
2030	0	56	56	113		0	360	360	269		25	417	442	-1025		93	748	841	643		268	776	1,045	-983	
2031	0	67	67	102		42	482	523	105		49	550	599	-867		153	948	1,101	383		953	982	1,934	-93	
2032	0	67	67	102		39	432	471	158		277	500	777	-689		563	898	1,460	24		268	966	1,234	-793	
2033	10	67	77	93		10	432	442	187		966	500	1,466	0		484	898	1,382	102		97	966	1,063	-964	
2034	0	67	67	102		0	432	432	197		137	500	636	830		62	898	960	524		239	966	1,204	-823	
2035	0	67	67	102		0	432	432	197		0	534	534	932		29	932	961	523		1,027	1,000	2,027	0	
2036	0	67	67	102		24	482	506	123		24	584	608	858		24	982	1,006	478		178	1,084	1,261	766	
2037	0	67	67	102		39	432	471	158		39	534	573	893		39	932	971	514		183	1,034	1,216	811	
2038	0	67	67	102		10	432	442	187		58	534	592	874		10	932	941	543		243	1,034	1,277	750	
2039	0	67	67	102		0	432	432	197		0	534	534	932		0	932	932	552		566	1,034	1,600	427	
2040	0	67	67	102		0	432	432	197		24	534	558	908		29	932	961	523		189	1,034	1,223	804	
2041	0	67	67	102		0	432	432	197		0	534	534	932		0	932	932	552		0	1,034	1,034	993	

This table indicates the number of dwellings required to house all new employees (direct, indirect and opportunistic) who will become residents of Broome
MAXLag shows the deficiency and surplus of dwellings for employees against a peak in housing demand.

Figure 11 Number of new residential dwellings required in Broome for the direct and indirect construction and operational workforces (High Case) EBC (2010)

ISSUES OF MOST CONCERN TO THE PUBLIC	NUMBER OF RESPONSES	
The capacity of health services	23	56%
Potential changes to Broome's unique character or 'sense of place'	22	54%
Potential impacts to tourism	19	46%
Access to recreational areas near the Precinct	18	44%
Indigenous issues	18	44%
Potential impacts to recreational fishing	18	44%
The availability of housing, including affordable housing	18	44%
The capacity of existing town utilities	18	44%
Potential impacts to commercial fishing and pearling	15	37%
The capacity of education services	14	34%
The capacity of the police and the justice system	14	34%
Others (please specify)	26	63%
• Indigenous/heritage issues		
• Community infrastructure		
• Education and training		
• Concern for 'sense of place'/community		

Table 3. Questionnaire results from the Paspaley Plaza Shopping Centre Information Session

ISSUES OF MOST CONCERN TO THE PUBLIC	NUMBER OF RESPONSES	
Potential changes to Broome's unique character or 'sense of place'	34	64%
The availability of housing, including affordable housing	34	64%
The capacity of existing town utilities	34	64%
The capacity of health services	34	64%
Access to recreational areas near the Precinct	29	55%
Indigenous issues	28	53%
Potential impacts to recreational fishing	25	47%
Potential impacts to tourism	22	42%
The capacity of the police and the justice system	22	42%
Potential impacts to commercial fishing and pearling	21	40%
The capacity of education services	21	40%
Others (please specify)	33	62%
• Indigenous/heritage issues		
• Community infrastructure		
• Education and training		
• Concern for 'sense of place'/community		

Table 4. Questionnaire results from the Boulevard Shopping Centre Information Session

DRAFT

ISSUES OF MOST CONCERN TO THE PUBLIC:	COMMUNITY CONSULTATION DAYS	
	TOTALS: 165 people surveyed over the combined three community consultation events.	
	Total number of people who thought this was an issue	Total percentage of people who thought this was an issue
Potential changes to Broome's unique character or 'sense of place'	117	71%
The capacity of health services	112	68%
The availability of housing, including affordable housing	110	67%
Others	109	66%
Access to recreational areas near the Precinct	102	62%
The capacity of existing town utilities	102	62%
Indigenous issues	101	61%
Potential impacts to tourism	90	55%
Potential impacts to recreational fishing	87	53%
Potential impacts to commercial fishing and pearling	81	49%
The capacity of education services	80	48%
The capacity of the police and the justice system	77	47%

Table 5. Questionnaire results from the Broome Open Day Session, Paspaley Plaza and Broome Boulevard Shopping Centre

Annexure A

Browse LNG Strategic Social Impact Assessment Stakeholder Consultation Plan (Updated 14 June 2010)

1. Introduction

The Browse LNG (BLNG) process provides for the establishment of an LNG Precinct for the onshore processing of gas from the Browse Basin. The strategic Social Impact Assessment (SIA) considers the potential social impact of the Precinct under four potential development scenarios and forms a component of the Strategic Assessment for State and Commonwealth approval.

This document provides an overall plan for the community consultation for the strategic SIA of the Precinct. Further project specific SIAs, including community consultation, should be undertaken for development at the Precinct.

Figure 1 illustrates the key role of community consultation throughout the SIA process. The consultation process aims to provide information on the process, the overall Precinct and its anticipated impacts and gather community concerns so that these can be addressed in the SIA Management Plan.

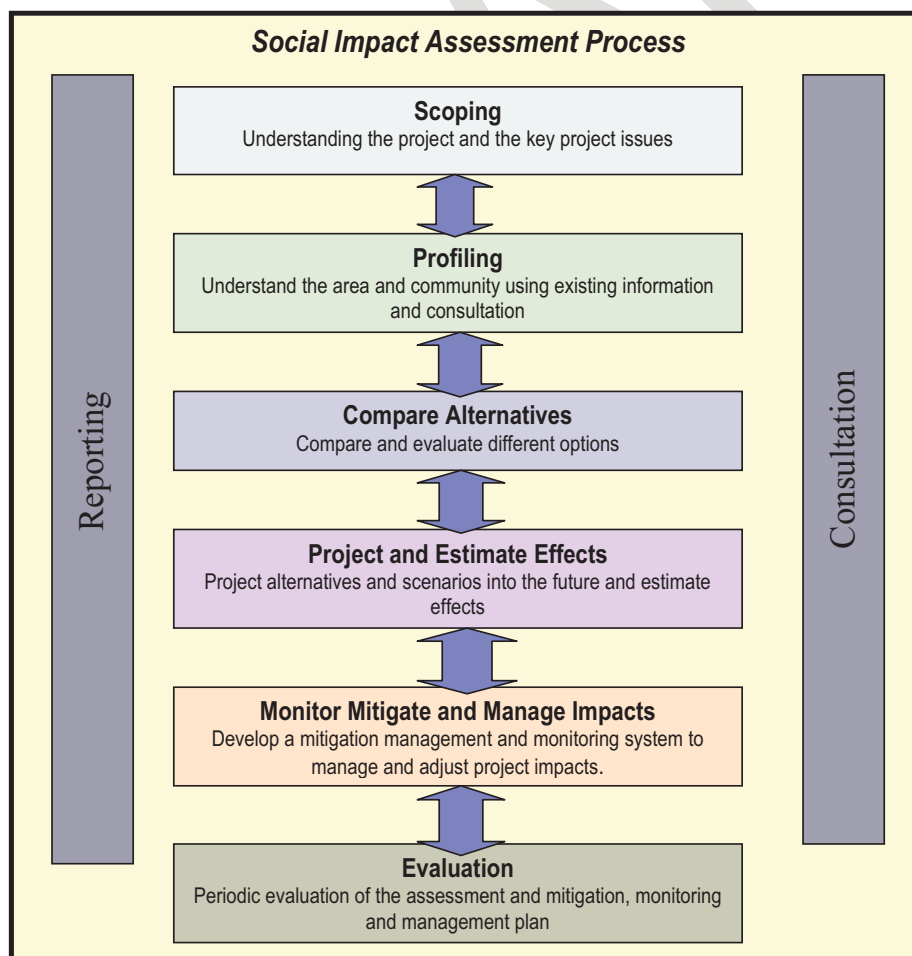


Figure 1: The Social Impact Assessment Process

The SIA contains a number of specialist studies as is indicated in Figure 2:

- The Fishing Industry Impact Study is being managed by the Department of Fisheries (DOF 37/2008) and the contract for the RFQ (Request For Quote) was awarded to Dr Guy Wright. His contract was extended to include Aboriginal fishing issues as well as the commercial and recreational fishing issues covered in the RFQ. The main component of the study was completed in early 2010 and is available through the DSD and Department of Fisheries websites. The customary fishing component will be incorporated into the Strategic Assessment.
- The Tourism Impact Assessment is being managed by Tourism WA (TWA 39/2009) and the tender was awarded to Broome-based Kadar Pearson and Partners Pty Ltd. The Tourism Impact Assessment was completed in June 2009.
- The Aboriginal Social Impact Assessment (ASIA) is being managed by the Kimberley Land Council and DSD. The key finding of the ASIA will be incorporated into the Strategic Assessment of the Precinct.
- The Infrastructure Assessment is being coordinated by the Department of Planning and includes an assessment of the infrastructure needed for the Precinct as well as for the expansion of Broome.

Each of these studies contains a community consultation component to gather community issues about the Precinct and these feed into the SIA Management Plan.

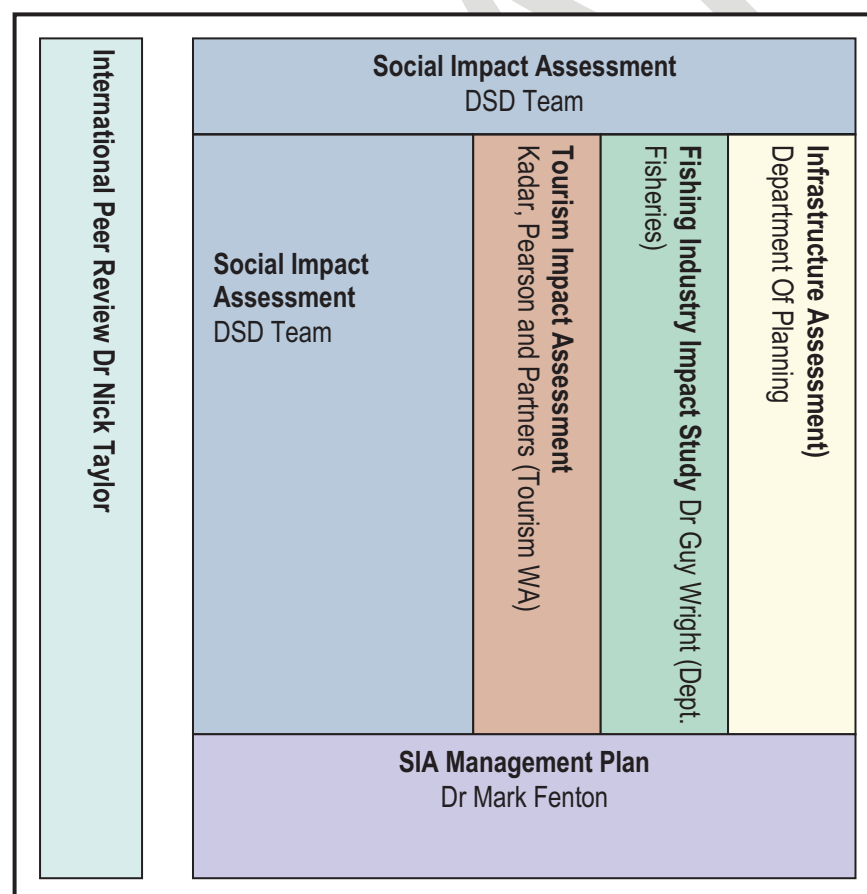


Figure 2: Components of the Social Impact Assessment

2. Stakeholder Consultation Program

The BLNG consultation is being undertaken in two phases:

- Phase 1 occurred prior to the final site being agreed to and focused on the SIA process being undertaken.
- Phase 2 was prompted by the selection of the final site and discusses the overall Precinct and the various development scenarios, the anticipated population impacts and gathers community concerns.

There will need to be a further phase of community consultation.

2.1. Stakeholder Consultation Phase 1 (January – May 2009 - Completed)

Phase 1 occurred before the final site for the LNG Precinct had been decided and agreed to by the Traditional Owners. The purpose was to provide information to a range of stakeholders on the process that was being followed. The focus was on profiling and assessing the 'before change' project area.

Consultation included:

Broome:

- Shire of Broome (both council and officers)
- State Government departments and agencies based in Broome
- Telephone interviews with Broome-based service providers
- KLC, Lingari Foundation
- Chamber of Commerce representatives
- Toll Mermaid
- Clipper Pearls

Western Australian Government Agencies

- Regional Impacts Group (State agencies)
- Environmental Protection Authority
- Department of Health
- Department of Education
- Department of Treasury and Finance

Commonwealth:

- The Department of Resources, Energy and Tourism (RET)
- The Department of Environment, Water, Heritage and the Arts (DEWHA)
- The Commonwealth-appointed facilitator, Bill Gray

Industry

- Woodside Energy Ltd

Community

- North–West Forum

2.2. Stakeholder Consultation Phase 2 (June 2009–January 2010 - Completed)

Community consultation for the specialist studies (ASIA, tourism, fishing, pearling and aquaculture) was undertaken within those studies and is therefore excluded here.

2.2.1. Stakeholders

Government

- Shire of Broome and Local Council
- Local State and Commonwealth agencies

Service Providers

- Sport and Recreation
- Education and Training
- Health
- Infrastructure (roads, waste, water, electricity, telecommunications, port, airport)
- Land and Housing

Other

- Sense of Place Workshop

Local Groups

- Small business
 - Chamber of Commerce
- General community
- Broome Historical Society

2.2.2. Consultation Methods

A range of consultation methods are planned, depending on the situation. These include:

Interactive Consultation

- Presentations followed by questions and answers
- Focus/Discussion Groups
- Open Day
- Shopping Centre Displays

Information Provision (with the option for follow-up)

- Web Site
- Fact Sheets
- Media (Newspaper, Radio)

These activities are captured in the KLNG Communications Plan.

2.2.3. Methodology

Existing Groups

Where possible, presentations and focus groups were arranged with existing groups within or adjacent to an existing scheduled meeting such as Shire Council, Chamber of Commerce and the like. This approach usually meant that more people were able to participate as they already made a commitment to attend the meeting. The usual format was a presentation about the project, the process and population projections, followed by a question and answer session.

Focus Groups/Workshops

Where there was no existing formal grouping but a number of agencies or businesses had a common interest, a focus group or workshop was organised.

Open Days

The NorthWest Expo provided an opportunity to explain the project to community members during phase 1 of the consultation. As part of phase 2, a series of open days were held where members of the public were able to ask questions of the BLNG project team. These included the SIA Open Day on 17 September 2009 and the Broome Shire Forum on 18 and 19 September 2009.

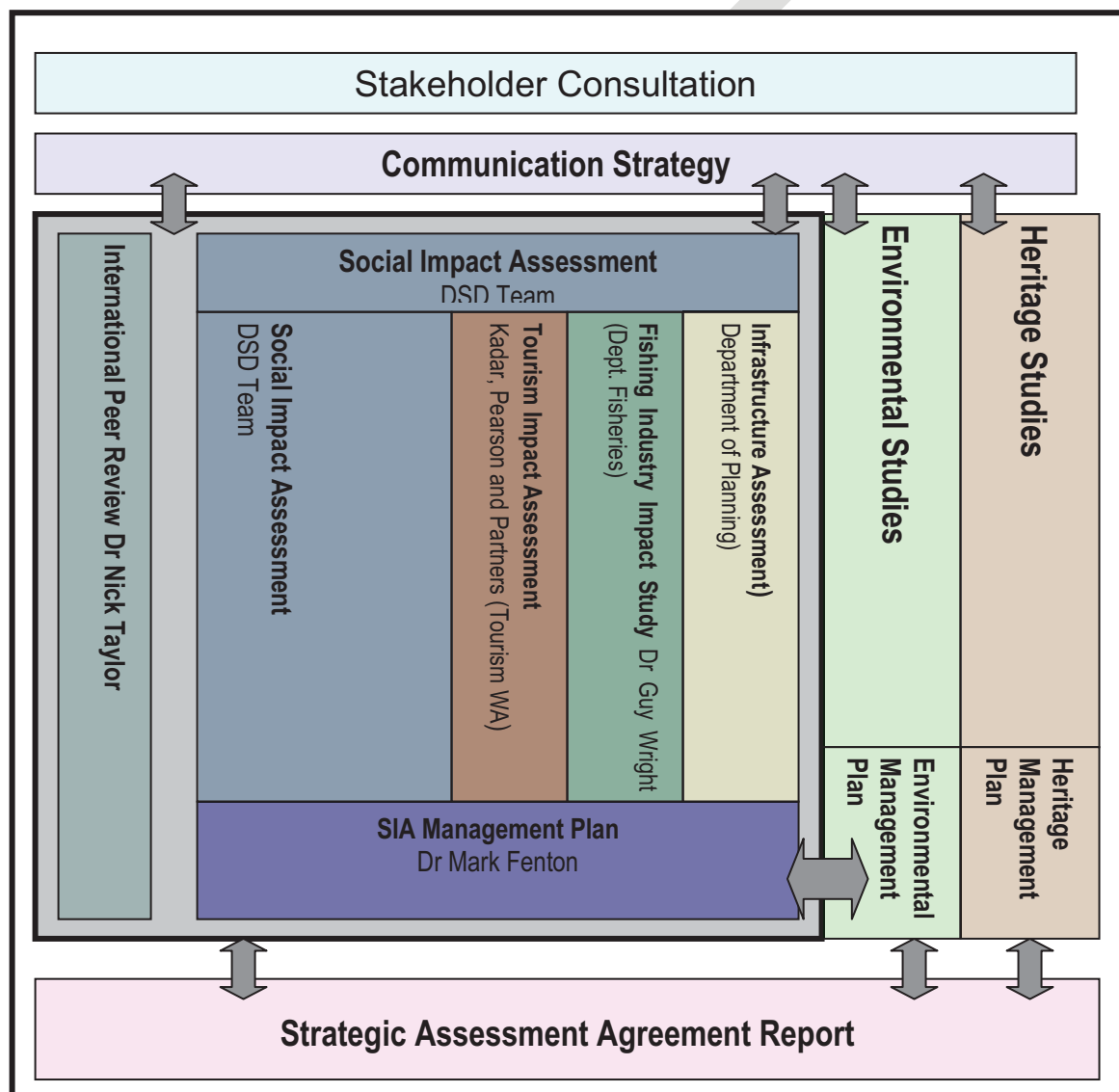
Shopping Centre Displays

There are two shopping centres in Broome and staffed shopping centre displays were held in each of these. The Paspaley Plaza Information Session was on 4-5 December 2009 and the Boulevard Information Session was held on 29-30 January 2010.

2.2.4. Consultation Timeline

Phase 1 consultation commenced in January 2009 and continued until May 2009. Phase 2 consultation commenced in June 2009 and, due to project timelines continued until January 2010. A further phase of consultation may be required.

2.2.5. Relationship of SIA to other studies



Annexure B: SIA Workshop Notes

- B1: Sport and Recreation Workshop
- B2: Infrastructure Workshop
- B3: Land and Housing Workshop
- B4: Education and Training Workshop
- B5: Health Workshop
- B6: Sense of Place Workshop

B1: Sport and Recreation Workshop

Kimberley Browse LNG Project Social Impact Assessment Workshop: SPORT AND RECREATION

WORKSHOP NOTES

Date: 22 July 2009

Time: 9:30am-12:30pm

Venue: Department of State Development - Broome Office
Woody's Arcade, Dampier Terrace

Facilitator: Duncan Ord, Executive Director, Kimberley LNG Project, DSD

Registration/Tea & Coffee 0915-0930

Presentations 0930-1020

- | | |
|------------------------------------|--------------------|
| • Welcome & KBLNG Project Summary | Duncan Ord |
| • Woodside – Proponent Perspective | Alec Cumming |
| • KBLNG Social Impact Assessment | Andrea Jardine-Orr |

Morning Tea 1020-1035

DISCUSSION 1035-1230

Introduction by Duncan Ord

There was a discussion about how impacts are assessed. It is important to get approvals and that the possible proponent wants to ensure that all issues within the community are dealt with. The company is looking at what is proposed to be built and the stressors of that, plus social and environmental impacts.

There was discussion around risk assessment, including dredging and measuring it. The local environmental factors need to be taken into account. There is a need to look at the particular problems in the Kimberley and the possible solutions.

With regard to recreational fishing, the lack of launching facilities is causing a loss of income.

A lot of people camp and fish at James Price Point (JPP) during the holidays. There is a consideration to set up camping at Bard Creek and Quondong Point.

JPP to Quondong Point is rated very highly by recreational fishers. Many boats will travel all over the area.

There was a comment that if Cape Leveque Road is sealed, the whole of the Buccaneer archipelago is opened up for fishing.

There was a discussion around the impact of light spill from fishing. It was generally agreed that it would not be a large problem. There are strategies that can be used to minimise upward light spill from the plant.

There was a question about boat movement. There will be approximately five boats a week during operations.

Fishing from international vessels and supply vessels is an issue so there is a need to manage contractors. There are two separate phases, the building phase and the operational phase. Under the operational phase the company has a lot of control over the vessels.

A concern was raised about FIFOs (Fly-in/Fly-out workers), as they often have boats, which can affect fish stocks.

The last creel survey was in 1999 and the lack of baseline data is a concern, since it only went up to Broome.

Recreational fishers have issues with a breakwater and its impact on the tides, and circulation of water. Also the effect it can have on fish and the coastline itself.

Coastal Access and Recreation

If there is a sealed road to the site it will further increase access to the site. Traditional Owners want to continue using the Manari Road. However, there was an argument made that the Manari Road is not liked by some Aboriginal communities due to the access it provides. WorleyParsons want to find the highest level. The offshoot would be about 10km north of where the Cape Leveque Road is currently sealed.

Illegal camping is a significant issue now, so proper camping will need to be put in place.

Two-wheel drives cause major damage to the 4WD roads.

The opinion was raised that most people who camp up there do shore fishing.

It was pointed out that most workers would be FIFO.

Recreational fishing is at the extent of its capacity at the RecFishing centre at the Port.

There was a concern that the analysis of the population growth in Broome North is too small. It was noted that the Government is working closely with the state demographer on the issues and that we believe we are correct in our analysis.

There was discussion around projected population growth.

There are problems with overcrowding at schools and there is very little ability to expand.

The Government believes that Broome north can provide town land that could help with this development.

The camps near site will have their own recreational facilities and the workers will maybe only get one day off between their shifts.

There was a question regarding social services issues, in particular with relationship problems. The response was that companies undertake those services themselves.

There was a query regarding the future of the Broome Airport. The response was that the current airport can deal with population growth for 25 years, but the project could bring that forward, as well as the possible use of light aircraft (choppers etc) from another location. It is not proposed to build an airstrip for the Precinct

A view was expressed that the LNG project should use its "might" to help with getting money for more social infrastructure.

A comment was made around the issue of "locals" pay rates to provide facilities for "grey nomads" and others.

There are difficulties for the police with young aboriginal kids and their disadvantage. There is a need for more capacity to deal with these issues. The new police station is already at capacity, and population growth will require more resources.

It was discussed that there is a need for a range of skills (teachers, doctors, nurses, aged care etc) and there is no provision for training for this. It was stated that those issues are being worked on.

With regard to access on the peninsula, it was noted that there could be a roadhouse system on the road to Cape Leveque where people have to get a permit to access the area.

It was noted that conservation issues, land use zones, etc are being closely looked at.

It was stated that DSR is undertaking an Indigenous plan. Through that process, it was suggested that the sporting facilities are poor at best. It would be good to see some investment in that through this process. It was stated that there is also a need for a community sport and recreation officer in each community.

It was stated that with an influx of tourists there will be more fishers, so therefore there will be a need for more rangers. It was suggested that there could be an Indigenous ranger program.

The Port of Broome has looked at a second finger wharf, and that information is with the Minister. They are also looking at upgrading the boatlifter facility.

B2: Infrastructure Workshop

Kimberley Browse LNG Project

Social Impact Assessment Workshop: INFRASTRUCTURE

WORKSHOP NOTES

Date: Thursday 6 August 2009

Time: 8:45am – 3:00pm

Venue: Department of State Development - Broome Office
Woody's Arcade, Dampier Terrace

Facilitator: Duncan Ord, Executive Director, Kimberley LNG Project, DSD

Registration/Tea & Coffee

0845-0915

Welcome: Duncan Ord

0915-0930

Presentations

0930-1045

- | | |
|------------------------------------|--------------------|
| • KBLNG Project Summary | Gary Simmons |
| • Woodside – Proponent Perspective | Alec Cumming |
| • KBLNG Social Impact Assessment | Andrea Jardine-Orr |

Morning Tea

1045-1100

DISCUSSION

1100-1500

Introduction

The impact assessment process was explained and participants received photocopies of excerpts from the *Kimberley LNG Precinct – Scope of the Strategic Assessment* document relating to infrastructure.

Discussion included explanation of impact assessment as an iterative process, sources of impact, environmental factors and risk rating.

It was emphasised that this workshop aimed to identify and fill-in gaps relating to infrastructure issues.

The Department of Planning is conducting an infrastructure audit and assessment.

The workshop discussed the following infrastructure issues:

- 1) Airport
- 2) Roads
- 3) Waste Management
- 4) Ports
- 5) Water
- 6) Electricity
- 7) Telecommunications

1) AIRPORT

Broome International Airport issues

- Last year, Broome Airport catered for 400,000 passengers, which was a 7% increase on the previous year. This year there has been a 9% increase in passengers. These increases can be attributed to both tourism and the oil and gas industry.
- The Broome Airport is experiencing tourism growth but it also needs a mix with corporate travel to support it.
- Qantas has three services per day and Virgin has two services per day.
- There is the possibility of Broome Airport servicing flights from Singapore in the future. One view was that this would require support from corporate travellers in addition to tourists.
- A heliport with two hangars services the oil and gas industry.
- The Broome Airport is sensitive to community concerns and there is a noise management plan and an active group with Broome Shire and community representation.
- Surveys conducted about the Broome Airport suggest that people like its current location.
- The current runway has significant capacity and there is capacity for a code three runway.
- The workshop discussed the capacity of Broome Airport to cope with a potential increase in demand for parking. There were divergent views. Unlike Karratha, workers are more likely to be bussed to the LNG Precinct, therefore reducing the potential number of vehicles.
- There is a Master Plan for the Broome Airport until 2025 including upgrading of the terminal, taxiways, noise management plan and parking.
- The Airport Master Plan is being considered by the Broome Shire over the next three months.
- The Airport Master Plan can be updated to take into account expansion planning for James Price Point Pecinct needs.
- The new Broome Airport site is 13km from the Broome town. Moving of the Broome Airport would be undertaken in stages.
- The new airport will require a review of past environmental approvals.
- Some stakeholders suggested that a lead time of four to five years would be required for the relocation of the airport.
- Aircraft fuel is transported from storage at the Port to Broome Airport via Gubinge Road.

Helicopter Flight Paths

- Helicopter traffic is a new component to serve offshore platforms and is likely to increase significantly.
- Helicopter flight paths out of Broome include a training circuit in the south, around the port. Flight training is the biggest concern with residents due to the need for circling.
- The airport has worked with the Department of Environment and Conservation on helicopter paths to avoid nesting birds.
- Helicopter companies are professional and have expressed a desire to work with the community to minimise impacts.

Lombadina/Djarindjin Airstrip

- There is an emergency airstrip at Lombadina/Djarindjin.

- This airstrip has a sealed runway and lights. Strategically, it enables de-manning and refuelling of aircraft.
- Djarindjin currently has three fuel tanks.
- Inpex has emergency fuel supplies at the Djarindjin airstrip and there is a possibility that other companies could enter into a sharing agreement for emergency supplies.
- An operator for the Djarindjin Airstrip was appointed at the end of last year on behalf of the Djarindjin Aboriginal Corporation.

General LNG Precinct Issues and Discussion

- The Precinct will not have its own airstrip and will use the Broome Airport for Precinct and offshore requirements (e.g. Fly-in/Fly-out workers).
- The Broome community is fairly tolerant regarding noise issues from the airport but if noise increases they may be less tolerant.
- This is likely to be more of an issue during construction rather than production at the Precinct.
- The workshop discussed whether the workers would be separated from other passengers at the airport. Timing and scheduling of flights will be important to manage this issue. In addition, the workers' Code of Conduct could be used to prevent disruptive alcohol consumption.
- There is a possibility that there may be Fly-in/Fly-out workers coming through Singapore, but there are likely to be more workers from other Australian states (e.g. Pluto sourced 10% of its workforce from Queensland and up to 10% from New South Wales).
- A related issue is what other gas projects would be underway at the same time as the Precinct as they would increase competition for workers.

2) ROADS

General

- The Department of Planning's Infrastructure Assessment includes roads. Preliminary maps have been formed and these will be further developed. The broader task is to look at impacts beyond the Precinct.
- The workshop discussed the concept of an infrastructure service corridor in the Dampier Peninsula, linking the LNG Precinct with Broome. This corridor will include road linkages.
- Initially, it is envisaged that Cape Leveque Road will be linked with the Precinct. The conversation with Main Roads and the Shire has just been initiated and the concept will be developed further.
- The infrastructure services corridor may be 200m wide and allow the future possibility of a gas pipeline (but gas will not necessarily be transported this way).
- Envisaged that the access road will eventually be sealed, with an all weather highway configuration/standards.
- A freight demand and road needs assessment will be conducted to look at current and expected Precinct impacts.

Indigenous Issues

- Main Roads is working with the Shire of Broome, it will need to upgrade the existing seal and intersections.
- Main Roads has completed some initial testing of the existing Broome–Cape Leveque Road and would be interested in completing a ground search for gravel sources and quality but needs approval from Aboriginal stakeholders.

- The LNG project is in negotiations with KLC and Native Title claimants to resolve Native Title and land use agreements. This could include the potential to build a gas pipeline in the future. Hence, the idea of an infrastructure corridor to allow for potentialities.
- Mapping of potential infrastructure would be useful to provide to Indigenous groups soon so that they can provide input.
- The Precinct access road needs clearance from traditional land owners.

Traffic and Road Standard Issues

- The main traffic requirements relating to the LNG Precinct would be buses to and from the airport.
- The workshop discussed the standard of road required and it was agreed that highway standard is assumed.
- It is likely that infrastructure for the construction camp will be transported to the Precinct by road.
- If the breakwater structures come by road it will be a major impact.
- The meeting agreed that the access road to the Precinct is on the critical path for the project. The Main Roads regional office will require funding for a gravel search and alignment definition study.

Road Access Issues

- Improved roads in the Dampier Peninsula can improve the ability for Indigenous communities to provide workers for the Precinct.
- The Sport and Recreation Workshop raised the possibility that improved roads could provide recreational road users with access to sensitive areas, which would need to be managed.
- An ongoing issue in the Kimberley has been that tourists are using roads to access sensitive areas. This issue is now coming to a head.
- The workshop agreed that it is important to try to limit road usage that is not Precinct related.
- Heritage approvals have not yet been obtained for these roads.

Timelines for Heritage Process, Engineering and Building of Roads

- Heritage listing timeline is unclear. Some departmental advice suggests the time needed to obtain heritage approval would mean that building could start in mid-2011 and finish by the end of 2012.
- This timeline would impact on Woodside's potential construction phase and other options such as using existing roads and sealing parts of the road would need to be considered.
- A sealed road is required for the transport of supplies.

Actions

- Discussion between the State and Woodside regarding the timing of road upgrades is required.
- Department of State Development will consult with Main Roads regarding timeframes for the upgrading of roads. Deadlines may need to be brought forward, including potentially speeding up the sealing of Cape Leveque Road.

3) WASTE MANAGEMENT

- The existing waste management facility has a limited lifespan and the number of years that the site can continue to operate adequately is being determined.

- The existing facility is on reserve land at the end of Buckleys Road and it has been extinguished of native title.
- There are risk management issues related to gas storage right next to the waste management site.
- The waste management site needs to be large enough for the growing town of Broome, as well as offshore and onshore developments.
- How to combine operations for the most efficient program possible.

New Waste Management Site

- Very beginnings of negotiation for a new waste management site and potential future locations are being identified.
- If the future site is inside the Rubibi area, it will have to be negotiated separately.

Preliminary Waste Estimates for Onshore Facility During Construction

The following are very preliminary waste estimates for the onshore facility for the initial three train development, over five years:

- Largest proportion of waste would be Class 2 landfill (Broome currently has Class 2 landfill): 15,000-20,000m³. A lot of this would come from the workers' accommodation camp
- Toxic waste: 250-300m³
- Scrap/recyclable metal: 35-75m³
- Toxic chemicals in drums: 10-25m³

Preliminary Waste Estimates for Operations

The following are preliminary estimates for operations and are annual figures:

- Class 2 landfill: 4000-8000m³
- General recyclables: 375-750m³
- Toxic Waste: 185-375m³
- Mercury (filters) contaminated waste: 30-60m³ (to be sent to Switzerland for treatment)
- Chemical drums: 15-30m³
- Scrap/recyclable material: 7-15m³
- Class 4 landfill: 1-3m³ (highly hazardous, e.g. radioactive)
- Fluorescent tubes: up to 3m³
- These waste estimates represent a 10-20% increase to Broome's existing waste. There is the technical capacity to deal with waste in Broome.
- The preliminary estimates relate only to the direct impact from Woodside and not potential waste from indirect sources.
- Waste from the offshore rigs will be managed by Woodside.

Waste Water

- Produce water will be treated on site, probably using an evaporation pond (at the Precinct).
- Potential concentrated brine from reverse osmosis will be piped offshore and dispersed.
- There is a desalination plant on each platform.

Dampier Peninsula Land Use Plan

- The Dampier Peninsula Land Use Plan (Department of Planning) will link with the Shire of Broome's Local Planning Strategy. A comprehensive study will be required to identify a site for a Class 2 landfill.

- There are a number of ad-hoc waste sites in operation in the Dampier Peninsula – would need to organise and coordinate this in the future.
- Department of Planning has spoken to communities/outstations not against bringing waste to a central facility.

Conclusion

- Waste management is getting close to being a critical path issue.

4) PORTS

Port at the Precinct

- Department of Transport – Marine Safety needs to be involved in a port site layout plan.
- From a marine safety perspective, the port at the Precinct could have a port authority governing structure. This structure should not detract from industry's management of the Precinct.
- During the construction phase:
 - expect vessels with large modules from Australia or rest of the world: ~1/day
 - additional traffic, particularly from offshore activity: might have more than 40 vessels in the field on any one day
 - support for drilling operation, supply of drill rigs: initial phase of development won't need a massive increase in drilling – 6-10 wells over a two year period.
- During operations:
 - expect the number of LNG tankers to the port to be a little less than one tanker/day for the first 15mtpa (~300 LNG tankers/year),
 - LNG tankers need tugs to bring them in and safety berths.
- Management of marine facilities has not yet been decided.
- LPG tankers: up to 20/year
- Condensate tankers: up to 20/year
- By far, most vessels would be LNG vessels and less than one tanker/day.
- Integrated Marine Facility – some of the supply activities integrated with processing of LNG but not for other platforms or proponents.
- Workshop discussed the possibility of the support base being based at the Precinct. Stakeholder views on the location of a support base were diverse.
- The Precinct is primarily for LNG processing.
- Quarantine facilities will be included in the Precinct.
- Breakwater structure approximately 400m long, large amount of rock or concrete, potentially road transport, a range of options considered.

Broome Port

- The existing exploration supply base in Broome is supporting rig tenders and could comfortably support four to five rigs for exploration in the long term.
- Broome Port Authority has jurisdiction from Wyllie Creek to Station Hill.
- Oil and gas industry is very important for Broome Port. It accounts for 59% of the Port's revenue, compared to pearling, which accounts for 2%.
- Lead time of two to three years is required for port expansion.
- New jetty in the vicinity of \$160-200 million, no environmental approval yet.
- Potential for port to be an Infrastructure Australia project.
- Land availability issues are being addressed with Yawuru.

Other Issues

- The supply base is a running issue and a WorleyParsons report has been completed, on behalf of the State Government.
- Woodside is likely to need a 400m breakwater and is looking at alternatives including concrete case-ons, traditional rock or not using a breakwater.

Conclusion

- Many infrastructure issues, including ports, are close to being critical task issues.

5) WATER

Precinct and Offshore Water Requirements

- Options for water supply to the Precinct include using a surface aquifer or desalination of ocean water.
- During the pioneering phase, may use potable water initially for the Precinct while other options are developed.
- Drilling requirements are not big – closed systems are used and there is a one-off supply of drill water. Industry proponent would not need to use Broome water supply (except in very initial stages).

Accommodation Requirements

- Water required for workers' accommodation will depend on timing.
- Accommodation will require facilities to make potable water and in the short-term will need to use water from the surface aquifer (Broome supply).
- The pioneering stage is complicated at any greenfields site.
- A water plan is required for early works.

Broome Water Requirements

- There is water in the P1 aquifer to supply Broome to 2050.
- There are 10.6 gegalitres/year of sustainable capacity to draw on. At the moment, 4.5 gegalitres/year are used by the town.
- Three new bores have just been drilled. Expansion would predominantly be to the north.
- Previous discussions with the Department of Water suggest that the capacity of the aquifer may have been over-estimated in the past.

Actions

- Need for follow up with Department of Water and the Water Corporation regarding possible over-estimation of Broome's water supply capacity.

6) ELECTRICITY

Precinct Requirements

- The Precinct will be able to generate power internally and be self-sustaining in terms of power needed for the plant during operations.
- Offshore operations will also be self-sustaining.
- Workers' accommodation (during construction) can be powered by diesel generators.
- Power arrangements for workers' accommodation during operations have not yet been decided.

- The Precinct itself is likely to have limited impact on the Broome power supply.
- These power requirements do not include requirements of third party contractors. They would need power supply from Broome.

Broome Expansion

- Infrastructure in Broome will grow.
- There are proposed plans for commercial and residential development in Broome North. Therefore, need to increase electricity capacity.
- Surveying for a new sub-station in Broome North is being undertaken to provide capacity for Broome North and Cable Beach.
- An expansion plan will be discussed at the Broome Planning meeting later in August 2009.
- The new sub-station will allow for more capacity in the area around Broome Road. Not certain whether there is capacity for the Water Corporation borefield, or if this will be required.

7) TELECOMMUNICATIONS

Precinct Issues

- Telecommunications for the Precinct will be largely self-sufficient.
- There will be no mobile phones on the Precinct site itself. During construction, mobile phone coverage would be required, areas vary.
- Providing communication for accommodation areas will need to be planned.
- Fibre optic link may be required during operation, satellite is not suitable.

Broome Issues

- With adequate planning time, telecommunications can be adequately provided for any expansions to the town of Broome.
- ADSL is limited by the length of copper cable.
- Currently assessing possibilities at Broome North.

OTHER DISCUSSION

- There will be upcoming DSD-organised workshops on Housing and Land, Health and Heritage issues.

B3: Land and Housing Workshop

Kimberley Browse LNG Project

Social Impact Assessment Workshop: LAND AND HOUSING

WORKSHOP NOTES

Date: Tuesday 11 August 2009

Time: 8:45am – 3:00pm

Venue: Department of State Development - Broome Office
Woody's Arcade, Dampier Terrace

Facilitator: Allan Tranter, Creating Communities

Registration/Tea & Coffee

0845-0915

Welcome: Allan Tranter

0915-0930

Presentations

0930-1030

- | | |
|-----------------------------------|--------------------|
| • KBLNG Project Summary | Gary Simmons |
| • Woodside: Proponent Perspective | Craig Gosselink |
| • KBLNG Social Impact Assessment | Andrea Jardine-Orr |
| • Broome North Development | Paul Ferrante |

Morning Tea

1030-1100

DISCUSSION

1100-1500

Introduction

An overview of the environmental risk assessment process was provided to participants.

The workshop aimed to identify gaps and ensure all issues were included.

Key Issues

Introduction/General

- Native Title and land supply were significant issues in Broome.
- Some of the biggest issues relate to the provision of infrastructure.
- Advice of potential growth in Broome in the past was not heeded by some service providers.
- Need to ensure infrastructure providers are aware of the rate of growth and rate of development.
- The need for adequate telecommunication, which is prepared for growth was discussed, including the benefits of fibre optic cables to be used for future development.
- Some questioned whether all government agencies are prepared for growth – an overall coordinated approach is required.
- An infrastructure assessment is being coordinated by the Department of Planning.

Housing – General Issues

- The workshop discussed the time and costs associated with building a house in Broome and how this has changed in the last 18 months. It is now much more expedient but large transport costs apply to building material.
- Building materials have to come from the south.
- It is likely there will be a blend of FIFO workers and resident workers in Broome.
- Property owners deciding to trade up/down will add to overall supply of housing.
- There is a need for public transport, particularly when Broome North comes on stream.
- It took a few years for Roebuck Estate's identity to grow.
- Need for a new (lower) price point north of Gubinge Road.

Land Use

- It is important to not lose sight of land required for industrial and commercial purposes, otherwise, inappropriate land may be used for these purposes.
- LandCorp has just completed a future land supply (including industrial) analysis to be presented at the Broome Planning Forum next week.
- General discussion relating to the number of lots available at Broome North and the property market.

Cost of Housing

- What issues need to be taken into consideration in the management plan to avoid exorbitant house prices and rents?
- Need to inform community that there will be provision for land supply in the future when the LNG Precinct is constructed.
- Reduce panic so that buyers do not pay high prices for house/land.
- This message is built into land release.
- Infrastructure issues will be covered in the Infrastructure Assessment being completed by the Department of Planning.
- Issues relating to power supply and water supply remain critical issues.

Social Housing

- What social housing provision is being made? Main concerns include overcrowding in housing and in reserves. Some Indigenous people choose to camp as they feel safer than being in overcrowded houses.
- Current waiting list for social housing is five years.
- Concern that the attraction of workers to the LNG Precinct may result in the displacement of existing local residents.
- Social housing is not the same as entry level affordable housing. Social housing issues are related to government budgets for providing housing for people who can not afford to rent or buy at lowest level.
- The Indigenous benefits package includes an allocation of \$50 million for housing.
- There is a need to ensure that there is not too much social housing in any one area.
- A 'new living' project in Old Broome was suggested. This project could prevent the development of ghettos.
- Previous land releases included a percentage given to Indigenous Traditional Owners.

- Not only physical infrastructure is required but also service infrastructure such as access to mental health services.

Affordable Housing

- A significant concern is that if the LNG Precinct goes ahead, rental demand will increase and result in higher rents. New buildings could be owner-occupier or investor.
- Affordable housing needs to be addressed to make sure service providers can afford to rent.
- There is also a concern that benefits will not flow through to Broome. Affordable housing provided by not-for-profit agencies subsidise rentals from 30-70% of the market for workers. These people leave town after awhile because they “have had enough”.
- One idea is to build houses for businesses to house their workers.
- If the Government subsidises housing, funding for staff is going to housing resulting in less personnel being employed.
- There will be a large number of transient people working in construction that will need accommodation.
- An artificial rental market exists as government employees have subsidised housing. Many other renters can not compete in the market and leave the town.
- A high percentage of government workers come to Broome without family, however occupy family homes (mainly 4x2).
- The Kimberley has 450 GROH/GEHA leases, with over 300 of these in Broome. The Department of Housing and Works owns 90 of these.
- There is a high percentage of share houses in Broome, sometimes renters do not even have a bedroom. Average \$200 a week rent for occupants.

Waste Management Issues

- There will be waste management issues associated with an increase in population.
- There is low capacity for recycling.
- Waste management issues were discussed in detail at the DSD Infrastructure Workshop.

FIFO Workers

- There will not be an additional airstrip at the Precinct. Workers may be bussed to worker accommodation camps from the airport. These details are still being developed.
- Woodside generally uses commercial airlines and fully flexible fares (leaving discount fares available for others).
- Transport issues are still being worked through but charter flights, behavioural code of conduct issues are being considered.
- Woodside's Pluto LNG Project has a portion of overseas workers. If overseas workers were employed at the Precinct, it may help support a Singapore service to/from Broome.
- The Pluto Project employed up to 10% of workers from Qld and 10% from NSW which may help a direct flight from Brisbane.
- Airport capacity can be managed if scheduling is right.

FIFO vs Residential Workforce

There are lessons learnt from the payment of allowances for FIFO or residential workers in other projects.

- In general, workers from Perth with high school age children prefer FIFO arrangements.
- Twelve-hour shifts can have detrimental effects on workers' participation in community and voluntary activities.
- Woodside would have less control over contractors and the construction workforce.
- The core management team would be made up of Woodside employees and they will manage the contractors on site.
- Options for direct employees include some personnel receiving a relocation allowance when it is a requirement for them to live in town.
- FIFO employees may not be given a living away from home allowance if they choose to live in Broome.
- There is a potential tourism opportunity if controlled day tours are provided to plant workers on their days off.

Water Issues

- Water availability affects land release. Water issues were raised at the Infrastructure Workshop.
- Water runoff and drainage of recycling water will be discussed at the Broome North Workshop conducted by LandCorp.

Road Issues

- Transport to the Precinct including arterial road networks need to be considered.
- Upgrade of Broome Cape Léveque Road turn off to Manari Road. There are options to branch off. All upgrades and new roads to traverse to the Precinct site would be at Great Northern Highway specifications.
- Most materials to the Precinct would come via sea.
- The main impact on roads would be third party contractors, busses and occasional heavy haulage.

Supply Base Issues

- What noise impact would the supply base have on the community?
- The location and operation of the supply base has not yet been decided. Currently, the main focus is on the Precinct and its vicinity.
- James Price Point could be used for transporting materials to the site, taking pressure off Broome port.
- Woodside will also have traffic management plans to deal with issues.
- There is a supply base for the oil and gas industry regardless of whether the Precinct goes ahead or not.

Other issues

- There is a need for funding to be allocated to enhance Broome's commercial area. There are operators interested in relocating to Broome from Karratha.
- There could be issues if a fishing charter boat is relocated to the Dampier Peninsula and nearby islands, instead of Broome.
- Availability of broadband telecommunication in regional areas.

B4: Education and Training Workshop

Kimberley Browse LNG Project **Social Impact Assessment Workshop: EDUCATION**

WORKSHOP NOTES

Date: Tuesday 8 September 2009

Time: 11:30am – 5:00pm

Venue: Department of State Development - Broome Office
Woody's Arcade, Dampier Terrace

Facilitator: Gary Simmons, Kimberley LNG Project, DSD

Registration/Tea & Coffee	1130-1145
Welcome: Gary Simmons	1145-1200

Presentations	1200-1300
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- | | |
|------------------------------------|--------------------|
| • KBLNG Project Summary | Gary Simmons |
| • Woodside – Proponent Perspective | Emma White |
| • KBLNG Social Impact Assessment | Andrea Jardine-Orr |

Lunch	1300-1330
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Presentations Continued	1330-1345
• DEEWR Education Presentation	Gary Powell

DISCUSSION	1345-1700
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Department of Education, Employment and Workplace Relations (DEEWR) – “Closing the Gap”

Gary Powell gave a background to the “Closing the Gap” education activities undertaken by the Commonwealth Government. They intend working with the steering committee to develop a framework, an action plan as well as partnership agreement for infrastructure development in the Kimberley. A small taskforce has been engaged with the KLC to look at training and education opportunities on Browse Basin LNG developments. The overall goal of “Closing the Gap” is to maximise Indigenous employment opportunities

There was a general discussion about the need to develop Indigenous education and training opportunities. There are many constraints, as delivering education and training initiatives in the Kimberley is expensive and difficult. There is a need for a comprehensive review of existing service providers, the barriers to effective service delivery and what changes can be made. A workshop participant mentioned that the education and training funding formula needs reworking as it is weighted against remote areas. It was agreed by the workshop participants that a tailored approach

should be developed for funding, curricula and the involvement of mentors. An example of trainers living in borrowed accommodation because the rent in Broome was beyond the limits of the funding was given. A further Kimberley-wide issue is the need for more localised training, such as training facilities on the Dampier Peninsula. The concept of a Trade School on the Dampier Peninsula was mooted.

Current Services and Constraints

Kimberley TAFE

Kimberley TAFE has good facilities but needs to strengthen its trade facilities. It has the capacity to increase its services as the land is owned by the Department of Environment and leased to TAFE. It does not have a facility on the Dampier Peninsula and a mobile caravan may fulfil the need on the peninsula. TAFE trainers deliver 440,000 hours a year to 100% capacity (50% in Broome) and would like to increase their core capacity. This expansion would need increased facilities and partnerships.

Across the State, the Department of Education and Training (DET) is constructing more buildings but the focus is on the South West, however, there is not a lot of space to fit new buildings. There needs to be more facilities in the Kimberley, but not necessarily buildings, for example mobile facilities could be used. DET is interested in expanding the use of mobile facilities. The Kimberley region has had quite a bit of expansion. DET believe it would be good to move away from conventional thinking - steer away from bricks and mortar until the delivery method is right. What Kimberley TAFE offers is quite constrained and the courses offered are trades-related or geared to male oriented professions. More than half of the TAFE students in the Kimberley are older than 24 years.

Accommodation for students is a concern, both students in the Kimberley and for students who go to Perth to learn. It was suggested that TAFE could provide support in this area as it has the capacity to expand its accommodation by a further 60 beds. However, DET can only put up a business case for things that are vested in the Minister for training and accommodation would fall outside this scope. DET would be happy to work with other groups and departments on this issue. Current facilities are for students aged 18 years or over but there is frequently a need to accommodate younger students.

The focus is currently on getting people job-ready but there are issues with accommodation and with limited places for trainees. An example was given of a second year electrician who can't get into a TAFE or a private Registered Training Organisation even though that person has accommodation. There are also problems with the bureaucratic process involved with enrolling in TAFE. In addition, there needs to be more support for people travelling long distances.

Partnerships may be the key moving forward. More research into where the partnerships may come from needs to occur and they don't have to come from WA-based organisations. TAFE has just started a partnership with Charles Darwin University in the Northern Territory.

Notre Dame University

Notre Dame recently completed a review of its three campuses in Broome, Fremantle and Sydney and found that there is capacity to grow in all areas. The review found that there needs to be more seamless integration with the VET providers. Prof Lyn Henderson-Yates, the Deputy Vice Chancellor of Notre Dame University is creating a Centre for Indigenous Study, "Caring for Country", to promote excellence in

Indigenous education and would like to grow its research capacity. Notre Dame wants to go into remote communities to get children to reengage with education.

The university's staff are working to capacity or beyond and they are short of both office space and teaching space and there is no large lecture theatre. The university would like to get out to communities but delivering programs off campus is problematic and there is no funding for that at the moment. Notre Dame is looking at mechanisms to deliver more programs from its Fremantle campus.

Kimberley Land Council

The KLC have employed a consultant to focus on education and training. At the time of the workshop, the KLC had been conducting scoping studies with the communities to look at both community and individual aspirations but had not yet reached a conclusion.

The KLC education and training initiative is looking at programs from preschool right through the education process that can have measured outcomes, for example, the VET in schools program. The KLC is looking at developing programs to address the needs of students in the lower end of high schools. The KLC has applied for funding to develop job readiness training. Higher education providers are interested in working in the Kimberley but more work needs to be done in this area and funding needs to be sought. The Commonwealth Government has only awarded 172 grants out of 3000 applications.

The KLC has prepared a draft 'Kimberley Group Training Document' that can be made available.

There needs to be a centralised place on the Dampier Peninsula in partnership with the State and industry, to give training in the support services for the gas industry. The trade school idea is supported by other industries. Work contracts are guaranteed by Woodside's Heads of Agreement deal. A vocation and skills audit needs to be conducted.

Kimberley Group Training

Kimberley Group Training is a not-for-profit training organisation. It has capacity to increase programs in the Kimberley but there are significant barriers such as the high case loads of trainers. One issue is that it needs to lease premises and can't expand because of limited infrastructure. Moving to smaller premises would allow field officers to better deliver the service. The concept of either TAFE or Notre Dame providing "incubator space" was raised.

Department of Indigenous Affairs

The DIA is limited by current funding issues. Commonwealth-State partnerships will give it more capacity to deliver education programs. One option is to start using a Woodside-sponsored apprenticeship scheme.

Department of Education, Employment and Workplace Relations (DEEWR)

DEEWR sees one of the key issues as retaining quality teaching staff. One of the areas that should be looked at is what is needed to sustain a good core of teachers. One suggestion would be to develop a national centre for excellence in remote teaching. One of the programs being delivered in the East Kimberley is an in-house teaching facility.

DEEWR also suggested that the school system doesn't have enough autonomy. Catholic and public schools in Broome don't have spare capacity. The need is so

great we have to move away from a competitive environment to attract the right teachers to get school attendance rates higher.

DRAFT

B5: Health Workshop

Kimberley Browse LNG Project

Social Impact Assessment Workshop: HEALTH

WORKSHOP NOTES

Date: Wednesday 12 August 2009

Time: 8:45am – 4:30pm

Venue: Mangrove Hotel, Broome

Facilitator: Dianne Katscherian, Department of Health

Registration/Tea & Coffee

0845-0915

Welcome: Dianne Katscherian

0915-0930

Presentations

0930-1030

- KBLNG Project Summary
- Woodside: Proponent Perspective
- KBLNG Social Impact Assessment

Gary Simmons
Craig Gosselink
Andrea Jardine-Orr

Morning Tea Break

1030-1045

Part 1: Identifying Impacts

1045-1230

Lunch Break

1230-1330

Part 2: Risk Assessments

1330-1445

Afternoon Tea

1445-1500

Part 3: Risk Management

1500-1615

Where to Next and Close

1615-1630

Outcomes of Broome Health Workshop

Impacts on health from the Project

Aspect	Factor	Potential Impact	Mitigation	Comment
Discharge of CO ₂	Health	Attract mosquitoes and increase risk of mosquito borne disease	Appropriate draining to prevent water ponding, Mosquito monitoring and control programs. Carbon trading/carbon permits	
Discharge of greenhouse gases (CO ₂)	Climate and Health	Contribute to climate change impacts	CO ₂ capture and reinjection	
Wastewater storage and treatment	Health	Potential for mosquito breeding in water ponding, storage and treatment facilities	Appropriate design and management to prevent mosquito entry and breeding	
Construction of Precinct adjacent to suspected mosquito breeding sites	Health	Exposure of workforce to risk of mosquito borne disease	Create buffer zone around identified breeding zones, mosquito monitoring and management, appropriate fitting of insect mesh and repellent use by workforce	Extent of impact depends on final design and layout of Precinct infrastructure
Use, storage, transport and disposal of hazardous materials (fuel, chemical and waste)	Health	Exposure of workforce to hazardous materials and risk of hazmat spill	Proponent to train workforce on appropriate handling of hazardous materials, emergency response and ppe	Lack of clarity around Aust. Govt/State/Local govt. responsibility
Discharge of combustion products (NOx, SOx and CO)	Air quality	Exposure of workforce to air pollution	Ongoing air quality monitoring	
Clearing of vegetation and construction activities	Air quality	Release of dust into atmosphere	Preserve some vegetation as wind breaks, use dust control methods eg water tanks, hydromulch etc	
Development of Precinct on pristine land	Social cohesion	Increased tension and division in the community ie 'for' vs 'against' the Precinct		
FIFO construction workforce	Family stability	Increased potential for family disruption to family life, family breakdowns and disruption to care of dependents	Proponent to establish an employee assistance program to provide relationship awareness/education. Proponent to commit to an appropriate roster to reduce impact on families (eg 2 on, 1 off)	
Introduction of workforce and establishment of infrastructure in cyclone prone area	Community/worker safety	Exposure of workforce to cyclone risk	Worker accommodation village to be cyclone rated. Proponent to invest in emergency preparedness and provide training to staff	
Introduction of FIFO construction workforce to Kimberley	Health	Potential for worker heat stress	Proponent to develop policy on heat stress avoidance (focus on hydration, shade, hats, protective clothing) and hours of duty during summer and restrictions on work above agreed temperatures	Greatest risk may be for FIFO workers (non-locals) not accustomed to the climate. Monthly average day time temperatures are not less than 30 degrees C
Worker use of recreational/environmental waters during work breaks	Health	Potential exposure to irukandji jellyfish and crocodiles	Proponent to educate workers on risks in the area and to invest in signage at known risk spots	

Impacts on health from the workforce

Aspect	Factor	Potential Impact	Inherent Risk	Mitigation	Comment	Residual Risk
Influx of predominantly single, male FIFO construction workforce.	Health	Mixing of men with money with vulnerable women leading to increased rate of STIs	Low	Code of conduct for workforce and training/education and development of recreational infrastructure at accommodation Village. Proponent to consider 'closed camp' during work breaks and to invest in a Recreational program of organised activities	Difficulty enforcing 'closed camp' for a construction workforce of 3500	
Influx of single, male workforce on Broome on weekends/work breaks	Health	Increased demand for sex workers and sexual assault	Low	Code of Conduct and development of recreational infrastructure at accommodation Village. Proponent to consider 'closed camp' during work breaks and to invest in a Recreational program of organised activities		
Incurison of workforce on Broome on weekends/work breaks	Health	Increased drug and alcohol use related harm in community. May undermine benefits of alcohol restrictions with if workers are mobile	Low	Code of Conduct for workforce and training/education and development of recreational infrastructure at accommodation Village. Proponent to consider 'closed camp' during work breaks and to invest in a Recreational program of organised activities. Dry camp policy. Regular, random drug and alcohol testing of workers	Note ban on sale of takeaway King Brown bottles of beer, 2L cask wine and full strength beer. Most Indigenous communities have prohibitions on alcohol, drugs and other deleterious substances. Workforce consumption of alcohol/drugs should not lead to a rise in substance abuse in Indigenous communities	
Influx of well paid workforce	Cost of living	Increased demand for limited goods/services including fresh produce may marginalise already disadvantaged groups	Medium	Proponent to train and recruit from local population including Indigenous communities where possible. Proponent to invest in joint venture with Indigenous communities to establish market gardens to sell fresh produce to the community		
Influx of workforce to Broome on weekends/work breaks	Sense of place	Increased road traffic and risk of traffic accidents	Medium	Proponent to commit to 'closed camp' for workers during work breaks	This may relate to worker access to vehicles on work breaks. Linkages with drug/alcohol use. Code of Conduct may have indirect benefits	
Increase in population	Sense of place	Introduction of traffic lights etc to manage increased traffic	Medium	Proponent to engage with the community on appropriate traffic management. 'Closed camp' policy during work breaks may limit increase in traffic in Broome		
Influx of overseas workers on 457 visas	Health	Potential for quarantine breaches if health checks on incoming workers are inadequate	Major	Proponent to commit to thorough health checks of overseas workers employed on 457 visas		
Increased population and use of recreational and environmental waters	Water Quality	Potential for reduction in water quality with increased used by increased population, coupled with lack of sanitation facilities at isolated beach locations		Proponent to invest in sanitation facilities at popular recreational/environmental waters	Should Proponent provide organised recreational activities for construction workers during work breaks to ensure 'closed camp' (i.e. workers do not travel to Broome for recreation), funding to improve facilities at recreational locations may be appropriate	

Impacts on health services and infrastructure

Aspect	Factor	Potential Impact	Inherent Risk	Mitigation	Comment	Residual Risk
Influx of FIFO construction workforce and permanent operational workforce	Health services and infrastructure	Increased pressure on GPs, emergency departments, mental health, midwives, dentists, specialists	Major	Proponent establishment on-site clinic for workforce including GP, mental health (EAP), dental. Proponent investment in emergency dept. Health worker accommodation to be subsidised by DOH or additional tax incentives to help attract health workers	Note large construction workforce will be temporary. The permanent operational workforce will be much smaller 200-350? Current hospital bed ratio is 4.1 beds per 1000 population plus 10 private hospital beds. (SIA Scope and Profile Vol 1)	
Increased incidence of emergency events	Emergency services	Increased pressure on emergency response	Major	Proponent to invest in emergency services (fire, ambulance, SES, RFDS, airlift capacity) and to sponsor FTE volunteers in partnership with Fire, Ambulance	Risk of incidents will remain throughout life of operation	
Competition for labour	Health services	Health workers leaving existing employment to work at Precinct leading to reduction in qualified health professionals	Medium	Proponent to limit the number/type of lures offered to attract staff		
Influx of permanent operational workforce	Family support	Increased demand for child care and insufficient places to cater for growing population	Medium	Proponent to invest in local child care services		
Influx of permanent operational workforce	Housing	Increased demand for already unaffordable housing likely to marginalise disadvantaged groups, and increase in homelessness	Medium	Proponent to provide accommodation for the temporary construction workforce and invest in housing for the permanent operational workforce	Housing and land shortages	
Increased number of tourists	Health services	Increased pressure on health services	Low		Query whether the Precinct will result in increased tourism to the area?	
Increase in population	Health services	Increased pressure on local government service delivery	Medium	Decision to be made about responsibility for environmental health management. Proponent to provide EH services to the Precinct		
Increased air traffic through Lombadina and Broome airports	Noise/Sense of Place	Community exposed to increased noise levels from Broome and Lombadina airports and early morning/late evening flight times				

B6: Sense of Place Workshop

Kimberley Browse LNG Project

Social Impact Assessment Workshop: SENSE OF PLACE

WORKSHOP NOTES

Date: Thursday 10 September 2009

Time: 8:45am – 4:30pm

**Venue: Department of Environment and Conservation Conference Room,
111 Herbert Street, Broome**

Facilitator: Ian Baxter

Registration/Tea & Coffee

Welcome: Ian Baxter

0845-0915

0915-0930

Presentations

- Terry Bailey (Commonwealth Department of Environment, Water, Heritage and the Arts)
- Peter Ciemitis (Roberts Day)
- KBLNG Project Summary Gary Simmons
- Woodside – Proponent Perspective Alec Cumming
- KBLNG Social Impact Assessment Dr Andrea Jardine-Orr

Workshop Sessions

1: Identifying Broome's Sense of Place

2: Identifying the Impacts of a LNG Precinct on the Sense of Place of Broome

DISCUSSION: Maintaining Broome's Sense of Place

Outcomes from the Sense of Place Workshop are provided in the facilitator's report, as follows:

1. Introduction

The Sense of Place Workshop held on 10 September in Broome was attended by about 30 people representing the State Departments of Planning; Transport; and Indigenous Affairs; Shire of Broome; Tourism WA; Broome Chamber of Commerce; the KLC; the Commonwealth Department of Environment, Water, Heritage and the Arts; Magabala Books, Arts and Culture; Kimberley Aboriginal Medical Services Council; the Broome Historical Society; and a number of long-term residents and business owners in Broome.

In addition to those who attended, a number of other organisations were invited but were unable to attend. These included the local Member of the Legislative Council

and the Member of the Legislative Assembly; Tourism NorthWest; Catholic Diocese; Broome Visitors Centre; Yawuru PBC; Broome Turf Club; Kimberley Aboriginal Law and Culture Centre; Lingiari Foundation; Pearl Producers Association; and a number of long-time Broome residents, local identities and Business owners.

The workshop was facilitated by Ian Baxter and was structured around a series of presentations to establish the concept of a “Sense of Place”, with additional input from Woodside and the Department of State Development (DSD) on the likely nature of activities resulting from the operation of the proposed KLNG Precinct and a brief presentation from DSD on the SIA process.

The facilitator commenced proceedings by welcoming participants and outlining the purpose of the workshop and the format for the day.

2. Workshop Objectives

- Identify what is meant by Sense of Place and how this applies to Broome.
- Identify any potential positive and negative impacts on Broome’s Sense of Place that may arise from the development.
- Identify the level of potential risk to Broome’s unique character from the project.
- Ascertain any gaps in the SIA scope and profile.

3. Presentations

3.1. Presentation: Terry Bailey

Terry Bailey, Assistant Secretary of the Natural and Indigenous Heritage Branch (Federal Government Department of the Environment, Water, Heritage and the Arts), began the day’s formal presentations.

Since July 2008, Terry has been responsible for the preparation of natural and Indigenous World Heritage nominations, assessment of natural and Indigenous places for the National Heritage List (NHL), and the management of Australia’s natural and Indigenous World and National Heritage properties.

Terry provided us with a background to the Kimberley National Heritage assessment, an explanation of national Heritage Criteria and gave a summary of the preliminary historic heritage findings for the area. Terry explained the reasons for undertaking the assessments and how they relate to the establishment of a LNG Precinct to process the proposed Browse Basin gas off the Kimberley coast.

The key points of his presentation were as follows:-

- A standard national heritage list assessment is being conducted by the National Heritage Council. They are looking for heritage values within an area of 22.5 million hectares. It started in 2008 and is due to conclude by June 2010.
- A criterion can have heritage value if it has natural, indigenous, historic or other heritage value.
- Nine criteria cover events, process, rarity, research potential, aesthetics, technical achievement, significant people, social value and places that are important as part of Indigenous tradition.
- The threshold for inclusion on the NHL is high, the place must be significant.

- Assessment is done through comparative analysis - how does it compare with other similar places, where is the best representation, what is its integrity and authenticity?
- Comparative analysis is across the entire continent, so being important locally is not sufficient.
- For the Kimberley, inspirational landscapes methodology is being used, which means it needs to have outstanding beauty associated with it. There are about six areas of high aesthetic value in the Kimberley, including Windjana Gorge, Geike Gorge, King George Falls, Mitchell River NP, King Leopold Ranges Park.
- In a national comparative analysis other considerations will include:
 - European explorers - Sir John and Alexander Forrest, William Dampier landing at Karrakatta Bay
 - Military activities - WWII at Kalumburu
 - Pastoralism - droving cattle, Derby Warf, Broome Meatworks - but these stories are also strong in the East Kimberley so may not be of national importance
 - European pearling industry - stories around use of Indigenous labour, exemption of White Australia policy.

3.2. Presentation: Peter Ciemitis

The second presenter was Peter Ciemitis. Peter is Senior Associate with one of Australia's leading urban design practices, Roberts-Day. Peter is an award winning designer and planner, practicing for almost 30 years, and producing plans and strategies for a broad range of places ranging from major suburban communities, town centres, and waterfronts, and is currently producing the plan for Broome North. He has considerable expertise in the complex field of "Sense of Place".

Peter talked about the measures of Sense of Place in a world, environmental and local context. He applied this theory to Broome quoting its long Indigenous history, its historical, geographic and economic connections with Asia. He outlined the relevance of the Transect model and how it can be used to plan new communities in sympathy with their physical surroundings.

Key points of his presentation were as follows:

- The term, "Sense of Place" was first coined by Prof George Seddon in his book in 1972 "A Sense of Place", it is now used to talk about a connection to place.

Measures of Place:

- Sense of Place in the world
- Sense of Place in the environment
- Response to local place

A Place in the World

Considerations are Broome's:

- Long Indigenous history (stories and significance)
- Historical, economic and geographical links with Asia
- Tourism 'hot spot' (both high and low end)
- Distance from supplies of goods and resources, raising costs and leading to a life of austerity and simplicity.

A Sense of Place in the Environment

- Pindan country, big wind, gentle breezes
- Rich ecology
- Big Open (to be in the CBD and see wide open spaces in the distance)
- Big Wet, Big Dry
- Indigenous plants as well as echoes of an exotic, tropical past
- Drainage to accommodate large amounts of water - this breaks up the urban environment, creates needed space
- Ecological links, cultural links
- Walking environment
- Buildings - austere materials (others too expensive to transport), simplified architecture, cyclone hardening, houses designed for the place, brings an informality

Response to Local Place

- Use of transect in nature. A way to understand that when you move through the land, things change, the soil, the amount of rainfall, the vegetation, fauna as you move through different transects
- Apply similar logic to the design and layout of communities. Look at how communities move through a natural condition, to bush environments to suburban areas to the centre of the city
- Settlements should respond to the human form, be 'walk able', have a discernable edge
- Bush living - need to have community spaces and roads that are more informal
Buildings should respond to the environmental condition and be set back from the roads
- Suburban living - i.e., Cable Beach, Old Broome. Community spaces need to be usable by a lot of people, more ordered. Roads have footpaths, more shade. Buildings are closer to the roads.
- Town living - community spaces are central places
- Sense of place influenced by past, current and future stories, by respect for environmental conditions, by both local and global uniqueness, by the way we respond to the detail of place making

3.3. Presentation: Gary Simmons

Gary Simmons, Director of Project Support, Department of State Development. Gary has been involved in the Kimberley Development Taskforce since 2007. He provided a briefing on the LNG Precinct project and approvals process. Gary explained the consultation process being followed by government and outlined the proposed impact assessment methodologies to be used.

Gary advised that they would be able to identify any issues of concern and gaps in information related to Sense of Place through this process. A process of ongoing consultation would also be established and the outcomes from this workshop would be made available to participants.

3.4. Presentation: Alec Cumming

Alec Cumming from Woodside is currently a member of the Browse Basin LNG Development Leadership Team in Woodside. He outlined Woodside's role in the

Browse Basin development and the volume of gas that could be expected to be extracted from the reserves. He also outlined the advantages and disadvantages of processing the gas at two alternative sites being James Price Point or at the Burrup.

He presented a preliminary concept plan of how an LNG Plant would look if constructed at James Price Point, the area of land and sea required including the buffer zones and how the gas would be piped to the Precinct.

Alec advised that employment for their project would be between 2500-3500 during the construction phase, reducing to 200-400 during operations. There would be a mix of residential and Fly-in/Fly-out (FIFO) personnel.

He stated that Woodside were committed to working with government and other agencies to increase the capacity of local businesses and local people, they are committed to Indigenous education and training and employment and to local business development.

3.5. Presentation: Dr Andrea Jardine-Orr

Dr Andrea Jardine-Orr is the coordinator of the Social Impact Assessment and currently works for the Department of State Development while on secondment from the Department of Planning.

Andrea outlined the purpose of a Social Impact Assessment (SIA) process and described the spatial boundaries of the impact assessment. The SIA's primary impact area includes the immediate Precinct area and the urban area of Broome. The secondary impact area includes the Dampier Peninsula, Derby and Bidjadanga.

Andrea outlined some of the key issues that would be considered as part of the study, including the impact on services and infrastructure resulting from the expected increase in population due to the LNG Precinct development.

Key points of her presentation are as follows:

SIA is a process to anticipate and manage change. The Strategic SIA of the Precinct is considering four potential development scenarios for the Precinct over time.

The process followed included –the iterative stages of Scoping, Profiling, Projection, Mitigation and Management, Monitoring

- DSD has released the first of three SIA volumes, the Scope and Profile and is working on assessing the impacts.
- SIA structure - SIA includes four specialist studies: Infrastructure; Tourism IA; Fisheries, Pearling, Aquaculture IA; ASIA.
- The whole process will be peer reviewed by Dr Nick Taylor (IAIA), with Dr Mark Fenton responsible for the social management plan.
- Preliminary key issues include - population increase (from Precinct and supply base), changes to Sense of Place, business impacts
- Using Precinct development scenarios over time:
 - No development within 20 years
 - Low - 15 Mtpa over 15 years
 - Medium - 25 Mtpa over 25 years
 - High - 50 Mtpa over 30 years - *The Precinct area is designed for the high scenario.*
- Broome is growing fast with or without this project - KLNG population projection scenario:

- Medium development – assuming 10% construction workforce in Broome and 50% of operational workforces will see the population grow from c.17,000 in 2011 to 30,000 in 2030 (however, eminent demographer Bernard Salt recently estimated that Broome could be 100,000 by mid century).

4. Workshop Sessions

Workshop sessions were informal sessions where participants were asked to form groups of four to five people and to discuss the concept of 'a Sense of Place'. Groups then reported back to the larger group with a summary of the key points raised during discussions. These key points were captured on a white board at the front of the room by the facilitator. The facilitator introduced this session with a brief power point presentation of images reflecting how others saw Broome from an external perspective.

4.1. Workshop Session 1: Identifying Broome's Sense of Place

The facilitator explained that the purpose of this session was to:

Establish the workshop participants' views of what is meant by Broome's Sense of Place....participants will be asked to reflect on what makes Broome what it is today. What draws people to it, why people enjoy living, working and recreating here and what values are important to them?

4.1.1. Summary of values considered important by participants:

- Diversity of industry and culture
- Buildings that respect the environment, are simple, functional, and use local materials
- Unique cultural influences, the cosmopolitan 'feel' of the place, multicultural heritage
- Non industrial feel
- Sense of pristine, wilderness - inspiring, artistic and readily accessible
- Uninhabited landscape
- Outdoor living, connectedness to nature and the natural cycles
- Isolation of Broome, from other big centres
- Indigenous achievements and pride from non-indigenous people of the achievements
- Impact of the Catholic Church on Indigenous people
- The climate has a strong influence as do the distance from any other large centres and the fact it is on its own, maintains its laid back style
- Going to Cable Beach every day, the climate, friendly people, no racial tension
- It has still got a laid back style, 'Broome Time'
- There isn't really a "Broome" person, people come here to be a Broome person
- Retention of the close proximity of the airport ...is a favourable quirk of living in Broome.

Participants also identified a number of concerns/issues that needed managing to preserve the Sense of Place of Broome and these are included in the summary of Workshop Session 2.

4.2. Workshop Session 2: Identifying the impacts of an LNG Precinct at James Price Point on the Sense of Place of Broome

Participants were again asked to operate in groups of six to eight people with a leader to present findings and to document and present their findings after 20 minutes. The facilitator explained the purpose of this session as follows:

The aim here is to identify both the positive and negative issues attributable to the establishment of the LNG Precinct on the Sense of Place values that you have documented in Session 1 and then consider how any negative impacts might be eliminated or ameliorated.

Participants tended not to discriminate between the establishment of a Precinct and the growth and changes associated with the Precinct and the natural growth that has already occurred and is expected to continue due to tourism and other development.

4.2.1. Summary of issues presented:

- A lack of forward planning during recent growth periods to cope with change in demand.
- Transient nature of Broome's population and scarcity of skilled people to undertake seasonal jobs.
- Concerned about the risks of sex, drugs etc and the potential moral shift in the town of a large FIFO workforce. *Woodside response..... Due to closed nature of the camps, not sure workers will impact Sense of Place. Long term operational workers will integrate more into the community, also camp site would be fully contained with recreational facilities, entertainment etc. They will not have free rein into town.*
- Protecting and respecting Indigenous culture, Indigenous seasons, indigenous flora and fauna.
- Broome lacks any arts facilities, function centres, or museums to preserve and promote culture and the arts.
- Need for more volunteers and sponsorship for the arts (growth could positively impact this).
- Need more support for festivals and art events which currently struggle.
- Growth can lead to a loss of the friendly community feel of the place (high growth rate over the last 15 years).
- Small rate payer base and high demands.
- Wage discrepancy leads to disharmony.
- How do you manage human capital within the built environment? Who creates the Sense of Place?
- The issue here today is that the sense of Broome has been dissipated over a period of time. We need to ensure that this doesn't continue with more growth.
- There could be a problem with planes landing so near the town and the potential increases in flights? *No one has a problem with the jets but people are complaining about the light aircraft and the helicopter noise (disagreement over this issue - apparently the people have been polled over the noise issue and none raised it as a problem).*
- Possible impacts on the airport with tourists sharing planes with workers impacting on the welcoming Sense of Place of Broome. *Woodside response:*

May just put on charter flights for workers. Also may be a protocol for workers travelling, in terms of behaviour.

- Need to consider issues of supply base workers who will be based in Broome. There are consequential impacts of this. Increased activity with a supply base installation in Broome could cause loss of amenity. *Woodside response: Not many people realise that there are 300 people employed by the Port of Broome and supply base, and they are not visible.*
- There is one issue related to this Precinct and a separate issue related to the industrialisation of Broome, especially around the support industries needed. *Woodside response: Many of these industries are already here. We are not going to be building up heavy industry in Broome. Goods will merely be trafficked through Broome from other places. Limited increase during drilling phase.*
- Workers with families are less of a risk that single workers operating on a FIFO basis. *Woodside response: Alec explained that most of the construction workforce would be FIFO, however there would be a large number of permanent workforce as well.*
- Concern about pollution in the water around the port and impacts on bird and fish life. *Woodside response: LNG powered tankers will avoid spill problems though conventional tugs will probably be used and will need to refill.*
- Impacts on whales. *Woodside response: Ship movements during their initial project should not be more than a boat a day. We have done a lot of research on whales and will be using this research in project planning.*
- Communications from government. There needs to be integrity and openness to establish goodwill.
- Why hasn't there been better delivery of information to the communities, using local media, TV stations? *Gary explained how the community had been engaged to date and that a higher level of communication would occur once it was clear in which direction the project was going.*
- What will be the visual impact of the LNG Precinct development? *Woodside response: Visual issues have tried to minimise impacts as far as possible.*

5. Maintaining the “Sense of Place” of Broome – Key Points

- Built form and landscape - there are some planning instruments that can be built into guidelines. There should be design guidelines to maintain Broome's Sense of Place in the architecture - maybe need a “Sense of Place Vision” that can feed into all of the other guidelines (note that the Shire maintains control of development in Chinatown through its Chinatown Development Policy, this area is also subject to approvals from the Heritage Council of WA).
- Can use planning instruments to achieve these outcomes, for example, projects should have a community art component built in as a requirement.
- In the global arts industry WA arts doesn't really feature, apart from Indigenous art, most of which comes from this region. Broome is the hot spot of Indigenous art. Art competitions could be established similar in scale to the

Cossack Art Awards program. Subsidised transport of works must be included.

- Need investment in local training to ensure job benefits are realised and don't just go to FIFO or external workers.
- Community health and wellbeing is measured by the health of its arts. Growth of Broome needs to provide opportunity for expression of social and cultural interests. Need to keep building infrastructure for culture and the arts - sport and recreation have a more, well established infrastructure (see note above relative to cultural facilities).
- Maximise permanent workforce based in Broome and minimise FIFO workforce.
- Protect and respect Indigenous culture.
- Growth can lead to a loss of the friendly, small community feel.
- Need to protect the old families of Broome, as the cultural gate keepers. They should be brought into more decision making roles?
- The sense of Broome has been dissipated over a period of time. We need to ensure that this doesn't continue with more growth. Need to establish the Sense of Place that has been lost due to recent growth and strengthen what is left.
- Affordability, wage disparity needs to be addressed to ensure human values are retained.
- Minimise noise interference from helicopter traffic and review airport management of FIFO workforce.
- Ensure any increased traffic resulting from Supply Base, if located in Broome, is isolated from residential areas. Need to be careful that ancillary industries are put far away, i.e., inland
- Ensure all environmental issues related to marine activities are properly addressed.
- Minimise visual impact of LNG Precinct on landscape.

6. Broome 2030

Participants were asked to reflect on what Broome would be like in 2030 and what characteristics would endure through the growth period if adequately addressed in future planning.

- A living multi-cultural community reinforced by facilities, funding and recognition of Indigenous culture. Recognition of "cultural guardians".
- Interpretation/celebration of its history and culture through art/planning documents.
- The climate and its distance from other major centres of population should ensure that much of Broome's character is retained.
- Broome's size and geographical configuration will limit development to North Broome and therefore assist in retaining its physical character.
- Future development will mean that people are further from the beach but Cable Beach will still be a major drawcard.
- It will still have a laid back style - 'Broome Time'

7. Synopsis

7.1. Concept of Sense of Place

Participants expressed a good understanding of what makes Broome what it is, perhaps summarised as follows:

“Broome is a town with grit! It has industry but it is not over bearing. Its geographical configuration between the Sea and the Bay is unique. The rich red of the Pindan and aquamarine colours of the water provide a stunning contrast of colours. It has a unique and changing character between the Sea and the Bay as dictated by the tidal variances. It has a uniquely cosmopolitan mix of peoples with good racial harmony. It has a pleasant warm tropical climate, wonderful beaches and laid back lifestyle. Its remoteness from other major centres reinforces the independence and integrity of the local community.”

When considering the impact of new industry on Sense of Place, the starting point is Broome today, not Broome of yesteryear. Broome today is a thriving town primarily dependent on the tourism industry but with an underlying industry based on pearling and pastoral activities and to a lesser extent oil and gas.

7.2. Impact of a Kimberley LNG Precinct development

Participants were given a comprehensive briefing of the likely impacts from a population perspective, the nature of the workforce that would be initially involved in the construction stage of the gas development and subsequently when the plant is fully operational.

This was placed in context with the growth of Broome over a number of years to date and the likely growth patterns over the next 20-30 years irrespective of whether the Precinct went ahead or not.

Interestingly, few participants saw growth as a threat that couldn't be managed, including due to a proposed LNG plant, more that it was inevitable. However, they did foresee some issues that would need to be addressed to avoid the Karratha/Port Hedland scenarios where the physical and social impact of industry was more obvious. It was noted, however, that the location of the primary industry at James Price Point, some 60kms north of Broome, is a major point of difference in the two scenarios.

The increase in activity related to a Supply Base based in Broome with associated increases in air traffic, particularly helicopters, has potential to have more impact on the ambience of Broome. Woodside, however, pointed out that currently the Browse Basin was being serviced by the Supply Depot in Broome and that they couldn't foresee any significant increase in traffic with the LNG Precinct construction and operational phases.

Management of spills resulting from increased use of the Port facilities was a concern.

Residents seem quite accustomed to the regularity of air traffic due to the close proximity of the current airport to the town. In fact this is often mentioned in favourable terms as one of the idiosyncrasies that make Broome different to other towns.

Participants identified a number of issues that needed to be addressed related primarily to the unprecedented growth in the region over the last 10-15 years in particular. Many of these issues relate to inadequate infrastructure that includes

education, hospital and transport facilities, to name a few, that are outside the scope of this report but will be addressed in the overall SIA evaluation.

There are, however, some aspects that do have an impact on Sense of Place that should be recognised as having potential to maintain or even strengthen the characteristics of Broome, that define Sense of Place from a community perspective.

For instance, a compelling argument was put forward to enhance the cultural/performance infrastructure in Broome, to capitalise on the talent that already exists particularly within the Indigenous and multicultural population. Broome is seen as a centre for Indigenous art that is under resourced and would benefit from an increase in investment.

The cost of housing and accommodation in Broome is already quite high and can be anticipated to rise further with the establishment of the LNG Precinct over and above the growth in tourism.

This has implications for some disadvantaged groups and those in service industries. Increased demand could also lead to the redevelopment of many areas of the old town as land supply is exhausted. Maintaining the traditional Sense of Place epitomised by the characteristic Broome architecture is seen as an important goal in the future development of the town.

Planning controls were seen as fundamental to maintaining a Sense of Place in Broome, yet it was felt that there was no overall vision for the place. Planning documents such as the Chinatown Development Strategy should be reviewed in the light of the current growth predictions and the aspirations of the community to conserve this piece of Broome's history and its Sense of Place.

It should be noted, however, that there has already been much work carried out. The "Report of the Broome Planning Steering Committee December 2005" addresses many of these issues and should provide broad direction in this context.

8. Conclusion

The facilitator summarised the main issues from the workshop and invited participants to make any last comments. There were none, the facilitator then thanked all present for their contribution to the proceedings and reminded participants of the further opportunity, that would be made available to the community in the following week, for more comment and that the outcome of the workshop would be made available by DSD.

Annexure C: Community Updates

The following advertisements were placed in the *Broome Advertiser* on the following dates:

Community Update 1 – 23 July 2009
Community Update 2 – 6 August 2009
Community Update 3 – 20 August 2009
Community Update 4 – 3 September 2009
Community Update 5 – 17 September 2009
Community Update 6 – 1 October 2009
Community Update 7 – 15 October 2009
Community Update 8 – 29 October 2009
Community Update 9 – 12 November 2009
Community Update 10 – 26 November 2009
Community Update 11 – 10 December 2009
Community Update 12 – 17 December 2009



Government of Western Australia
Department of State Development

Community Update 1

COMMUNITY UPDATE

Kimberley LNG precinct

The Western Australian Government supports development of a Liquefied Natural Gas (LNG) precinct near James Price Point to process offshore gas reserves from the Browse Basin.

The LNG precinct is expected to operate for at least 30 years, generating investment, business and employment, and creating unprecedented opportunities in West Kimberley communities, particularly for Aboriginal people.

Development of the LNG precinct is still subject to Federal and State assessment of potential environmental, heritage and social impacts and evaluation by industry of the economic viability of constructing and operating LNG processing plants at this location.

What is happening now?

The Department of State Development is co-ordinating investigations into the viability of the proposed precinct and its potential impacts on the environment and on Aboriginal heritage.

It is also conducting a Social Impact Assessment (SIA), to understand possible impacts of the project on local people, their lifestyles and local industries.

What is a social impact assessment?

The process involves an assessment of the current situation in Broome and the Dampier Peninsula, including current and future trends in population, employment, housing, community facilities and services and estimating the impact the proposed project could have on these.

This work will help in developing a social impact management plan to gain real benefits for Broome and the communities of the Dampier Peninsula by managing the changes and taking advantage of opportunities that are a direct result of the LNG precinct project.

Is there community involvement?

The social impact assessment is being discussed with the Shire of Broome, local business and community organisations, the tourism and fishing industries and government service providers.

This includes workshops covering topics such as health, infrastructure, recreation, housing, and sense of place/heritage.

Wider community consultation is part of the social impact assessment and management planning process and opportunities for involvement will be advertised soon.


Where can I find out more?

Fact sheets outlining the Government's role in the project are available at the Shire of Broome Administration Centre.

Studies and reports of consultation undertaken will be published on the Department of State Development website.


For more information visit
www.dsd.wa.gov.au/KimberleyLNG

DRAFT



Government of Western Australia
Department of State Development

COMMUNITY UPDATE



Some of the participants at the Social Impact Assessment workshops for recreation and lifestyle with Executive Director Kimberley LNG project Duncan Oat (centre) included: Broome Fishing Club President, Steve McLaughlin; Aussie Hoops Coordinator Broome Basketball, Jodie Lynch; Broome Surf Club President, John McCourt; and Regional Director, Education, Bill Mann.

Kimberley LNG precinct

Social Impact Assessment workshops underway

Recreation and lifestyle was the topic of the first in a series of community workshops held in Broome recently as part of the State Government's Social Impact Assessment on the possible impacts of the proposed Kimberley LNG Precinct.

Service providers and interest groups were invited to hear presentations from the Department of State Development and Woodside Petroleum and then participate in a group discussion.

Steve McLaughlin, President of the Broome Fishing Club said the workshop was excellent.

"The Government has gone about it the right way," he said.

"We have got to look after the fish stocks and it is great to have the opportunity to present our perspective on such a major issue.

"The benefits to the fishing club could be huge which will be a great help to our community."

Other workshops covering health, housing and land, infrastructure and sense of place/heritage are being held during August and September.

How can I get involved?

Interested people and organisations will soon be invited to register to participate in consultation activities being planned for September – details will be advertised in the next Community Update and online at www.dsd.wa.gov.au

The Shire of Broome is also organising a public forum.

More information


Find out more about the Kimberley LNG Precinct Social Impact Assessment at the Department of State Development website.

A Social Impact Assessment – Scope and Profile will be available soon at www.dsd.wa.gov.au/KimberleyLNG

It provides information about the population, economy and community services in Broome, the Dampier Peninsula and the Kimberley generally, including population growth projections. It also details the scale of potential LNG related activity and outlines the Social Impact Assessment process.


Fact sheets about the project are available at the Shire of Broome Administration Centre.

For more information visit
www.dsd.wa.gov.au/KimberleyLNG



Government of Western Australia
Department of State Development

COMMUNITY UPDATE



Participants at the SIA Infrastructure workshop were Gary Simmons, Department of State Development; Kelvin Barr, Kimberley Development Commission; Sean Mulholland, Port of Broome; Terry Williams, Norwestcare; Irene Sells, Department of Planning; and Darryl Gutcher, Shire of Broome.

Kimberley LNG precinct

Housing and health on the agenda
Social Impact Assessment (SIA) workshops involving housing and land, and health providers were recently held in Broome to look at how the development of an LNG precinct might impact the town and the surrounding areas.

"We are committed to working to minimise any social impacts an LNG development may have," Gary Simmons from the Department of State Development said.

"While we have done a lot of preliminary research, these workshops are designed to capture any gaps or issues that haven't been included."

Further workshops on education and sense of place/heritage will be held next month.

Wider community involvement
An open community forum will be held from 2pm to 4pm on Thursday, 17 September at the Department of State Development's office, upstairs, Woody's Arcade, 15 Dampier Terrace, Broome. The forum will provide an opportunity for people to ask questions and find out more information about the project.

The Department will also present at the Shire Forum planned for 18 and 19 September. There will be an opportunity to provide input and feedback at both forums.

For more information email nick.hopkins@dsd.wa.gov.au or phone Nick on 9222 0963.

Tourism study complete
As part of the Social Impact Assessment, a Tourism Impact Assessment, undertaken by Broome-based Kadar Pearson and Partners (KPP), has been completed.


This study looked at a variety of accommodation, land based tours, aerial scenic flights, tourist-focused retail, indigenous cultural experiences and marine based tourism and how they might be impacted by the development of an LNG Precinct.

It also looked at the potential impacts and benefits to the tourism and hospitality workforce and accommodation, tourism products, including flights, tours and experiences, as well as to Broome's and the Kimberley's sense of place. The report will soon be released by Tourism WA.

More information
Find out more about the Kimberley LNG Precinct Social Impact Assessment at the Department of State Development website www.dsd.wa.gov.au/KimberleyLNG.


The Social Impact Assessment scope and profile document and project fact sheets are now available online. Fact sheets are also available at the Shire of Broome Administration Centre.

For more information visit
www.dsd.wa.gov.au/KimberleyLNG



Government of Western Australia
Department of State Development

COMMUNITY UPDATE



A series of community workshops is being held as part of the Social Impact Assessment.

Kimberley Browse LNG precinct

Community Open Day, 17 September

The Broome community will have the opportunity to find out more about the proposed Kimberley Browse LNG precinct at a community open day on Thursday, 17 September.

The open day will feature presentations that were given at the recent Department of State Development Social Impact Assessment workshops. There will be an opportunity to provide input and to talk to Department representatives about the project and the Social Impact Assessment. Representatives from Tourism WA, Department of Planning and Department of Fisheries will also be available to answer questions.

The open day will be an informal 'drop-in' event and you can visit whenever you like from 2pm to 6pm. Everyone is welcome and tea and coffee will be available.

When and where?

Community Open Day, Thursday, 17 September from 2pm to 6pm
Department of State Development
Woody's Arcade, (upstairs) 15 Damper Terrace, Broome

If you can't make it to the open day, the Department will also host a display at the Shire Forum at the Broome Recreation and Aquatic Centre on Friday 18 and Saturday 19 September and will give a presentation on Saturday between 11:30am and 12:30pm. For more information email nick.hopkins@dsd.wa.gov.au or phone Nick on 9222 9963.

Education and Sense of Place/Heritage workshops

Workshops involving stakeholders in Education and Sense of Place/Heritage will be held next week. These workshops conclude the current round of community consultation involving service providers.

"The input we have received from the participants has been extremely valuable," Social Impact Assessment Coordinator Andrea Jardine-Orr said.

"It will help us identify any gaps in the process and the information will be integrated into the overall management plan."

Did you know...

Even without the LNG development, trends indicate continued growth in population in Broome well above the State average – from 14,706 in 2006 (pre-census) to 22,186 in 2021 and to 26,800 in 2031.

Read more about this and other interesting local research in the Social Impact Assessment Scope and Profile report at www.dsd.wa.gov.au/KimberleyLNG


More information

Find out more about the Kimberley Browse LNG Precinct Social Impact Assessment at www.dsd.wa.gov.au/KimberleyLNG


The Social Impact Assessment Scope and Profile report and project fact sheets are now available online. Fact sheets are also available at the Shire of Broome Administration Centre.

For more information visit

www.dsd.wa.gov.au/KimberleyLNG


 Government of Western Australia
 Department of State Development

COMMUNITY UPDATE



Education workshop participants included Traditional Owner negotiating committee members Anthony Webber and Wayne Barker; the Department of State Development's Gary Simmons, Simone Wardle, Kimberley Group Training, Maree Goff, KLC and Ian Perdrinat, Ngala.

Kimberley Browse LNG precinct

Service provider workshops complete

Workshops for local service providers to have input into the Social Impact Assessment wrapped up last week. The final sessions focused on Education and Sense of Place.

"We'd like to thank all stakeholders who participated in the workshops for sharing their valuable local knowledge," Project Director Gary Simmons said.

"Their input will be pivotal to the development of a management strategy for the precinct to protect the integrity of Broome and Dampier Peninsula and to maximise the potential benefits the project will bring to the community."

Have your say at the community open day

The Broome community now has the opportunity to provide input into the Social Impact Assessment process.

A community open day on Thursday 17 September is being hosted by the Department of State Development with representatives from the Departments of Planning, Fisheries and Tourism WA. The open day format was chosen to allow as many people as possible to have the opportunity to participate.

As well as having your say, you will be able to ask questions and find out more about the proposed Kimberley Browse LNG Precinct and watch the presentations that were given at the recent service provider workshops.

The open day is an informal, 'drop-in' event and you can visit whenever you like from 2pm to 6pm. Everyone is welcome and tea and coffee will be available.

When and where?

Department of State Development
 Woody's Arcade, upstairs 15 Dampier Terrace, Broome

For more information email nick.hopkins@dsd.wa.gov.au or phone Nick on 9222 0963. If you miss the open day, the Department will also have representatives available at the Shire Forum at the Broome Recreation and Aquatic Centre on Friday 18 and Saturday 19 September. Presentations will be made on Saturday between 10:30am and 12:30pm.


Tourism Impact Assessment report now available

A Tourism Impact Assessment, commissioned by Tourism WA as part of the Social Impact Assessment, is now available online. The study surveyed industry stakeholders, visitors and resident groups asking a range of questions including: whether tourism and development can co-exist; what benefits could development bring; and how an LNG development would influence their plans to return to Broome. To find out more go to www.dsd.wa.gov.au/KimberleyLNG

More information

Find out more about the Kimberley Browse LNG Precinct at the Department of State Development website www.dsd.wa.gov.au/KimberleyLNG. Fact sheets are available online and at the Shire of Broome Administration Centre.

For more information visit
www.dsd.wa.gov.au/KimberleyLNG


 Government of Western Australia
 Department of State Development

COMMUNITY UPDATE



Participants at the recent Sense of Place workshop (above) included Mike Woodie, Broome Chamber of Commerce; Neil Marshall, Department of Indigenous Affairs; Razi Star, Broome Historical Society; Peter Biber, Department of Transport; Kimberley Regional Manager and Cascoiller Chris Maher.

Kimberley Browse LNG precinct

Community open day

A recent community open day, held at the Department of State Development office in Broome, provided an opportunity for local people to voice their opinion on the Kimberley Browse LNG precinct. Members of the Department's Kimberley Browse LNG project team, Woodside representatives and other government agencies, including Tourism WA, Fisheries and Planning, were on hand to answer questions and provide information.

Recorded presentations from the service provider workshops played during the open day and were designed to provide continuous information to allow as many people as possible to participate.

"The open day was held in the interests of open and honest communication," Project Director Gary Simmons said.

"We'd like to thank all the local community members who took the time to attend and participate.

"People were able to have their questions answered directly, provide feedback, or ask for written responses."

Shire Forum

The Department was pleased to participate, along with other interest groups, in a community forum hosted by the Shire of Broome. A presentation was given and presenters were available to answer questions and provide information to the general community.

"We will continue to consult with the Broome community and with specific interest groups, as we work together to achieve a project that will be positive for Broome, for communities on the Dampier Peninsula and for Western Australia," Acting Deputy Director General Gail McGowan said.

What's next?

A Strategic Assessment will be undertaken by an independent contractor. The Strategic Assessment will involve reviewing technical and scientific studies carried out by the WA Government and Woodside Energy Limited and a risk assessment of building the LNG precinct at James Price Point – the information gathered will be presented in a written report.


The WA Government will soon announce the successful contractor for the coordination of the Strategic Assessment Report. Part of the contract includes further opportunities for the local community to provide input into the assessment process.

More information

Find out more about the Kimberley Browse LNG precinct at the Department of State Development website www.dsd.wa.gov.au/KimberleyLNG


Fact sheets on the project, presentations given at the Social Impact Assessment workshops, the Social Impact Assessment Scope and Profile report and the Tourism Impact Assessment report are all available on the website. Fact sheets are also available at the Shire of Broome Administration Centre.

For more information visit
www.dsd.wa.gov.au/KimberleyLNG



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Department of State Development

COMMUNITY UPDATE



Negotiations on an Indigenous Land Use Agreement are continuing between the State Government and Traditional Owners.

Kimberley Browse LNG precinct

Agreement paves way forward

A preliminary development agreement for the Kimberley Browse LNG precinct was signed between the State Government and Woodside Energy Limited at the beginning of October.

The agreement will allow key studies and planning for an LNG processing precinct for Browse Basin gas at James Price Point to progress.

As part of the agreement, Woodside was appointed as a foundation commercial proponent for the precinct and as a partner with the State Government in bringing the project to completion.

"The agreement marks an important step forward in the development of the Kimberley Browse LNG precinct," Acting Deputy Director General Gill McGowan said.

"This work will move us closer to delivering major benefits for the Kimberley and the local community, with the project to create hundreds of long-term jobs and millions of investment dollars."

Over coming months, several near and on-shore studies will take place to gather information needed to obtain environmental, heritage and other approvals.

Kimberley LNG video

A video on the proposed Kimberley LNG precinct is now available to view on-line by following the link from the department's website www.dsd.wa.gov.au/KimberleyLNG

Featuring interviews from local community members, Traditional Owners and government representatives, it focuses on some of the potential impacts of the LNG precinct on areas such as the environment, tourism and local employment, as well as the benefits to be gained by the local community and future generations.

What's next?

Negotiations on an Indigenous Land Use Agreement are continuing between the State Government and the Kimberley Land Council, representing the Traditional Owners.

Development of the LNG precinct will be based on agreements made with the Traditional Owners to protect Aboriginal heritage and cultural interests at the site while identifying benefits for Aboriginal people if the precinct is developed.

The State Government has contracted an environmental consultancy, AECOM, to coordinate the draft Strategic Assessment Report.

The report will enable the precinct site and proposal to be fully assessed by State and Federal regulatory authorities.

More information


Find out more about the Kimberley Browse LNG precinct at the Department of State Development website www.dsd.wa.gov.au/KimberleyLNG

Fact sheets on the project are available online and at the Shire of Broome Administration Centre.

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COMMUNITY UPDATE



Kimberley Browse LNG precinct

What's happening now?
Environmental studies by AECOM-Stratagen, contracted by the State Government, and Woodside Energy Limited are underway around the proposed site near James Price Point, 60km north of Broome, and will continue until early next year. The studies will help evaluate the environmental impact of developing the LNG precinct, as part of a Strategic Assessment Report for State and Federal Government agencies.

Negotiations are also continuing with the Kimberley Land Council representing Traditional Owners of land around the location.

Did you know?

- The Kimberley Browse LNG precinct will enable processing of natural gas from the offshore Browse Basin, which so far has proven reserves of 34.6 trillion cubic feet of gas.
- LNG processing 'trains' are not railway transport, but refrigeration plants used to cool natural gas to -162°C, condensing it into a liquid for easier transport and storage.
- The proposed precinct is being developed to cater for at least two LNG producers, but will not be available for other processing industries.
- The precinct will enable Western Australian and local people and businesses to benefit from Browse Basin gas while minimising environmental impacts, by keeping processing at one location on the Kimberley coast.

What's next?
The draft Strategic Assessment Report is expected to be provided for presentation to State and Federal environmental agencies early in 2010.

The report will include information on environmental, economic and social impacts. Very high standards will apply and the project must demonstrate that impacts can be managed. The report will be released for public comment before an approval decision is made.

More information
Find out more about the Kimberley Browse LNG precinct at the Department of State Development website www.dsd.wa.gov.au/KimberleyLNG

Fact sheets on the project are available online and at the Shire of Broome Administration Centre.

For more information visit
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Kimberley Browse LNG precinct

What's happening now?

Flora and fauna studies are being carried out by consultants from AECDM-Strategen around the proposed precinct site near James Price Point. The company has been engaged by the State Government to prepare a Strategic Assessment Report for State and Federal Government agencies.

"Our project partners are working closely together to meet the project timelines and objectives and get the best possible outcome for the people of Broome and the Dampier Peninsula," Gail McGowan from the Department of State Development said.

"The government recognises the significant environmental and heritage values as well as the economic potential of the region. The strategic assessment process is all about managing the development responsibly."

WorleyParsons Services Pty Ltd has been contracted to prepare a site Master Plan which will also form part of the strategic assessment. Negotiations between Traditional Owners, the State Government and Woodside Energy Limited are also continuing with the aim of reaching agreement on key aspects of the development by mid December 2009.

Did you know?

- A range of benefits have been committed by government and industry to reduce the gap between Indigenous and non-Indigenous communities on the Dampier Peninsula. This includes commitments to real jobs and real training opportunities.
- The State Government has confirmed the precinct will be exclusively for the production of LNG. There will be no development of a broad industrial complex.
- Consultation between Traditional Owners and government is about achieving longstanding sustainable outcomes for Indigenous communities.
- You can view a video about the Kimberley Browse LNG precinct online at <http://www.premier.wa.gov.au/Ministers/Colin-Barnett/Pages/video.aspx> or collect your own DVD copy from the Shire of Broome.

What's next?

More environmental studies will be carried out in November and December 2009 in line with the requirements of the strategic assessment. Further community consultation will form part of the strategic assessment report and details will be released in the coming weeks.

A Master Plan for the precinct is being developed in concert with the Dampier Peninsula Land Use Plan and Local Planning Scheme.

More information

Find out more about the Kimberley Browse LNG precinct at the Department of State Development website www.dsd.wa.gov.au/KimberleyLNG

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COMMUNITY UPDATE



Department of State Development officers will be available to answer questions on the Kimberley Browse LNG precinct at Paspaley Plaza on December 4 and 5.

Kimberley Browse LNG precinct

Information pack

As part of the ongoing discussions between the State Government and Traditional Owners, an Information pack has been developed with plans as well as questions and answers.

"One of the purposes of the Information pack is to assist the Traditional Owners and their families in making decisions about the location of the final site of the LNG precinct in the vicinity of James Price Point," Gail McGowan, Department of State Development said.

The Information pack will soon be available to the wider community on the Department of State Development's website.

Did you know?

- The Woodside Browse Joint Venture is planning to develop its Torosa, Brecknock, and Calliance gas fields which are located some 400km north-west of Broome.
- The estimated total undeveloped recoverable reserves of these gas fields is 18 trillion cubic feet of gas and 300 million barrels of condensate.
- A near shore geophysical survey is currently being done in order to collect data, which will describe the surface and sub-surface of the seabed off the coast of James Price Point.
- James Price Point is currently unallocated Crown land which has a Native Title claim over it by the Goolarabooloo Jabirr Jabirr native title claimants.
- The State Government has committed to only taking land that is required for the precinct, when it is needed, without extinguishing Native Title in the process.

Community display at Paspaley Plaza

The Department of State Development will have a community display at the Paspaley Plaza Shopping Centre on Friday 4 December and Saturday 5 December.

Everyone is welcome to come along and find out more about the Kimberley Browse LNG precinct and the current status of the Social Impact Assessment for Broome and the Dampier Peninsula.

Team members will be at the display from 10am to 6pm on Friday and from 9am to 1pm on Saturday.

Where can I get more information?

Find out more about the Kimberley Browse LNG precinct at the Department of State Development website www.dsd.wa.gov.au/KimberleyLNG. You can also view a video and fact sheets about the precinct on the website. Fact sheets and copies of the DVD are also available from the Shire of Broome Administration Centre.

For more information visit

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Government of Western Australia
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COMMUNITY UPDATE



A number of surveys, including a coastal shoreline survey, are being done near James Price Point.

Browse LNG precinct

Survey activity

A number of surveys are being carried out by Woodside Energy Limited, as the potential foundation proponent of the Browse LNG development, near James Price Point.

A coastal shoreline survey will collect information on beach profiles and coastal sediments. As part of the survey, research teams will also take transect walks along the coast during low tides. A temporary meteorological station has been installed south of James Price Point to collect data on atmospheric conditions including wind, air temperature, rain and humidity.

A near shore marine biodiversity survey program is also underway. It includes a range of field studies on marine biodiversity in near shore waters of the James Price Point coastal area. The final two program activities include turtle field surveys and a near shore study of the plants and animals that live on the seafloor and their habitat.

Precinct Negotiations

A key focus of the Kimberley Land Council and its Traditional Owner Negotiation Committee has been education, training and employment initiatives to help people prepare for employment opportunities the project will generate. Woodside and the State have given specific commitments to apprenticeships, traineeships and cadetships commencing from early 2010.

A separate working group will also look at Indigenous economic participation opportunities that will arise from social housing initiatives in the Kimberley.

What's next?

A Master Plan for the precinct, port and associated infrastructure should be finalised by the end of 2009.


Finalisation of the draft Strategic Assessment Report for the Browse LNG Precinct is on track to be completed by early 2010 and published once the Environmental Protection Authority has considered the draft.

The State Government is aiming to have a decision on the Strategic Assessment Report and Management Plan by late 2010. Woodside Energy Limited estimates a Final Investment Decision may be as early as 2011.


Where can I get more information?

Fact Sheet 6 "Browse LNG Precinct - Public Information Booklet", which includes frequently asked questions and answers, is now available on the Department of State Development website and at the Broome Shire Council. You can also view a video and fact sheets about the precinct on the website www.dsd.wa.gov.au/BrowseLNG. Fact sheets and copies of the DVD are also available from the Shire of Broome Administration Centre.

For more information visit
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Information sessions were held locally in early December, with more to follow in the New Year.

Browse LNG precinct

Site agreed for Browse LNG processing precinct
 Following extensive consultation with Traditional Owners and consideration of heritage, technical and environmental data, an area just south of James Price Point has been identified as the exact location for the proposed Browse LNG precinct.

The southern site has been chosen because:

- deeper water near the coast will substantially reduce the amount and costs of dredging and blasting required
- impacts on seagrass and other marine habitats will be more manageable
- the land is flatter than the alternative site in the north, reducing the visual impact of the site from the ocean
- impacts on registered Aboriginal heritage sites could be managed.

Heritage Protection Agreement
 The State Government, the KLC representing the Traditional Owners and Woodside Energy Limited have negotiated a Heritage Protection Agreement for the Browse LNG precinct project.

The agreement establishes a process for the:

- identification, protection and management of Aboriginal sites on the lands within the LNG precinct
- parties to work together to identify the precise layout of the LNG precinct in order to avoid impacts on heritage where possible
- the State and Woodside to seek necessary approvals to achieve heritage clearances for purposes related to the development of the LNG precinct.

Community consultation
 Earlier this month the Department of State Development set up an information display for two days at Paspaley Plaza. The team was kept busy answering questions and providing the latest information to the people of Broome on both days. More information sessions are planned for early in the New Year at the Broome Boulevard Shopping Centre.

Where can I get more information?
 Fact sheet 6 which includes a map of the precinct site, an information booklet that includes frequently asked questions and answers, and a DVD on the precinct are available on the Department of State Development website www.dsd.wa.gov.au/BrowseLNG. Copies of all fact sheets and the DVD are also available at the Shire of Broome Administration Centre.

For more information visit
www.dsd.wa.gov.au/BrowseLNG