ASSESSMENT OF OPPORTUNITIES FOR NARRABRI SHIRE FROM COAL MINING & GAS EXTRACTION IN THE GUNNEDAH BASIN

Adopted by Council – 19 June 2007 (403/2007)
1. INTRODUCTION

1.1 Background

The Gunnedah Basin has been labelled as the ‘New Coal Frontier’ in NSW. While coal mining has been undertaken in the Basin for more than 120 years, the strong and sustained growth in the world coal markets has stimulated interest and investment in the Basin’s coal resources. The Basin is estimated to contain around 12% of coal reserves available in NSW. Exploration in the Basin has also resulted in the discovery of both natural conventional gas and coal seam methane gas, with the Basin estimated to have the potential to supply the east coast gas market for the next 50 years.

Since 2000, four open cut mines have commenced operations within the Gunnedah Basin, with the coalfield producing in the order of 2-3Mt of raw coal per annum. There is the potential to expand this to 6-9Mt within a few years. There are also three mines in the mine assessment and planning stage which are expected to commence production within 2-3 years, as well as two large exploration areas, one of which may commence production as early as 2014. The State Government estimates the Basin is expected to attract $3 billion in coal related investment with the coal industry employing around 500-800 people directly and 2,400 – 3,000 indirectly.

Planning and assessment studies for two major infrastructure projects, the upgrading of the North-West Railway line and the Queensland - Hunter Gas pipeline, are currently under way. If these projects proceed they will remove the major impediments to coal mining and gas extraction in the region, providing the stimulus for sustained growth of both the coal and gas sectors within the Basin.

To date there has been considerable speculation about the potential benefits of, and opportunities likely to arise from, exploration and mining activity within the Basin. Fuelled by speculation, house and land prices in the towns close to the new mines have increased substantially. In some areas, land has been taken-up on a speculative basis, with the view to capitalising on mining related growth.

Gunnedah, is emerging as the service centre for coal mining in the Basin and the town is gearing up to accommodate significant growth. Both residential and industrial land is being released and significant investment is occurring in the retail, motel and public infrastructure sectors. Gunnedah is planning to accommodate an additional 5000 people over the next few decades.

Boggabri, which is the closest town to most of the existing and proposed mines is also seeing increased interest and investment activity, albeit on a much smaller scale than in Gunnedah. The town has already seen a small retail-commercial development, with interest being shown in residential and industrial development.

The next major mining project in the Basin is expected to be the development of the Narrabri North underground mine. This mine is located between Narrabri and Boggabri, with Narrabri being the closest town to the mine. The development of the mine is expected to generate demand for additional housing and commercial accommodation in Narrabri. There may also be potential to attract some industrial development, particularly if natural gas is available within the town.

Narrabri Council is looking to capitalise on opportunities that could potentially arise from the development of the coal and gas sectors, with the view to attracting new residents and investment into the Shire, with the emphasis on sustainable rather than speculative growth and investment.
1.2 Terms of Reference

Narrabri Shire Council has commissioned Jenny Rand & Associates to undertake an assessment of the opportunities for Narrabri Shire to benefit from growth in the coal and gas industries in the Gunnedah Basin.

1.3 Study Tasks

Tasks undertaken in the preparation of this report have included:

- Inspection of the facilities and infrastructure available in Narrabri Shire, in particular in Narrabri, Boggabri and Wee Waa and an inspection of the Wilga Power Station.
- Workshop with Narrabri Shire Councillors and meetings with planning and economic development staff regarding the development of the coal and gas industry.
- Review of relevant reports on the coal and gas industry in NSW, and material provided by the Mining Companies as part of their assessment and consultation process.
- Interviews with a range of people and organisations including:
  - Whitehaven, Idemitsu and Roche Mining
  - Eastern Star Gas
  - Economic Development and Planning Officers in Gunnedah and Liverpool Plains Shires.
  - Economic Development and Planning Officers in Singleton, Muswellbrook, Upper Hunter and Mudgee Shires
  - Department of Primary Industry (Mineral Resources)
  - Real estate agents in Narrabri, Gunnedah, Muswellbrook and Mudgee
  - Accommodation operators (motels, pubs and caravan parks) in Narrabri, Gunnedah and Muswellbrook
  - Narrabri TAFE
  - Employment Agencies in Narrabri and Muswellbrook
  - Conference and exhibition organisers who specialise in mining conferences
- Review of the mine services related industrial development that has occurred in Singleton and Muswellbrook Shires, including the preparation of a list of the companies based in the area.

1.4 Disclaimer

This report has been prepared by Jenny Rand & Associates (JRA) for Narrabri Shire Council. The information used in this report is primarily qualitative and provided by third parties. JRA has accepted this information in good faith and no representation or warranty is given by JRA as to the accuracy of this information.

The latest published comprehensive information available on the coal industry is from the NSW Coal Industry Profile 2006, which details the status of the coal industry in NSW for the financial year 2004/05. Internet research has been undertaken to update this information where possible.

The Coal Industry is cyclical with a past history of 'booms and busts'. While the industry outlook is for sustained growth in the world coal market, for at least the next decade, changes in supply and demand both nationally and internationally, can have major impacts on the performance of the NSW Coal industry. The Gunnedah coalfield, because of its location, the infancy of its industry and the relatively small scale of the mining operation when compared to other NSW coal fields, is likely to be more susceptible to fluctuations in the marketplace, than the larger, more established fields.
While this study identifies a number of possible opportunities for Narrabri Shire to capitalise on the coal and gas industries, JRA provides no warranties or undertakings of any nature in respect to a decision by Narrabri Shire Council, or any other party, to purchase property or invest in the area on the basis of expected benefits from coal or gas related development.
2. COAL INDUSTRY IN NSW - OVERVIEW

2.1 Coal Resources in NSW

Coal is the largest mining activity in NSW, accounting for 72% of the value of minerals produced in NSW in 2005/6. In 2005 there were 55 operating coalmines and 33 proposed mines.

The major coal resources of NSW are located in the 500km long, 150km wide Sydney-Gunnedah Basin. The Basin extends from south of Wollongong to north of Newcastle and north-westerly through Narrabri into Queensland. There are five major coalfields within the basin: Hunter, Newcastle, Southern, Western and Gunnedah. The coal measures in the Sydney-Gunnedah Basin are Permian in age and consist of a large variety of coal types ranging from low-volatile, hard coking (metallurgical) coals found in the Southern Coalfields, to high quality thermal coals of the Gunnedah Basin. Minor coalfields are located in the Gloucester and Oaklands Basins.

Source: Department of Primary Industry - NSW Coal Industry Profile 2006
In 2006, the Department of Primary Industry estimated the recoverable coal reserves in NSW to be in the order of 10,790 million tonnes (Mt), 88.1% of which are in the Sydney – Gunnedah Basin. The estimated recoverable coal reserves in NSW and raw coal production in 2004/05 are shown in the following tables:

**Estimated Reserves by Coalfield**

<table>
<thead>
<tr>
<th>Coalfield</th>
<th>Estimated Reserves Mt</th>
<th>% of NSW Reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hunter</td>
<td>4330</td>
<td>40.1%</td>
</tr>
<tr>
<td>Gunnedah</td>
<td>1290</td>
<td>12.0%</td>
</tr>
<tr>
<td>Newcastle</td>
<td>1440</td>
<td>13.4%</td>
</tr>
<tr>
<td>Gloucester</td>
<td>20</td>
<td>0.1%</td>
</tr>
<tr>
<td>Southern</td>
<td>670</td>
<td>6.2%</td>
</tr>
<tr>
<td>Oaklands</td>
<td>1280</td>
<td>11.9%</td>
</tr>
<tr>
<td>Western</td>
<td>1760</td>
<td>16.3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10790</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Source: Department of Primary Industries NSW (2006) NSW Coal Industry Profile

**Raw Coal Production by Coalfield 2004/05**

<table>
<thead>
<tr>
<th>Coalfield</th>
<th>Raw Coal Production 2004/05 (Mt)</th>
<th>% of NSW Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hunter</td>
<td>106.86</td>
<td>68.4%</td>
</tr>
<tr>
<td>Gunnedah</td>
<td>1.16</td>
<td>0.7%</td>
</tr>
<tr>
<td>Newcastle</td>
<td>14.47</td>
<td>9.3%</td>
</tr>
<tr>
<td>Gloucester</td>
<td>2.79</td>
<td>1.6%</td>
</tr>
<tr>
<td>Southern</td>
<td>12.14</td>
<td>7.9%</td>
</tr>
<tr>
<td>Oaklands</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Western</td>
<td>18.88</td>
<td>12.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>156.31</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Source: Department of Primary Industries NSW (2006) NSW Coal Industry Profile

**Hunter Coalfield**

The Hunter Coalfield is the largest coalfield in NSW, in terms of both reserves and production of raw coal. In 2004/05 The Hunter Coalfield accounted for 68.4% of NSW's raw coal production, with 106.86Mt of coal being extracted in that year. Over the past decade, the Hunter has been the fastest growing coal producing area in NSW. The Coalfield has 21 operating mines and a further 8 proposed and expected to come on-line within 2 years. Mining in this coalfield is concentrated in the Singleton and Muswellbrook areas, with both towns having significant mining service sectors. Professional (eg consultants) and coal-related Government services are based primarily in Singleton, with Singleton having two large industrial areas occupied primarily by mining service companies, plus a small business park. Muswellbrook has one large industrial area occupied primarily by mining service companies and one smaller area with more specialist mine services such as a laboratory. The industrial areas in Singleton and Muswellbrook are both being expanded.

The Upper Hunter is primarily a rural area, and in the past, mining proposals have met with limited community opposition in the Singleton and Muswellbrook areas. In recent years mining has started to move to the north and west of Muswellbrook into prime agricultural areas and the 'horse-stud' belt. Opposition to mining from the Scone and outlying Upper Hunter areas has increased substantially, particularly in relation to the use of water in the mines. Environmental groups have also mounted legal challenges in an endeavour to prevent further mines starting up in the area. Despite the growing opposition from some sectors, the Hunter Coalfield is expected to remain the primary coal producing area in NSW, with the estimated life of mining in the area to be at least 30 - 50 years, depending on the demand for coal and the rate of extraction.
Newcastle Coalfield

The Newcastle Coalfield is the oldest coalfield in NSW with mining commencing in the Newcastle area in the 1790's. In terms of reserves and production, Newcastle is the third largest coalfield in NSW. Mining is concentrated to the west of Tuggerah Lake and Lake Macquarie in the corridor from Wyong north to Maitland, with a secondary area around Cessnock. There are 12 operating mines (10 underground and 2 small open cut mines) and proposals to open three new mines. In 2004/05 the Newcastle field produced 9.3% of NSW's raw coal. Production has been static for a number of years. A number of mines are reaching the end of their reserves. Expansion into adjoining reserves in the central, northern and western areas of the region is unlikely due to high levels of urbanisation in these areas. The only major remaining reserve is located near Wyong in the south of the region.

Western Coalfield

The Western Coalfield, on the western slopes of the Great Dividing Range, extends from Lithgow, north to Ulan, with mining concentrated in the Lithgow, Rylstone and Ulan areas. This is the second largest coalfield in NSW in terms of both reserves and production, with the Western Coalfield producing 18.88Mt of raw coal in 2004/5 (12.1% of NSW production). There are 11 operating mines in the region with proposals for 7 additional mines. The three largest proposed mines are located in the Ulan area. The central and southern areas of the Western Coalfield are linked to the Port Kembla Coal Loader, via Sydney, while the mines in the Ulan area are linked by rail to the Newcastle Coal Loader. The Western Coalfield Mines are primarily serviced by companies based in the Muswellbrook and Singleton area (2-3 hours drive). The Ulan mines are within 2.5 hours drive of Gunnedah.

Gunnedah Coalfield

The Gunnedah Basin has the fourth largest coal reserve in NSW with 1290Mt. Historically, mining in this area has been relatively limited, with three small scale operations (Vickery, Preston and Gunnedah Mines) around the Gunnedah area. As the demand for and price of coal has increased over the past few years, mining activity in the Basin has increased, with the area now having 4 operating mines, 3 in the mine planning stage and two exploration areas. In 2004/05 1.6Mt of raw coal was produced in the Gunnedah coalfield, representing 0.7% of raw coal produced in NSW. Production has since increased with the opening and ramping up of the Werris Creek, Tarrawonga and Boggabri collieries. The Gunnedah Coalfield is a developing field with growth concentrated in the Gunnedah-Boggabri area.

Southern Coalfield

The Southern Coalfield is located south of Sydney with mining occurring in the area extending from Coalcliff to Bulli along the Coast and west to the Appin - Tahmoor area. There is also a mine near Berrima. All mines are underground, with the coal produced being high quality hard coking coal. This is the only source of hard coking coal in NSW. Approximately 50% of the coal produced is used for domestic steel production with the remainder exported. In 2004/5 the Southern Coalfield produced 12.14Mt of raw coal (7.9% of NSW production). There are 11 operational mines with, 2 mines proposed in the Bargo-Sutton Forest area. Coal reserves in the operational mines are expected to meet the demand for coking coal for at least the next 20 years. Additional reserves exist however may not be accessible as they lie within the South-West Growth Sector and could be sterilised by urban development.

Oaklands Coalfield

The Oaklands Basin is located in south-western NSW near Jerilderie. The Basin has estimated reserves of 1,280Mt, with around 400Mt being considered economically recoverable. Any coal produced from this Basin would be best suited to local power production. There are currently no mines in the Basin, however very preliminary mine investigations are occurring in the Oaklands area.
Gloucester Coalfield

The Gloucester Coalfield is located approximately 80km north of Newcastle. The Basin is small, with estimated reserves of 20Mt. There are two small operational mines, which produced 2.79Mt in 2004/05. The field has a life of around 8-12 years depending on the rate of extraction. The coal is exported through the Newcastle Coal Loader.

2.2 Outlook for the NSW Coal Industry

The coal industry is cyclical, with coal prices fluctuating quickly in response to supply and demand. As 72% of coal produced in NSW is exported, coal producers are highly exposed to changes in the global marketplace.

Since 2002 the NSW coal industry has enjoyed a period of very high prosperity. This has resulted from a number of factors including:

Demand:

- Roll-out by Asian countries of coal-generated power stations, with increasing demand for thermal coal.
- Growth in raw steel production and consumption world-wide (production growing at around 6.7% pa). China is the world’s largest producer of raw steel, with Chinese production having increased by 23% during 2003/4 with a further 28% growth in 2004/05.
- High and escalating world prices for oil and gas, rendering coal an attractive option for power production.

Supply:

- Mine safety issues which resulted in China and India producing significantly less coal than anticipated, resulting in the Asian market in particular, seeking coal from other suppliers.
- Restructuring of the Australian coal industry in the late 1990’s which significantly improved productivity, resulting in Australian coal now being competitive in the global markets.

Over the past decade, the global thermal coal trade has increased by an average of 10% per annum, from 215Mt pa to 540Mt pa in 2005. The growth rate in the metallurgical coal trade was slightly lower. During this period, Asia accounted for 80% of the growth in total world coal trade. From March 2004 to March 2005 the export price for thermal coal increased by 55% per tonne, while the price for hard coking coal increased by 53%.

Asia is the major market for NSW coal, with the region buying approximately 78.8 Mt (91.0%) of NSW coal exports. In 2005 the major customers were Japan (47.6 Mt), Taiwan (13.8 Mt), and the Republic of South Korea (9.3 Mt).

Forecasts by the Australian Bureau of Agricultural and Resource Economics (ABARE) predict continued growth in demand for thermal coal for at least the next decade with metallurgical coal requirements also growing but at a slower rate. The growth in thermal coal demand will be driven by the continued development of thermal power stations in the Asian region. While there is growing environmental pressure to move away from coal fired power stations, coal is expected to remain the most economic option for developing countries until at least 2030. Extensive research into reducing the greenhouse gas emissions from both thermal and metallurgical coal is being undertaken, which if successful, should result in sustained growth in demand for coal, world-wide.
3. COAL MINING IN THE GUNNEDAH BASIN

3.1 Background

Coal mining commenced on a small scale in the Gunnedah Basin more than 120 years ago, with mining concentrated in the area to the north (Vickery Mine) and south (Preston and Gunnedah Mines) of Gunnedah. The area has seen a number of mining booms and busts, including the loss of around 1200 jobs in the 1990's due to mine closures.

In the past, coal mining in the Gunnedah area has been the last area in NSW to ramp-up during booms and the first to contract during downturns in the coal industry. This has largely been due to the more remote location of the coalfield, inefficiencies in the mine operations and higher production and transport costs than coal produced in other NSW coalfields.

The downturn in the coal industry in the 1990's resulted in the downsizing and streamlining of coal operations on all Australian coalfields. According to the Department of Primary Industries, productivity in coal mining operations in NSW increased by 77% from 1994/95 to 2003/04. The increase in productivity has increased the economic viability of the deposits in the Gunnedah Basin (ie coal from the Basin can be produced more cost effectively).

In addition, since 2002, there has been an increase, internationally, in the demand for coal, with most of the growth being in the thermal coal markets. This growth is expected to continue (see Section 2.2).

In 2004/05, a strategic study into the coal industry prepared by the NSW Department of Primary Industry (Mineral Resources) identified the need to develop new mines in NSW to take advantage of the growing domestic and international market opportunities, and to compensate for the expected loss of mines in the Hunter and Newcastle coalfields. Over the next 10 years, 10 large mines are expected to close due to the exhaustion of reserves. The Department estimates that by 2012/13 more than 50% of raw coal production in NSW will need to come from new mines, with the Hunter, Western and Gunnedah coalfields identified as having the strongest growth potential. This, and other studies, has increased confidence in the Gunnedah Basin.

3.2 Coal Mining in the Gunnedah Basin

The Gunnedah Basin has been identified as the 'New Coal Frontier'. Coal reserves in the Basin are estimated to be in the order of 1,290MT, representing 12.0% of coal reserves in NSW. As shown in the following diagram, there are 6 significant coal seams close to the surface in the Maules Creek Sub-Basin to the east of Boggabri and three coal seams in the Mullalley Sub-Basin to the west of the Boggabri Ridge. The coal seams to the east of Boggabri are suitable for open cut extraction.
Since 2000, four open cut mines have commenced operations in the Basin. These mines are currently ramping up and expected to produce 5-6Mt of raw coal per annum by 2008, with the potential to increase to 9Mt with improvements in the rail infrastructure. A further three mines are at the mine planning stage, all of which are likely to commence production by 2008. Production in the Basin is likely to increase to around 8-9Mt per annum by 2009, however could be as high as 13Mt per annum. In addition there are two major exploration areas, at Caroona and Maules Creek, with the Caroona Colliery potentially commencing production in 2014. The Mining and Exploration Leases in the Gunnedah Basin are shown on the following map and summarised below.
### Mine / Exploration Area

<table>
<thead>
<tr>
<th>Mine / Exploration Area</th>
<th>Owner</th>
<th>Estimated Reserves (Mt)</th>
<th>Possible Production of Raw Coal (Mt / pa) 2007/08</th>
<th>Planned Future Production of Raw Coal (Mt / pa)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operational</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whitehaven</td>
<td>Whitehaven</td>
<td>3.5</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Tallawonga</td>
<td>Whitehaven-Idemitsu JV</td>
<td>12.3</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Boggabri</td>
<td>Idemitsu Kosan P/L</td>
<td>567.1*</td>
<td>2.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Werris Creek</td>
<td>Whitehaven-Creek Resources</td>
<td>9.8</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td><strong>Proposal - Mine Planning Stage</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belmont</td>
<td>Whitehaven</td>
<td>10.8</td>
<td>1.0 - 1.5</td>
<td></td>
</tr>
<tr>
<td>Sunnyside</td>
<td>Whitehaven (Whitehaven)</td>
<td>na</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Narrabri North</td>
<td>Narrabri Coal (Whitehaven)</td>
<td>na</td>
<td>1.5 - 2.5</td>
<td></td>
</tr>
<tr>
<td><strong>Exploration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caroona</td>
<td>BHP Billiton</td>
<td>500+</td>
<td>20-30</td>
<td></td>
</tr>
<tr>
<td>Maules Creek</td>
<td>Rio Tinto consortium</td>
<td>680.0*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Resources (estimated total coal) not Reserves (economically proven deposits).

In comparison to the other coal fields in NSW the level of raw coal production in the Gunnedah Basin is very low, accounting for only 0.7% of the State's production in 2004/05. In 2007, with the opening of three new mines, this percentage is now probably in the order of 2-3%.

The infancy of the industry and the limited scale of production compared to other coalfields, is not conducive at this stage to encouraging mine service companies (other than companies that have to be in the area due to supply contracts) to relocate or expand into the area. The concentration of ownership and management of the mines in the Basin also concentrates the supply contracts. Growth in mining in the Hunter and Western (Ulan area) coalfields is expected to be considerably higher than in the Gunnedah Basin.

### Operating Collieries

#### Whitehaven

The Whitehaven Colliery is an open cut mine located 15 kilometres east of Boggabri. The Mining Leases (1464, 1471) were granted in 1999 and 2000 with the mine commencing operations in 2000. In 2005 approval was granted for the extension of the mine (Canyon Extension). The Mine is producing up to 1Mt raw coal per annum. The coal is transported to Gunnedah for processing and transport to Newcastle. The Whitehaven Colliery is expected to reach the end of its reserves in 2008.

#### Tarrawonga (East Boggabri)

Tarrawonga Colliery is an open cut mine located 15km north east of Boggabri. It is owned by Tarrawonga Coal Pty Ltd, a joint venture between Whitehaven Coal Pty Ltd (70%) and Idemitsu (30%). The Mining Lease (1579) was granted in April 2006. The Mine is still ramping up, however will produce 1.5Mt of raw coal per annum of coal for export. The mine employs 60 people. All coal produced is processed and transported from Gunnedah.

#### Boggabri

Boggabri Colliery is an open cut mine, owned by Idemitsu Kosan Co Limited of Japan. The Colliery is located 16km north east of Boggabri immediately north of the Tarrawonga Mine. Access is via Maules Creek Road. The Mining Lease (368) was granted in 1990, however mine construction did not commence until January 2006. The colliery is ramping up to produce 2Mt of raw coal per annum. The Mine has approval to increase production to 5Mt per annum once the North-West Railway line is upgraded. The Mine is currently employing around 95 people, with this expected to increase to 150 when production increases to 5Mt. Coal from the mine is processed and
transported from a rail loading facility north of the township of Boggabri. The loading facility has approval to stockpile up to 60,000 tonnes of coal. The facility has a maximum loading capacity of 5,000 tonnes per hour, however initially will be operating at 3,200 tonnes per hour.

Werris Creek

Werris Creek Colliery is located 4km south of Werris Creek on the Quirindi Road. It is an open cut operation that is owned by Werris Creek Coal Pty Ltd, a joint venture between Whitehaven (40%) and Creek resources (60%). The Mining Lease (1563) was granted in March 2005. The mine is producing 1.5Mt raw coal per annum with the coal going by rail direct to Newcastle.

Proposed Collieries

Belmont

Belmont is located 28km north of Gunnedah on the Wean Road. The colliery is to be developed by Whitehaven Coal Mining Pty Ltd. The proposal is at the mine planning stage with environmental assessments currently being prepared. At this stage production is planned to commence in 2008, to coincide with the closure of the Whitehaven Mine. The Mine will produce 1.5Mt raw coal per annum. There will be some increase in employment in the area during the mine construction phase, however operational staff will primarily come from the Whitehaven Mine. Coal produced will be processed and transported from Gunnedah.

Sunnyside

Sunnyside is located 15km west of Gunnedah adjacent to the former Gunnedah Colliery. The area is to be developed by Namoi Mining Pty Ltd which is part of the Whitehaven Coal Mining Group. The project is at the mine planning stage. It is expected that the mine will produce 1Mt of raw coal per annum and employ 36 people. The coal will be processed and transported from Gunnedah.

Narrabri North

Narrabri North is located adjacent to the Kamilaroi Highway, approximately 28km south of Narrabri and 10km north of Baan Baa. At this stage, Narrabri North is the only proposed underground mine on the Gunnedah - Narrabri area. The Mine is owned by a private company, Narrabri Coal Pty Ltd, which is associated with the Whitehaven Group. The mining lease was approved in November 2006 with coal production expected to commence in 2008. Initially the mine will be producing around 1.5Mt of raw coal per annum, with this increasing to around 2.5Mt pa when long-wall mining commences in 2011. The mine is anticipated to have a life of around 60 years, depending on the rate of extraction. In the order of 80 people are being employed during the construction phase, with around 100 people to be employed when the mine becomes operational.

Possible Future Mines

Caroona

The Caroona Exploration Area is located to the west of Werris Creek, approximately 50km south east of Gunnedah and 30km north west of Quirindi. In 2006, Coal Mines Australia Limited, which is 100% owned by BHP Billiton, successfully tendered for the Coal Exploration Licence for the area. The licence is for a 5 year period. Exploration is being driven primarily out of BHP's Muswellbrook office, with around 50 workers and contactors based in the Werris Creek - Quirindi area.

Preliminary exploration indicates that the Caroona deposit contains more than 500 Mt of potentially minable underground coal. In its initial discussions with Liverpool Plains Shire Council, BHP has indicated that it would be looking to produce 20 to 30Mt of raw coal per annum, with this generating 1,000-1,500 direct jobs. This rate of extraction cannot be accommodated by the existing North West railway line which is struggling to accommodate current production. Subject to successful exploration and feasibility studies the development process for an underground mine will be commenced, with the view to the first coal being produced in 2014 (assuming rail capacity is significantly improved).
Maules Creek

Maules Creek is located 23km north east of Boggabri and 60km south of Narrabri. A Mining Lease was granted in June 1991. The Lease is owned by a Japanese consortium incorporating Rio Tinto, Nissho Iwai Corporation, Mitsubishi Development Pty Ltd and Ube Industries. At this stage, nothing appears to be happening with the Lease.

3.3 Employment

There have been a range of employment figures quoted for the mining operations. It appears that the figures given in some of the Environmental Impact Reports and Press Releases are optimistic, with the actual employment figures being lower than originally predicted.

In 2005 the NSW Government estimated that the Gunnedah Basin is expected to employ in the order of 800 people directly and 2,400 indirectly. More recent estimates from the NSW Minerals Council estimates that 500 people will be directly employed in mining in the Gunnedah Basin and a further 3000 indirectly.

At present there appears to be around 270-290 people employed directly in the mines in the Basin with a further 230-250 likely to be employed with in the next 5-7 years. Employment levels will be determined by the rate of extraction. Figures available for each of the mines are:

<table>
<thead>
<tr>
<th>Mine / Exploration Area</th>
<th>Employment Estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal Preparation Plant &amp; Rail Loader, Gunnedah</td>
<td>12 staff</td>
</tr>
<tr>
<td>Whitehaven</td>
<td>Employs around 56 people, including contractors. Remaining mine life around 18 months - staff likely to transfer to Belmont. Most staff came from the Gunnedah area.</td>
</tr>
<tr>
<td>Tarrawonga</td>
<td>Employs around 60 people.</td>
</tr>
<tr>
<td>Boggabri</td>
<td>Employed 65 during the construction phase, with most of these being contractors from the Hunter Valley. Now employs 97, with this to increase to 150 when production increases to 5Mt. Around 80% of mine staff are locals from the Gunnedah area. Contactors are primarily from the Hunter.</td>
</tr>
<tr>
<td>Belmont Proposal</td>
<td>Transfer of staff from Whitehaven - no significant increase in employment expected</td>
</tr>
<tr>
<td>Sunnyside Proposal</td>
<td>Expects to employ 36 staff when operational, however these staff could come from existing Whitehaven operations.</td>
</tr>
<tr>
<td>Narrabri North Proposal</td>
<td>Whitehaven estimates that there will be around 80 people onsite during the construction phase, and between 95 and 110 once the mine becomes operational</td>
</tr>
<tr>
<td>Werris Creek</td>
<td>50-70 people depending on production rate</td>
</tr>
<tr>
<td>Caroona Proposal</td>
<td>BHP has indicated 1,000-1,500 jobs for a production rate of 20-30Mt per annum. This production rate cannot be achieved without significant improvements to the North-West Railway line. Initial production and employment is more likely to be of similar order to Narrabri Coal.</td>
</tr>
<tr>
<td>Maules Creek</td>
<td>No estimates</td>
</tr>
</tbody>
</table>

For the open cut mines, the management and key operational staff are likely to be recruited from outside the area. The skill level required for open cut mining is lower than for underground, with open cut mining having a relatively high level of ‘new’ starts who receive ‘on-the-job’ training. As such, open cut mine staff are more likely to be recruited locally than relocated. The mining companies and contractors in the area advised that they have long lists of local residents seeking mining jobs. To date the preference has been to employ local people with mining, plant operator, trucking and/or trade qualifications plus some life and work experience. The mines are looking for people with family and commitments in the area as they are more likely to stay in the job.
According to the Mine managers, most of the ‘new start’ workers have come from the Gunnedah area, with a small number from Narrabri and Manilla.

Underground mining requires a skilled workforce. As such, workers are likely to be bought in from outside the Basin, from both the NSW and Queensland coalfields. At present there is a significant shortage of skilled underground mine workers, which could potentially delay the North Narrabri project. Underground mines usually operate 24 hours per day, with shift workers generally preferring to live close to the mines. Narrabri is the closest town to this mine.

3.4 Pattern of Development

The coal mines in the Gunnedah Basin are concentrated in the Boggabri - Baan Baa area, to the north-north west of Gunnedah, with a secondary node at Werris Creek in the south-east corner of the Basin.

Mining is focussed on Gunnedah, with Gunnedah emerging as the mining service centre for the Basin. Gunnedah has the facilities, services and infrastructure being sought by people moving into the area. The Whitehaven Coal Process and Rail Loader are located in Gunnedah, with these facilities servicing the Whitehaven operated collieries.

A secondary, smaller node is developing at Boggabri, with the two main mining companies, Whitehaven and Idemitsu having small offices and staff in Boggabri. The coal processing plant and rail loader for the Boggabri Mine is located just north of Boggabri.

Tamworth and Quirindi are emerging as the service centres for the Werris Creek Mine and Caroona exploration area.

To date, mining has had very limited impact on Narrabri, however should change with the development of the Narrabri North colliery. There is also potential for Narrabri to benefit from colliery development in the Maules Creek area.

3.5 Infrastructure Projects

Coal production in the region is constrained by both the rail infrastructure and the capacity of the coal loader at Newcastle. While this infrastructure is being upgraded and expanded, it will limit coal production in the Basin in the short-term.

Rail Infrastructure

The capacity of the North-West Railway is a constraint to the expansion of the coal industry in the Gunnedah Basin, with limits placed on coal production at the Boggabri Mine until rail capacity is increased. The problem has been recognised by the State Government and the Australian Rail Track Corporation which controls and operates the line. The key issues with the rail line and the works proposed are:

- The steep grade (1 in 40) across the Liverpool Ranges between Willow Tree and Murrurundi. This requires the use of smaller trains (750m in length compared to the 1,550m trains used in the Hunter Valley) and the banking of engines for the section across the range. ARTC has recently completed a study into options for crossing the range either by route diversions or via a tunnel, with no decision as yet on how and when these improvements will occur.

- Short crossing loops, which prevent the use of the standard 42 truck coal trains. The loops at Togar and Murulla need to be extended to 1350 metres, and a new loop constructed at Gunnedah. Construction work on the Togar and Murulla loops is already under way, with planning work commenced on the Gunnedah loop.
The limited weight capacity of the line requiring the use of smaller coal trucks. The railway line is not suitable for the use of the 30 tonne axle load trucks used in other coalfields. A study is about to be commissioned to assess the potential for increasing the weight-bearing capacity of the line.

Out-dated signal system on the line to the north of Werris Creek. The signals for entering the crossing loops are manually operated which causes considerable time delays. In the short-term ARTC is proposing to motorise the manually operated points on the line between Werris Creek and Narrabri, with the introduction of a Centralised Train Control system by 2009.

There are also problems on the line between Murrurundi and Muswellbrook, with work on this section well under-way.

Investment in the track is likely to be in excess of $500 million, with ARTC looking for the coal companies in the Basin to contribute towards the cost. Discussions are currently being held with BHP Billiton. The work will be undertaken by both ARTC staff and contract teams, with personal based primarily in the Werris Creek - Quirindi area, and in Gunnedah during the development of the Gunnedah Loop. It is unlikely that works crews will be accommodated in Narrabri.

Newcastle Coal Loader

Newcastle, is the largest coal handling port in NSW. The port services the Hunter, Newcastle, Gloucester and Gunnedah coalfields and the mines in the Ulan district of the Western coalfield. There are two coal loaders, both of which are operated by Port Waratah Coal Services Limited. These coal loaders have been at capacity for the past few years, with loading not able to keep pace with the increasing rate of production and the increasing number of ships queueing to be loaded.

In April 2005, the Board of Port Waratah Coal Services committed to expanding the capacity of its loaders from 89Mtpa to 102Mtpa, with construction due to commence shortly. The State Government has also announced the development of a third coal loader on Kooragang Island. In an attempt to manage the loading problem, quotas on the amount of coal that can be sent to the loader have recently been introduced. This has already resulted in the slowing of production in some of the Hunter mines, with the stand-down of workers being considered.

North - South Rail Route

The proposed north-south rail route between Brisbane and Melbourne potentially offers the opportunity for coal producers in the Gunnedah Basin to transport coal north to Queensland, for export via the Queensland coal loaders. This would reduce the dependency on the Newcastle Coal Loaders. The availability of an alternative transport option could also result in more competitive rail transport pricing. At present most of the coal in both the Hunter and Gunnedah Coalfields is transported by Pacific National. Queensland Rail is now tendering for freight business in NSW and in 2005 was successful in tendering for the transport of 12Mt coal from BHP-Billiton’s Mt Arthur mine near Muswellbrook, and the Newpack No1 Colliery in the Newcastle coalfield.

The feasibility study for the North-South Inland Rail Corridor excludes coal transport from the analysis of freight potential, assuming that coal will be transported via the Hunter Valley to the coal loader at Newcastle. The possibility of coal from the Gunnedah Basin being transported north to Queensland was not considered. This needs to be re-visited.
4. INFLUENCE OF MINING ON DEVELOPMENT - OVERVIEW

This section provides an indication of what to expect from coal mining in the Gunnedah Basin. This information is based on the patterns of development that occurred in other larger towns located close to coalfields, primarily Singleton, Muswellbrook, Mudgee and Gulgong, and in the Central NSW Region, with the development of gold and copper mines in the Orange and Nyngan areas respectively.

In all areas the development phases and the pattern of visitation were essentially the same, with the main difference being the time-frame over which development has occurred. The time-frame is dependent in part on how remote the area is, the scale of the mining and the expected length of the life of the mining and the mining 'boom'.

4.1 Development Phases & Patterns of Visitation and Demand

The primary development phases are:

- **Mine planning and development** - this period is characterised by a high level of visitation to the area by mine personnel (usually from head office), consultants and exploration and drilling crews. Mine construction is generally undertaken by contract workers and there is a high demand for temporary accommodation (eg motels, caravan parks) and short-term rental accommodation. The mining 'population' in this stage is generally transient with a small core of 'permanent' staff. Installation of equipment is often carried out by suppliers, with supply crews being based in the area during this process. Delivery of materials and equipment also results in an increase in demand for temporary accommodation. There is also a relatively high level of visitation from different regulatory authorities during this period, generating demand for commercial accommodation (mainly motels).

- **Mine related infrastructure development** - works crews coming into the area to develop/upgrade roads, bridges, rail infrastructure etc as well connect services such as water, electricity, telecommunications etc to meet the needs of the mining industry. The demand during this period is for short-term rental and commercial (pub hotels, motels, caravan parts etc) accommodation.

- **Mine operations** - Permanent work force of mine personnel and contractors. Numbers will fluctuate depending on the rate of production. During this phase, the demand for accommodation shifts towards permanent housing and longer term rentals for people employed by the mines. Demand for housing ultimately leads to the development of new residential properties which brings builders and related tradesmen and service providers into the area, creating demand for short term rental and commercial accommodation. Throughout the life of the mine there will also be a steady flow of mine related visitors to the area, including staff from head / branch officers, government officials, mine safety inspectors, union officials, etc as well as technicians and consultants. Visitors generally stay in commercial accommodation (primarily 4-4.5 star motels), however a company may purchase or lease a dwelling / apartment to accommodate their visitors (particularly regular visitors).

- **Development of a mine related service sector**, particularly the heavy engineering businesses, equipment repairs, and specialty services such as blasting, mine irrigation etc. The level and rate of development depends on a number of factors including:
  - Scale and expected duration of the mining. Mine services generally will not relocate or establish a branch office for small-scale mining operations.
- The likely level of demand for the services, including how often the supplier / service provider needs to be ‘on-site’

- Proximity to established mining centres. If a mine can be readily serviced from a nearby centre, then there is less likelihood of service suppliers relocating or establishing branch offices, unless they need to, to meet the requirements of their supply contracts.

- Supply contracts - most mining companies tender their service contracts. These contracts often have performance clauses that include response times. Where the response time cannot be met from an existing established workplace, then the supply company will look to place staff in the area, and/or relocate or establish a branch closer to the mine. The larger mining companies, such as BHP Billiton and Idemitsu, tend to have national supply contracts, with the supplier following BHP and establishing branch offices / workshops to meet their contract requirements.

- Transport arrangements in the region. This is related to the supply contracts. If the transport system is adequate to enable same or next day delivery, then there is often possible for a supplier to operate from outside the coalfield until such time as the level of the coalfield generated business warrants a presence in the area.

There is growing trend in the mine service sector for the supplier to come to the mine site to service equipment, machinery etc, rather than sending it to the supplier. Larger mines are also looking for some of their key service providers to have staff and workshop facilities permanently stationed at the mine.

- **Ancillary development as a result of growth in the area.** This development can include the upgrading and/or expansion of public infrastructure such as schools, hospitals, ambulance services etc, land development and commercial and retail development. Consultants and tradesmen are generally brought into the area to undertake this work, with the demand again being for short term rental and commercial accommodation.

### 4.2 Preferences for Relocation

Where there is a choice in locations for mine workers and associated contractors to base themselves, the preference has been for:

- Larger towns in close proximity to the mines, particularly for the businesses and people who are relocating to the area either permanently or on relatively long term contracts. Where there have been small villages close to major towns (for example with the former Preston Mine close to Curlewis), the preference is strongly towards staying in the larger town.

- Commercial accommodation / short term rental housing as close as possible to the mines, particularly for contractors.

- Locating heavy industrial as close as possible to the mines, with the ability to move large materials and equipment into and out of the industrial area, and between the industrial area and the mines relatively easily without having to go through urban areas, and with minimal constraints (eg narrow bridges, tight corners etc).

Where there have been a choice of potential locations, the trend has been toward locations that have the highest accessibility to the place that where the people relocating have come from. For example, in the Gunnedah Basin, people relocating from the Hunter are more likely to settle in the towns at the southern end of the Basin, however if they are relocating from the Queensland coalfields and still have ties in Queensland, they will be looking more towards the northern side of the Basin.
4.3 Expected Outlook

Based on experience in other areas, the towns and villages in the Gunnedah Basin close to the mines can expect:

- Increased demand for housing across all types, from apartments through to up-market rural residential / large acre sub-divisions. There will be demand for both short and long-term rental housing plus housing for purchase.
- Increased demand for temporary accommodation - pub hotels, motels, self-contained apartments and cabins in caravan parks.
- Increased demand for serviced industrial land close to the mines.
- Increased use of air and rental car services.
- Employment

4.4 Pattern of Demand for Housing & Commercial Accommodation

The demand for housing is highly variable, and is dependent on a range of factors including:

- Housing prices / affordability
- The quality of the housing available
- The expected length of stay in the area
- Who is paying for the housing (employer or employee)
- The attractiveness of the area - whether it is more attractive than where the person may already own property
- The financial goals and life-cycle (eg single, married, children) stage of the person looking for the housing.

The 'typical' patterns of demand from mining related workers, experienced in other areas is outlined below.

**Mine & Infrastructure Construction and Maintenance Crews and Tradesmen**

The construction phase generally lasts from 6 months to 2-3 years depending on the type of mine, with underground mines generally having a longer construction period. Most of the work is contract based, with contractors bringing works crews into the area, for the duration of the contract. Contractors often work 7 days per week, sometimes 24 hours per day depending on contract conditions. Most contract workers are travelling as individuals and do not relocate their families. They generally commute, staying in the area for the days that they are working and then returning home.

The contractor (employer) is often responsible for providing the accommodation for the works crew. The key considerations include:

- Proximity to the mine - particularly if working long hours (12 hour shifts) or at night. The contractor looks to minimise travel time and cost, and reduce the possibility of accidents in travelling to and from work.
- Cost - the contractor is generally looking for mid range accommodation (3.5-4 star motels) for workers, with price (value-for money) being a major consideration. Where workers are paying for their own accommodation, the desire is often to save as much money as possible with the demand being for budget and often, self contained accommodation.
Proximity to the place of residence. Workers who are commuting at the end of their rosters prefer locations that are closer to their home. For example, with the Narrabri Mine, contractors who are commuting from the Hunter, are more likely to stay at Boggabri or Baan Baa than Narrabri, because of the additional travel time.

Other than food outlets (hotel, licensed club etc) the availability of facilities and services is generally not a major consideration for itinerant workers.

Contractors typically use a mix of accommodation including:

- Rental houses and apartments - if the workers are going to be in the area for more than 3 months. Often a property will be leased and furnished and workers rotated in and out. Senior / supervising staff who will be on-site during the contract period are often housed in rental accommodation, if available.
- Motels and Pub Hotels - often a contractor will make a block booking (eg 5 rooms, for the life of the contract).
- Cabins in caravan parks. In some areas in the Hunter, accommodation capacity constraints have resulted in contractors putting demountable cabins into the local caravan park.

This pattern of demand is similar for contract-based mine maintenance crews and infrastructure (eg rail, Telstra) maintenance crews and also for builders and tradesmen coming into the area for other projects.

Within the Gunnedah Basin, the demand from contractors will be focussed on the towns and villages located in close proximity to the mines, in particular Boggabri, Gunnedah and Werris Creek for the existing mines. Baan Baa may also attract business due to its proximity to the mines. Narrabri is expected to attract this market during the development of the Narrabri North Mine.

Mine Workers and Long Term Contractors - Operational Phase

Experience in the Hunter Valley and Western Coalfields has indicated that there are a number of different 'markets' for accommodation amongst the mine employees and long term contractors.

- Commuters - workers who come into the area to work (generally stay 4 nights or for the duration of their roster) and return home at other times. Often these people have families who can't or don't want to relocate and/or they have houses in more attractive locations (eg coastal areas). Commuters account for around 50% of mine workers on the Hunter Coalfield and around 70% of new workers in the Ulan area. Commuters will typically rent apartments and houses in the area, although if property prices are cheap enough and there is a prospect of capital gain, they may buy. Alternatively, they make a long term booking at a pub, budget motel or caravan park. The primary considerations are cost and 'ease of escape'. Within the Gunnedah Basin the towns in close proximity to the Mines will attract this market.

- Workers - single men with minimal or no family commitments. These workers have often come to the area to 'make' money. These workers generally seek budget accommodation and will often look for long term arrangements with pub hotels, bring in a caravan, take a long term booking on an on-site van, look for a room to rent or rent an apartment or house, often sharing with other workers. Cost will generally be a major consideration. Access to a social life is an issue, with workers tending to prefer the larger centres than smaller towns or villages. Often social factors, such as the opportunity to join a football team will determine the choice of location.

- Workers with pre and primary school aged children - Provided that there is relative job security for an extended time period, these workers will often relocate to be close to both work and family. The choice of housing location will depend on a number of factors, including the attractiveness of the area, facilities and services available, price of housing, employment status of the partner and financial goals. The partner will generally have a major say in the decision. Families with young children are often more amenable to settling in a village or small town
particularly if their goal is to stay for a few years and save their money. Boggabri is potentially a viable option for this market as it has the basic facilities and services generally sought, is clean and attractive with no evident social problems and is more affordable than Gunnedah or Narrabri. Narrabri should also attract this market from the Narrabri North Mine.

- Workers with high school aged children - these workers will often only move their families to the area if there is a strong financial or lifestyle incentive. Larger centres are generally preferred, with the criteria often including access to a good high school, availability of a range of sporting opportunities and employment opportunities for the partner. If there is a choice of towns, the family needs are priorities are generally the main factors in the decision making process, with the mine worker often opting to drive greater distances if need be. For example in the Hunter, families have often settled in Maitland, with the worker commuting to Muswellbrook, or as in the case of Ulan, families have settled in Mudgee rather than Gulgong. Gunnedah, Tamworth and Narrabri are all potential options for this market. This market is generally looking for quality housing, in ‘nice’ neighbourhoods. In other coalfields, the availability of quality residential housing on large lots (eg rural residential subdivisions) close to town has appealed to this market.

People relocating to the area generally seek to retain their existing house, particularly if it is located in a more attractive or desirable area and/or is likely to achieve good capital growth or rental return. As such they are not necessarily ‘cashed’ up when coming into the area and are looking for value for money when renting or purchasing a property.

**Mine Management, Professional Staff, Business Owners / Managers**

As with other workers, there will be a mix of managers and senior people who will relocate to the area and others who will continue to commute. Housing is often part of the package offered by employers as an incentive to attract senior staff. Quality of both the housing and the environment are major considerations, with staff and their partner generally wanting accommodation that is on par with or surpasses their previous accommodation. Preference is generally for the larger towns, particularly if the employee has a partner or family.

In the Hunter Coalfield, the past practice has been for management and senior people to live on the coast and commute. It wasn’t until there was up-market rural residential development in an attractive area on the outskirts of Singleton that senior and ‘white collar’ / professional people began to buy / build houses and relocate to the area.

**Visitors and Temporary Staff**

The mines and the associated service sector will generate a steady flow of visitors into the area. Visitors will include staff from head or branch offices, government and mine safety officials, professionals (eg lawyers, accountants), union / workplace officials, buyers, sales representatives, consultants, technicians etc.

Where companies have staff visiting on a regular basis, they may buy or rent an apartment or house and accommodate visitors here. Most visitors however stay in commercial accommodation, generally motels but also pub hotels, depending on availability of rooms. Preference is generally for 4 star accommodation, with higher standard accommodation used if available. In all towns with strong mining sectors, commercial accommodation tends to operate at or close to capacity Monday to Thursday, with most of the 4-4.5 star accommodation used by this sector rather than by other workers who generally prefer budget to mid-range accommodation.

**Implications for the Gunnedah Basin**

The towns and villages close to the coal mines are already experiencing increasing demand for housing and accommodation. The Basin is however different from the Hunter in that the first influx of miners contained a significant number of people returning to the area, many of whom already had houses in Gunnedah. The involvement of Whitehaven in most of the mining ventures may also have implications for the amount of housing and accommodation needed at the top end of the
market, with key staff overseeing a number of mines. The scale of mining and therefore the number of people seeking housing in the Basin, is also considerably smaller than that of the Hunter.

**Gunnedah**

As discussed in Section 5.1, Gunnedah has been and is likely to continue to be the preferred location for people associated with mines in the Gunnedah - Boggabri area. Gunnedah is looking to provide a range of housing options, with planning and development already under-way. Commercial accommodation properties in the town are at capacity and there are a number of proposals for new motels and apartments.

**Boggabri**

Boggabri is experiencing increased demand for housing. The town is most likely to attract:

- Short-term contractors looking for affordable accommodation, with the preference being for the motel and pub and short-term rental accommodation. Both the motel and hotel are achieving high occupancy rates.
- Commuters (both contractors and workers) - with the preference being for budget - mid range accommodation to maximise earnings.
- Families with young children. This market will often rent first before buying. When buying, house and land packages are often preferred.

Most of the housing available in Boggabri is older style housing that will not necessarily be attractive to the family market. At the time of the field work for this study, there were a number of houses for sale in Boggabri, however the list prices were speculative rather than realistic. There are a number of vacant blocks for sale, however the adjoining development was not particularly attractive. There is also a shortage of builders and related tradesmen in the region, and the possibility of securing a builder, particularly in Boggabri is limited. For Boggabri to capitalise effectively on the opportunities afforded by the mining market it requires:

- Staged residential subdivision offering house and land packages at realistic prices to attract the relocatee market.
- Additional motel and hotel rooms.
- Apartment / medium density style housing.
- Self contained cabin accommodation in the caravan park.
- Boarding house / lodge style accommodation for single people looking for short-term accommodation.

A small rural residential area close to town, with attractive views, could also prove popular.

**Narrabri**

The Narrabri North Mine is expected to have a life of around 60 years. The Mine will need to employ skilled experienced workers most of whom are likely to be brought in from outside the Basin. The employment estimate for the mine is around 110 people (equating to around 100-110 dwellings). Narrabri is the closest town to the mine and as such is likely to be first choice for miners moving into the area. Having said this, the mine is to be operated by Whitehaven, which is Gunnedah focussed. If Whitehaven is purchasing or leasing housing for employees, the company may look to Gunnedah or Boggabri in the first instance.

The location of housing demand from the future Maules Creek Colliery will depend on the link that is developed between the Colliery and the towns in the surrounding region and the timing of the mine development. Maules Creek is close to Boggabri for workers looking for accommodation close-by, and marginally closer to Narrabri than Gunnedah for workers wanting to live in a larger centre. The choice between the two centres will depend on a range of factors including the timing of the mine development (if it coincides with the closure of smaller mines in the area it will most likely to employ from these mines), the location of the pit and office facilities (either at the north or south end of the colliery) and the road connections between the mine and the towns. At present the internal Whitehaven Haul Road, provides a good link between the mines to the east of Boggabri and
Gunnedah. While this is a private road for use by Whitehaven workers, it appears to be attracting use from locals and others. At the mine planning stage there is potential for Narrabri Shire Council to encourage the establishment of a link between the Mine and Narrabri township.

Miners coming into Narrabri will be looking for a range of housing types. Narrabri has a number of residential and rural residential subdivisions in various stages of development, with some of the areas offering up-market, quality housing. The availability of housing near the river and also properties with views of the Kaputar Range is likely to appeal to people looking to relocate to the area. Mine workers will also be looking for apartments. The supply of apartments in Narrabri is limited.

Council needs to undertake an assessment of the existing and potential housing stock available in the town and the likely level of future demand. Additional land may need to be rezoned to allow for staged growth of the town. Council will need to monitor availability of both vacant blocks and housing stock to ensure that sufficient land is available for development. In undertaking this assessment, the quality of the housing and neighbourhood should be taken into consideration. The mine-related workers, particularly those with families, will be looking for modern, quality housing in an attractive and safe neighbourhood. They will not move into areas with degraded housing and/or visible social problems.

Motel accommodation in Narrabri is already achieving relatively high mid-week occupancy rates, particularly in the higher standard properties. There will be a need for additional quality motel accommodation to service both the mining and gas sectors.

**Baan Baa**

Baan Baa is the closest settlement to the proposed Narrabri North mine and is also readily accessible to the mines in the Boggabri area, in particular to the Boggabri Mine. It is also close to the Maules Creek area.

Baan Baa Hotel continually receives inquiries about the availability of rooms and is looking to develop additional rooms. These will prove popular with workers and contractors who are looking for budget accommodation and/or need to be as close to the mine as possible. Other than the hotel, there are no services in Baan Baa. As the mine development proceeds there will be an increase in traffic through the village, with the opportunity for someone to open a general store and takeaway. Ideally this should be located on, or visible from the Highway. There are also a number of vacant commercial and residential buildings in the village. If refurbished, these could potentially be suitable for budget accommodation. The accommodation could be managed by the pub.

**Werris Creek**

Demand for housing from workers associated with the mine and exploration area at the Werris Creek will be concentrated in the Werris Creek and Quirindi areas, with Tamworth and Gunnedah attracting people who are looking to relocate to larger towns. Narrabri Shire will not benefit from development in this area.

### 4.5 Demand for Industrial Land

The demand for industrial land will primarily come from the mine services sector, with service companies looking to establish branch offices and/or workshops in the area. The level of demand is difficult to quantify. Both Singleton and Muswellbrook have developed significant industrial areas, with a concentration of both national and international mine service companies. The scale of mining in the Hunter is however significantly higher than in the Gunnedah Basin (21 mines producing 106.7MT in the Hunter compared to 4 mines producing 2-3Mt in the Basin). The western coalfields, although significantly more developed than the Gunnedah field, have not developed a strong mine services sector, with these mines serviced primarily by companies based in the Hunter and the Southern Coalfields.
To date the mines in the Gunnedah Basin have been serviced primarily out of the Hunter Region. A small number of companies that are directly involved in mine operations (eg Roche Blasting) have established a presence in the area, with development concentrated in Gunnedah. There are two major industrial subdivisions being developed in Gunnedah, which will provide in the order of 130 industrial lots.

Liverpool Plains reports that most of the industrial land in both Quirindi and Werris Creek has been purchased with some limited development occurring. Most of the sales however appear to be speculative, with investors securing land at very low prices with the hope that it will be in demand if the BHP Billiton mine proceeds.

Industrial land at Boggabri has been purchased by the mining companies, with proposals for some limited industrial development being mooted.

As part of this study a number of mining service companies in the Hunter Valley were contacted regarding the likelihood of either relocating to the Gunnedah Basin or establishing a branch office of workshop in the area. The responses received were mixed and relatively negative, and summarised as follows:

- Independently operated companies advised that they were unlikely to establish a presence in the Gunnedah Basin. They indicated that there was more than sufficient work available in the Hunter particularly with the expected expansion of the mines and power stations in the area. Inability to attract and retain staff, due to competition from the mines, was identified as a key constraint to expanding operations.

- The National and International mine service companies indicated that they would most likely service the Basin from the Hunter, however it would depend on what supply contracts they had in place with the mines, and whether this required a presence in the area. These companies indicated that they would be more likely to place service people in the area initially, with these supported from the Hunter offices and workshops, rather than establish a workshop in the area.

- The Gunnedah Basin was seen as a small scale, relatively higher risk area to do business particularly in comparison to the Hunter. There was a reasonably strong perception that significant development in the Basin would not occur until the rail infrastructure was improved and a new route across the Liverpool Ranges was developed. There was a view that this would not occur before the current resources boom ended.

- Businesses reported significant difficulties in attracting and holding skilled staff in the Hunter and considered that it would be even more difficult to get staff in Gunnedah.

The research also found that for the mining related industrial areas:

- The heavy engineering, plant and machinery companies need to be located as close as possible to the mine to minimise transport of oversize items on public roads. In the Hunter, the Mt Thorley industrial estate to the south of Singleton and the Thomas Mitchell Drive industrial estate in Muswellbrook are both located out of town, adjacent to a mine and have access to a network of internal mine haulage roads.

- Many of the mine services businesses in the Hunter, particularly the engineering workshops, worked or were on call 24 hours a day, 7 days per week. As such the industrial areas needed to be located well away from the residential areas.

- Most of the industrial development consisted of the construction of large sheds with significant yard space. Large industrial companies were seeking lot sizes of 4,000sqm to 2-3 hectares, while medium size operators are primarily looking for a minimum lot size of around 2,000 to 4,000 sqm.

**Implications for the Gunnedah Basin**

The demand for industrial land in the Gunnedah Basin is likely to come from:
- The mines themselves - if they need a depot or workshop close to town.
- Mine related service companies that need to have a presence in the area to meet their contract or supply agreements.
- Local / Regional businesses expanding to meet demand from both the mining sector and other development in the area.
- Infrastructure suppliers (eg ARTC, Telstra, Country Energy) - depots and workshops.

Mining related industrial development will be concentrated in the centres close to the mines - Gunnedah, Werris Creek and Boggabri. Gunnedah is likely to be the main centre, primarily because of its central location and existing small group of mine service companies. The development of the proposed ethanol plant may provide an additional market for some service providers, making it more attractive to locate in Gunnedah.

Appendix A provides as list of the businesses located in the industrial areas in Muswellbrook and Singleton. This list provides an indication of the type of industry that could be attracted to the Gunnedah Basin in the medium to longer term if the scale of mining increases.

**Boggabri**

The zoned industrial land in Boggabri has been purchased primarily by mining interests. The industrial land in Boggabri forms part of the town with a central strip of development along the railway corridor and a larger area on the north western edge of town. From a visual perspective, the industrial land is not well located. The elevated land to the west of the railway is potentially prime residential land, providing attractive views of Boggabri and the surrounding area. Industrial development along the railway corridor will fall within the visual catchment of any residential development on the slope behind, potentially degrading the desirability and value of this area. There is also potential for the industrial area to generate noise and traffic impacts for surrounding residential properties.

The industrial land on the northern side of town is also close to residential development with potential noise and traffic problems, particularly if businesses operate 24 hours per day. This area is also visible from the Kamilaroi Highway and as such any development needs to ensure it enhances rather than detracts from the presentation of the entry corridor into the town. To appeal to potential relocates and also to passing travellers, Boggabri needs to present well. To ensure this Council may need to introduce a Development Control Plan to set the standards for industrial development in Boggabri. Depending on the types of development enquiries received for industrial land, Council may also need to consider increasing the amount of industrial land available. Careful consideration needs to be given to the location of this land to minimise potential impacts on the township. If the inquiries are coming from the mining services sector, it may be more desirable to locate the future industrial area closer to the mines.

**Narrabri**

The demand for industrial land for mining related businesses is likely to be relatively low, with this limited to companies that have service contracts with the Narrabri North Mine and/or local companies expanding into the mining sector.

The industrial areas on the southern side of Narrabri are likely to be more attractive to mine-related businesses. These areas are closer to the mines and the railway infrastructure, and will not require the movement of over-size trucks and heavy equipment through Narrabri township. The industrial subdivisions on the northern edge of town do not have the large lot sizes that mining related companies are generally seeking.

### 4.6 Air Services

In other regional centres such as Orange, the mining and mining services sector is a significant user of air passenger and freight services, with a constant flow of mining company staff,
consultants, technicians, government officials etc. The mining activity in the Gunnedah Basin is already resulting in increased passenger and air freight loads.

Most of the head offices of coal mining and coals services companies are located in capital cities, primarily Brisbane and Sydney. The head offices of the four mining companies in the Gunnedah Basin (Whitehaven, Idemitsu, BHP and Rio Tinto) are Brisbane-based. Head office staff visiting the region either fly into Newcastle and hire a car, if combining the Gunnedah visit with a Hunter visit, or fly to Sydney and then to Tamworth and hire a car.

Tamworth is emerging as the regional airport servicing the mining sector. Tamworth has the advantage of a number of direct flights each day, with the mid-morning flights connecting with the Brisbane-Sydney flights. The seat availability of flights to Tamworth is generally reasonable, and there are a range of discount airfares available.

For the above reasons, flights into Tamworth were far more popular than the Big Sky Express flights into Gunnedah. Big Sky Express has recently stopped services to Gunnedah.

To date, the mining sector has not been a significant user of air services into Narrabri. This has largely been due to the limited number of flights per day (one morning and one evening) with these flights having no same-day connections to Brisbane. The flights are not direct, involving a stop in Moree which adds an extra 30-40 minutes to the flight time. In addition, it is often difficult, particularly at short notice, to book a seat. The Narrabri North Mine and possibly the Maules Creek Mine if it proceeds could increase the demand for air services into Narrabri, particularly from the professional mine services providers such as consultants, technicians etc. Council may need to lobby Qantaslink to improve air services into Narrabri.

### 4.7 Case Studies

Three case studies are provided into the pattern of development in towns close to coalfields. The information has been provided by Economic Development and Planning Staff from the local Council, mine operators and local accommodation operators and real estate agents. While none of the examples are directly comparable to the Gunnedah Basin (different locations, accessibility etc) they provide an indication on the impacts of mining on the local area.

**Singleton**

Singleton is the primary mine service centre in the Hunter Coalfield. The town has a population of around 23,000 and is located approximately one hour drive from the coast. There are 16 operating mines in the Singleton area and two major power stations, Bayswater and Liddell. Singleton also has a major army base, with 300 permanent staff.

Mining has been part of the economic base of the town for more than 50 years, with most of the mine development occurring over the past 20 years. In 1997 there were 4,900 people employed in the local coal mines, when the coal industry went into recession. Downsizing and rationalisation resulted in the loss of 1,600 jobs over the next 3 years. Since 2003, mine employment has risen as mines have ramped up to take advantage of the current boom. From 2004 to 2005, there is reported to have been a 13.4% increase in job growth. Council estimates that there are now around 5,000 people directly employed by the mines in the Shire.

Singleton Council estimates that around 35% of mine workers reside in Singleton Shire, with a further 15-20% in the surrounding area (Cessnock, Muswellbrook and Scone) with the remainder commuting either daily, or coming into the area and staying for the duration of their roster. Most of the commuters are coming from the Central Coast and Port Stephens area.

Singleton has struggled to some extent to encourage people to relocate. This has been due to a combination of factors including:
- Lack of available housing, particularly quality housing. This has now been rectified (see below).
- Relatively close proximity to the coast, with the coast perceived to offer a more attractive lifestyle.
- Limited availability of occupational employment for female partners.

This is changing, with factors such as the increasing cost of petrol and increasing traffic on the New England Highway, causing commuters to rethink their living arrangements.

**Residential Development**

In the past Singleton has struggled to meet the accommodation needs of the mining sector. Booms and busts have occurred quickly, and the planning process has not kept pace. Interest in property development occurs on a rising market, however with the time taken to gain rezoning and planning approval, the boom has often past before development occurs.

Both Planning NSW and Singleton Council are now relatively consistent in their outlooks for the town, with Singleton now looking to provide sufficient zoned land to accommodate a population of around 30,000 people. In recent years there have been a number of residential subdivisions developed, with most providing house and land packages. The housing is being taken up primarily by workers employed in the mine services sector.

Council has also approved a rural residential (rural lifestyle) subdivision in an elevated area close to town that has extensive views of the Hunter Valley and Barrington Ranges. Lots sizes have ranged from 4,000 to 8,000sqm, with the 8,000sqm lots being the most preferred size. The lots have proved very popular and have been primarily taken up by the more senior staff from the mines and mine services sector, particularly qualified technicians and engineers.

There is a demand in Singleton for apartments and town houses close to the town centre, however due to planning and heritage constraints, this development has been difficult to achieve.

**Industrial Development**

There are two major industrial estates, Mt Thorley and Maison Dieu, and one business park in Singleton. The industrial areas were originally developed by Council, with Council putting in the roads, water and power. Council then looked for a ‘sell and build’ developer. The more recent development in extending the areas has been undertaken by developers.

Mt Thorley is the heavy industrial estate. It is located 12km to the south of Singleton in the vicinity of the Mt Thorley and Warkworth Mines. The minimum lot size is 4,000 sqm, with land in the estate selling at around $50 per square metre. There are around 50 business in the estate, most of which mining related.

The Maison Dieu industrial estate is located on the north western edge of town, with access from the New England Highway. The lot sizes range from 1,800sqm to around 2 hectares. Land is selling at around $85 per square metre. There are currently around 90 businesses in the estate, with the area having attracted a range of mining service companies as well as warehouse operations and light industrial businesses (eg automotive services) servicing the local and regional markets. This industrial estate is planned to triple in size over the next 5-10 years, with development currently underway on Stage 2, the Mc Dougall Industrial Park. This development is being undertaken by Hunter Land.

A small business park has been established near the Council Chambers in Singleton. This area is anchored by a branch office of the Department of Mineral Resources, Mine Subsidence Board, Coal Services (health services for the coal industry) and Coal Mine Insurance. Other tenants include mainly professional mine service providers such as consultants (eg GHD), surveyors, IT companies and environmental services. Mining related professional service providers have also taken commercial space in the town centre.

A list of the businesses in each estate is given in Appendix 1.
Retail Development

Retail development in the town has been constrained by lack of available land. Competition from other centres in the Lower Hunter (eg Charlestown, Maitland) has also contributed to the lack of large scale retail development.

The town has one major mall, anchored by a Woolworths Supermarket. The town also has Franklins and IGA supermarkets and a Rivers Superstore in the main street. With the recent mining boom and the release and development of the new residential estates, there has been interest shown in new retail development, with Coles supposedly committed to coming to town and ALDI currently looking for a site.

Most of the mines in the area are operating 24 hours per day. As such there is a need for extended trading hours in the retail sector. With the exception of the supermarkets and the National chain stores, there has been reluctance by other retailers to trade outside of standard retail hours. Fast food establishments take advantage of the shift rosters and are well patronised.

Commercial (Motel) Accommodation

Mining, mining services and business related travel is the main market for the motels in Singleton. The town has seen the development of two quality properties, Francis Phillip Motor Inn (providing both serviced apartments and motel rooms) and the Quality Inn Charbonnier Hallmark.

The motels are performing well, with very high occupancy rates from Monday to Thursday night with business related travellers. Most of the motels and pub hotels have some long term room bookings. The Singleton Civic Centre is the largest function centre in the Upper Hunter Region, and attracts a range of functions and large meetings. Many of the mines hold their main staff Christmas functions at the Civic Centre. The motels benefit from this weekend trade.

Employment and Education

The current mining boom has resulted in a shortage of skilled mine workers, Australia-wide. The mines, power stations and mine services businesses in the Singleton area are all experiencing skills shortages. With the State Government restructuring of secondary education, training apprenticeship courses are now being introduced at Singleton High School for Year 11 and 12 students. TAFE are also introducing pre-vocational training courses and an Australian Technical College is being established in the town. As with most Government programs, these courses are reactive rather than proactive, lagging well behind demand. A number of training companies have established offices in Singleton, with these companies focusing on OH&S training for the mines and industrial sector.

Contribution of the Mines

In recent years, Council has asked for the mines to provide assistance to the community as part of the development approval conditions. There is now a Coal and Allied Community Trust Fund (around $3 million) that is being used to fund education and training programs, undertake environmental projects and provide support to disadvantaged groups (eg local aboriginal community). Consultative committees comprising representatives from Council, mine and local community have also been established to improve communication and work towards integrating the mines with other segments of the community.

Muswellbrook

Muswellbrook is the other major service centre in the Hunter Coalfield. The town is located on the New England Highway approximately 285 km north of Sydney and 129 km north west of Newcastle. Muswellbrook is a district centre, primarily servicing Muswellbrook and Upper Hunter Shires and traffic on the New England Highway.
There are 5 operating mines in Muswellbrook Shire, with two new large mines being developed, and other proposals at the planning stage. It is expected that mining in the Muswellbrook area will have a life of 35 to 50 more years, depending on the rate of extraction.

The other major economic activities in the Shire are power generation (Bayswater and Liddell Power Stations which produce 40% of the State’s power) and agriculture. There is a strong possibility that a third power station will be developed in the Shire.

Until the most recent boom, mining related development in the Muswellbrook area has lagged well behind Singleton. This was due to a combination of factors particularly the lower number of mines in the area, the increased distance from the coast, the smaller size of the town, the more limited range of facilities and services in comparison to Singleton and the Lower Hunter Centres and the perceived ‘down-market’ nature of the area and association with the Gaol. The progressive movement of the coal mining into the northern part of the Upper Hunter Valley and the growth of mining in the Ulan area have increased confidence in Muswellbrook.

The Shire has an estimated population of 16,000 of which around 12,000 reside in Muswellbrook. The Shire lost population with the 1990’s recession in the coal industry. Muswellbrook Council advises that the population of the town has been increasing over the past few year, with further growth expected over the next 10 years. Council expects the population in Muswellbrook township to reach 14,000 by 2011 and 15,000 by 2014.

**Residential Development**

As with Singleton, the planning process has not kept pace with the need for housing during the boom periods. The planning process in Muswellbrook has been delayed waiting for Government decisions on a number of major investment projects including determining the route of the proposed New England Bypass.

There is considerable older housing stock in Muswellbrook as well as some vacant land. The initial expectation was that this would be taken up with housing either redeveloped or refurbished and the vacant land developed. This did not eventuate, with people coming into the area wanting new housing. (Note the comparison with Boggabri).

Since 2005 development approval has been granted for a number of residential estates, which will provide more than 2,000 residential lots. A 147 lot rural residential was also approved in 2006. Development of the residential estates will be staged over the next 5-10 years, depending on the take-up rate. Buyers have shown as strong preference for house and land packages. Construction has commenced on a medium density project at Black Hill, with the first stage to include 40 strata titled villas and apartments.

**Industrial Development**

As coal mining moves west and north into the Hunter and Gunnedah Coal Fields, companies servicing the mining and power industries are establishing permanent bases in the Muswellbrook area. Muswellbrook has two industrial areas, a light industrial area in Common Road on the northeastern edge of town and a heavy industrial area on Thomas Mitchell Drive, adjacent to the Mt Arthur Coal Mine. Both areas were developed by Council. The light industrial area (23 businesses) contains mainly service industries for the local / regional community (eg air-conditioning supplies and service, rural supplies, automotive services and smash repairs, landscape supplies) as well as a few companies servicing the mining industry (eg geo-technical and coal preparation laboratories).

The Thomas Mitchell Drive Industrial Area is the town’s main industrial area, with most of the businesses servicing the mining industry. There are around 60 businesses in this area including major companies such as John Holland Engineering, Le Torneau International, Hitachi Construction Machinery, Valley Longhaul Drilling and Barclay Mowlem Asset Services. Industries and services established in this area include engineering / metal fabrication (12 major businesses), construction machinery (sales, service and hire), drilling and earth moving contractors, welders, transport companies, vehicle and plant servicing, and mining and engineering suppliers.
The Thomas Mitchell Industrial Area is close to capacity with demand for land exceeding supply. There are two new industrial estates approved for the area with these likely to come on-line during the next 12 months and provide 54 lots additional lots. There are also 10 lots for sale in the Common Road industrial area and a further 16 approved. Land has also been identified adjacent to the Liddell and Bayswater Power Stations as suitable for heavy industrial development. Macquarie Generation has recently placed its plans to release this land on hold, due in part to the possibility of the area being selected for the new power station.

**Retail Development**

Mining has stimulated investment in the retail sector. A new mall, the Muswellbrook Fair Shopping Centre has recently opened in South Muswellbrook. The Centre provides 8,750 sqm of retail space, and is anchored by a Coles Supermarket and Harvey Norman, with other traders to include Best & Less, Reject Shop, Dominos Pizza, Cellarbrations Liquor and Pharmacy Select, plus 18 specialty shops. Construction has also commenced on a service station – fast food complex.

**Commercial Accommodation**

The motels and caravan parks in Muswellbrook are experiencing high occupancy rates, with all accommodation in town being at or close to capacity from Monday to Thursday night. Most of the budget properties (motels, pub hotels and caravan parks) have long term semi-permanent bookings from mine and power station workers and contractors. The 3.5-4 star properties tend to attract the tradesmen and technicians, while the more upmarket properties attract senior management and professional staff. Motels report that infrastructure contractors (eg Railcorp) and tradesmen associated with building projects in the area are a major mid-week market.

There is a need for additional motel accommodation in Muswellbrook. Council has approved a 150 room 4-4.5 star resort at Black Hill, with 400 seat conference centre. (This project may not proceed due to difficulties in securing finance). Two existing properties also have development approval for additional rooms (around 25 in total) and the RSL Club is assessing the feasibility of expanding its conference facilities and developing a 60-80 room hotel.

**Employment and Education**

There is a severe shortage of skilled mine workers and tradesmen in Muswellbrook, with more than 150 positions available in the mines and mine service sectors in December 2006. To fill positions, the mines are prepared to provide workplace training for people with some work experience. This is impacting on other sectors, particularly agriculture, which are losing workers to the higher paid mine jobs.

With the far higher rates of pay for mine workers, there is a division emerging in the town between the wealthier miners and other occupations. Council is looking at ways to manage this.

The High School and TAFE in Muswellbrook are looking at skills based training programs to address skill shortages within the area. There are also a range of apprenticeships available.

**Contribution of the Mines**

As part of the Development Approval conditions for mines in Muswellbrook Shire, Council has required the mines to contribute to a Community Enhancement Program and provide funding for community based projects. The mines are also encouraged to support schools and local community groups. Council is currently looking at the possibility of including provisions in future Development Approvals requiring the Mines to employ a proportion of local residents.

Council has also established a Community Consultative Committee comprising Council and representatives from the mines and the local community. The objective of the Committee is to address concerns raised by the community regarding mining in the area.
Mudgee / Gulgong

Mudgee and Gulgong are the two closest towns to the Ulan Coal Mine in the Western Coalfields, with both towns located within a 20-30 minute drive of the Mine. The Ulan Mine was established around 25 years ago, so the mine workers have been integrated into the local community. The recent boom has resulted in an influx of new mine workers into the area as the mine has ramped up production. The Ulan Mine employs around 320 workers. According to Mine Management, approximately 30% of the additional workers have found accommodation in the area with the remainder commuting, staying in the area during their shift and then returning home. Most of the new miners have come from the Hunter Valley.

There are three significant mines proposed for the Ulan area, with these mines being of a similar scale to Ulan. Mudgee Council estimates that these mines will employ up to 1200 additional people.

Mudgee and Gulgong townships have been experiencing residential land shortages for the past 5 years. This has been due primarily to people seeking a lifestyle change (the ‘tree change’ market) rather than the mining. Mudgee has recently completed an assessment of future landuse needs, with additional land being rezoned under the new Mudgee Local Environmental Plan. Council anticipates that the new mines will generate demand for additional housing in both Mudgee and Gulgong.

With only one mine, mine-related industrial development in the area has been very limited, with the mine serviced primarily by Hunter-based companies. With the expansion of the mining, there is an expectation that some industrial development will occur, however this is likely to be located in the vicinity of the mines.
5. OUTLOOK FOR THE TOWNS IN THE GUNNEDAH BASIN

The towns and villages that are or will potentially benefit from coal mining in the Gunnedah Basin are Gunnedah, Boggabri, Narrabri, Baan Baa, Werris Creek and Quirindi, and Tamworth which is just outside the Basin. Gunnedah has emerged as the service centre for coal mining and while Narrabri is emerging as the service centre for the gas industry.

5.1 Gunnedah

Gunnedah is the administrative and major service centre for Gunnedah Shire, and a sub-regional centre within the New England - North West Region. The Shire has a population of around 12,800 people of whom around 10,000 reside in Gunnedah township. Gunnedah offers an extensive range of retail, commercial, recreational and health services. Higher order services are available in Tamworth (regional centre), 70 kilometres to the north-east of Gunnedah.

Gunnedah has already emerged as the service centre for the coal mining industry within the Gunnedah Basin, with this being the result of a combination of factors including:

- **History** - Coal mining in the Gunnedah Basin has traditionally been focussed on Gunnedah with Gunnedah having been associated with mining (3 mines - Preston, Gunnedah and Vickery) for more than 120 years. The town has mining skills and expertise amongst its workforce as well as basic mine services and infrastructure in the town, with this infrastructure including a Coal Processing Plant and Rail Loader.

- **Whitehaven Coal Mining Pty Ltd** has spear-headed the most recent development of mines in the Gunnedah Basin. Whitehaven was formed by staff from Namoi Coal, the company that operated the Gunnedah Colliery. As such the company already had strong links with the Gunnedah area. Whitehaven also acquired the Coal Processing Plant and Rail Loader at Gunnedah, with the raw coal produced by the Whitehaven Mines, processed and transported through these facilities. Whitehaven has offices in both Gunnedah and Boggabri.

- **Roche Mining**, which is managing the operation of the Boggabri Colliery, has established an operational base in Gunnedah.

- **In recruiting for the mines, preference was given to experienced miners from Gunnedah. With the downturn of mining in the 1990's and the closure of the Gunnedah Colliery in 2000, miners from the Gunnedah area, took work in the mines in the Hunter and Western coalfields. Due to a depressed housing market in Gunnedah, many of the miners did not sell their properties, keeping their house in town. Others with families, left their families in Gunnedah and worked in the mines outside the area, returning home on weekends. With the opening of mines in the Gunnedah area, many of these miners have returned to the town.**

- **Most of the 'flow' of miners and mine related services into the area has been from the Hunter Valley, with companies and individuals oriented to the Valley and coast. In this respect, Gunnedah is more accessible than Narrabri.**

- **Gunnedah is more centrally located, being well positioned to service the mines both to the north (Boggabri Area) and to the south east (Werris Creek Area). Over the past four years, mining activity has been focussed in the Boggabri area. Gunnedah is the closest large town to Boggabri, with mining related workers generally preferring to settle in a larger town with a more extensive range of services. The construction of the internal haul road from the Whitehaven and Tarrawonga Mines to Gunnedah has increased the accessibility of these mines to Gunnedah.**
The name ‘Gunnedah Basin’ focuses attention on Gunnedah.

Gunnedah is geared up to accommodate the mining growth. At the beginning of the recent mining boom, there was excess housing stock available in Gunnedah, which has now been largely taken up. This excess provided the ‘breathing’ space to enable additional land to be rezoned and developed, with more than 500 lots in various stages of planning and development. The purchase market has some capacity however the rental market is extremely tight.

According to Council, the town has the capacity to accommodate an additional 3,000 people, with planning occurring for a further 2,000 in the medium to longer term.

The positive outlook for the coal industry also resulted in investment in the commercial and industrial sectors within the town. Recent developments have included a shopping mall with Coles supermarket, Country Target Reject Shop and a number of specialty shops, with a Franklins supermarket under construction. The State Government has started upgrading and expanding facilities in the town including improvements to the schools and a new ambulance station. A large nursing home is also being developed.

Motels are currently running at very high occupancy rates (80%) and there are proposals to develop a number of new motels in town. The main markets for the motels are miners, mine service providers, contractors and tradesmen associated with the infrastructure and building projects and railway workers.

There are two major industrial estates being developed in Gunnedah, a 97 lot subdivision on the former abattoir site and a smaller subdivision on the north western side of town. A number of mining service companies have, or are in the process of relocating to Gunnedah, with these companies including Roche and Mowlem Assets.

A feasibility assessment for the development of an Ethanol Plant at Gunnedah is currently being undertaken. If the project proceeds it will employ around 500 people. The Ethanol Plant will be a major consumer of gas, which will stimulate both gas exploration and industrial development within the Gunnedah area.

Significant retail development is already occurring in the town. A $12 million complex opened in late 2006, with the complex anchored by Coles and Country Target. A Franklins supermarket is currently under construction and there are a number of new commercial premises being developed.

Government services are also being improved, with investments in schools and emergency services, including a new ambulance station. Country Energy is building a new depot and ARTC has established a presence in town during the construction of the Gunnedah passing loop.

Gunnedah has an airport, and until recently, was serviced by a small regional carrier, Big Sky Express, with a flight to and from Sydney most days of the week. This service has ceased operations. Tamworth is the nearest airport with commercial passenger services, with most of the coal-related travel business coming through this airport.
One of the issues of concern in Gunnedah is the mining cycle and the small scale of the coal mines in close proximity to the town. Gunnedah has been through a number of boom and bust cycles. While the town expects the current boom to continue, most of the Whitehaven mines being serviced by the town are relatively small and at current rates of extraction probably have a life span 10-12 years. Whitehaven Coal is undertaking exploration of other resources in the area, and it has been suggested that there may be potential to move into underground mining once the seams close to the surface have been depleted.

In addition to the Gunnedah-Boggabri mines, Gunnedah is endeavouring to take advantage of the development of the BHP Caroona Colliery if it proceeds. Liverpool Plains Shire Council and Tamworth City are also gearing up to compete for this ‘business’.

5.2 Boggabri

Boggabri is the closest town to the majority of the existing and proposed coal mines. The town is located approximately 35km north of Gunnedah and 65km south of Narrabri. Boggabri is a local service centre with a population of approximately 2,500. Boggabri offers a range of services including a local hospital, public and catholic primary schools, and a licensed club. Recreational facilities include a pool, tennis courts, bowling greens, golf course and rifle club. The town is attractive and there are no visible social problems. It is ideal for families with pre and primary school aged children.

Boggabri is experiencing growth as a result of the mining operations, albeit at a much lower rate than in Gunnedah. Both Whitehaven and Idemitsu have offices and staff based in the town and there has been limited commercial development with the construction of a new commercial building incorporating 3 shops, including a pharmacy.

There is pressure on the residential property market for both purchase and rental properties. While there are a number of houses for sale as well as vacant blocks, these have been relatively slow to be taken up. Speculation has resulted in a marked increase in housing prices, with the prices being asked considered unrealistic for the location and the quality of the housing available. While there are opportunities for infill development within the town, the likelihood of this occurring is relatively limited. The standard of the surrounding development is not particularly high and it will be extremely difficult to attract builders and tradesmen for one-off building projects. Consideration is being given to a small residential subdivision, with the development likely to offer house and land packages. For Boggabri to attract residential development it will need to offer both residential and rural residential allotments with access to house and land packages.

The Nestle Inn Motel and Commercial Hotel provide a limited number of basic rooms. These rooms have been almost fully booked since mining commenced in the area. The Hotel is proposing to increase the number of rooms available. There is a need for additional short-term accommodation in Boggabri, in particular more motel rooms, budget hotel and/or lodge style rooms and self contained accommodation. Boggabri Caravan Park provides a limited number of powered sites with ensuite facilities. The Park is basic, and does not provide any self contained cabin accommodation. Cabin accommodation is however needed in the town.

Zoned industrial land within the town has also been taken up, although development has been very limited to date. Given the proximity to the mines, there is likely to be some demand for industrial sites. Council will need to monitor the availability of industrial land, with the view to zoning additional land if the existing areas remain undeveloped. Any further industrial land should be located where it accessible to the mines, and also has no potential negative impact on the town or significant visual corridors.

5.3 Narrabri

As mine development to date has occurred closer to Gunnedah than Narrabri, Narrabri has not been subject to mine-related development pressures. This will change with the development of the
Narrabri North Colliery and possibly with the future development of the Maules Creek area. Both the proposed Narrabri North Colliery and the Maules Creek Exploration Area are closer to Narrabri than to Gunnedah. Both areas also have extensive coal reserves and are expected to have very long operating lives (50+ years).

Narrabri should expect direct spin-offs from the Narrabri North Colliery. The mine will employ around 110 people, most of whom will be experienced miners. Underground mines employ skilled workers, more so than ‘new starts’, which means that there will be new people coming into the area. The mine will also take on some apprentices and trainees, most of whom are likely to be local residents.

For the miners relocating to the area it is likely that at least half would be looking for dwellings in Narrabri. As discussed in Section 4.4, mine workers will require a mix of accommodation types, from apartments through to rural residential properties.

There will also be increasing demand for motel, pub and self contained accommodation across all star ratings. The motels in Narrabri are already running at relatively high occupancy rates mid-week with work-related travellers being their main market. There are two additional motels proposed for the town which will increase capacity. One down-side of the mining is that some accommodation properties are likely to have longer term block bookings, which will decrease the number of rooms available for short-stay visitors, and will also reduce the town’s capacity to accommodate coach tour groups and conferences.

Industrial development associated with the Narrabri North mine is likely to be limited, although this could change in the longer term if coal mining moves to the north and/or west of Narrabri. If the BHP Billiton underground mine goes ahead at Caroona, there is a strong likelihood that the service providers contracted to BHP would establish in the Werris Creek area, and these could possibly also service the Narrabri North Mine. Initially industrial development in Narrabri is more likely to come from local firms that grow and/or diversify to service the mining industry rather from firms relocating to the area.

Maules Creek is likely to be an open cut mine. The relationship to Narrabri will be primarily determined by:

- The timing of the mine development – if the mine development occurs at a time when there is downsizing or closures n other mines, then there is every likelihood that workers will move across to Maules Creek. If ‘new starts’ are taken on, then there is a strong possibility that they would come from the Narrabri area.

- The positioning of the mine access road/s, facilities and pithead within the Mining Lease. If possible Narrabri Council should be looking for these facilities to be at the northern (Narrabri) end of the Lease Area to forge the link between the future mine and the town. At the very least, Council should be looking for the mine to provide an internal road link for mine traffic, through to Maules Creek Road.

As an open cut mine, Maules Creek will be more likely to draw on service providers that are servicing the existing open cut mines in the area. The mine is not likely to generate demand for industrial property in Narrabri.

Air services to Narrabri are already operating close to capacity, with both exploration and mining likely to increase demand for seats. Narrabri Council will need to monitor the situation and lobby Qantaslink to increase the capacity and/or frequency of the flights. Tamworth’s success in attracting mining related business is based largely to the fact that the flight schedules allow for same-day connections with Brisbane services. For example, Council could approach Qantaslink to consider a triangular route (Sydney-Tamworth-Narrabri-Sydney) for their middle of the day flights. Council should also investigate the possibility of Regional Express (REX) operating into Narrabri. Narrabri rental car companies may need to expand their rental fleet, possibly including some 4WD vehicles.
The Crossing Theatre also provides the opportunity for Narrabri to attract coal and gas related conferences and exhibitions.

### 5.4 Baan Baa

Baan Baa is a small village on the Kamilaroi Highway. It is the closest settlement to the proposed North Narrabri Mine. Baan Baa has only one commercial premise, the pub. There are around 20-30 houses, all of which are old and relatively run down. The village has a tennis court. The area is not sewered. The nearest shops are in Boggabri, with Narrabri being the closest large centre.

There will be demand from workers and contractors to stay as close as possible to the mine, with proximity being a more important factor than standard of accommodation or facilities and services available. There will also be demand from the people who are looking to minimise their costs while working in the area, for budget accommodation close to the mine.

The Baan Baa Hotel has a few very basic rooms, with these having recently been refurbished. The Hotel is proposing to develop additional rooms and these should be encouraged. As discussed in Section 4.4, there may also be opportunity to establish a general store and refurbish a number of houses in the village, with these managed by the Pub or General Store and offered for short stay or rental accommodation.

### 5.5 Wee Waa

Wee Waa is located too far from the Coalfields to attract any mine-related residential development. The town's motels could attract some overflow business when Narrabri is booked out (eg during major conferences).

Most of the industrial businesses in Wee Waa are geared to the agricultural sector. The main ‘cross-over’ with mining is likely to be in the areas of water reticulation and irrigation, and there is the possibility that relevant Wee Waa businesses could tender for these projects.

### 5.6 Other Centres

Werris Creek and Quirindi will be the main service centres for exploration and mining undertaken in the south-eastern corner of the Basin. Tamworth and Gunnedah are also both likely to get some ‘spin off’ from mining activity in this area. Due to distance, Narrabri Shire is unlikely to benefit.
6. GAS INDUSTRY IN NSW

6.1 Overview - Reserves and Exploration Activities

NSW is the largest consumer of natural gas in Australia. Almost all gas sold in NSW is supplied from interstate with the Moomba field in South Australia being the main supplier. The other main source is from Victoria via two pipelines, the Longford pipeline along the east coast to Sydney and a pipeline to Wagga. During the early years of petroleum exploration in Australia, the exploratory wells drilled in NSW were unproductive, while wells drilled in adjoining States proved economically viable. Development occurred in Queensland, South Australia and Victoria, with minimal exploration undertaken in NSW.

The sedimentary basins in which economic reserves were found in the adjoining States extend well into NSW, indicating that there is a strong possibility that NSW also has extensive gas reserves. In 2000 the NSW State Government introduced the Discovery 2000 program to stimulate exploration in NSW. This was followed by the current Exploration NSW initiative which provides incentives for gas and petroleum exploration in this State. As a result of these initiatives more than 20 Petroleum Exploration Licences (PEL) have been granted, the majority of which are in Northern NSW, in the Gunnedah and adjoining Surat and Bowen Basins.

Initial exploration has identified potential gas reserves in the sedimentary basins in NSW, with PEL's granted for the:

- Eromanga Basin - within the Great Australian Basin in the far west of the State
- Bowen - Surat Basins to the north and west of the Gunnedah Basin
- Darling Basin
- Murray Basin
- Gunnedah Basin
- Sydney Basin
- Gloucester Basin
- Clarence - Moreton Basin

While preliminary exploration has or is occurring in most of the Basins, the results have been mixed and there are no firm estimates of the gas reserves available in NSW. Preliminary exploration has found both conventional natural gas and coal seam methane gas seams in the Gunnedah, Sydney, Bowen and Surat Basins.

The extraction of gas from the NSW gas fields is in its infancy. In the Gunnedah Basin, Eastern Star Gas has been granted a Petroleum Production Licence (PPL) for the extraction of Natural Gas at the Coonarah gas field near Narrabri. Eastern Star Gas has constructed a gas-fired electricity generation plant (11 MW) plant at Wilga near Narrabri. The Plant has the potential to expand (up to 40MW initially). The company is also considering a gas pipeline to supply gas to Narrabri.

Eastern Star Gas is also undertaking exploration of coal seam methane gas in the surrounding area, and has recently commenced drilling in its PEL area near Gunnedah and has recently entered into a Memorandum of Understanding with Macquarie Generation to provide up to 500PJ of gas by the end of 2007.

A PPL has also been granted to Sydney Gas to produce coal seam methane from its wells at Camden in the Sydney Basin. Gas produced is being processed at the Rosalind Park gas plant and sold to AGL for distribution in Sydney. In September 2005, the Company announced a 50:50 joint venture with AGL on all its assets and future activities.
6.2 Outlook for the Gas Industry

The outlook for the gas industry in the Gunnedah Basin and adjoining Surat and Bowen Basin is extremely positive. A major study by the Australian Bureau of Agriculture and Resource Economics forecasts that by 2012/13 an additional 100PJ of gas will be required from new sources to meet east coast Australia gas demand. Gas fields in Western Australia, Timor Sea and Papua New Guinea have been identified as potential future sources of supply. Given the remote locations of these fields, transportation costs are expected to result in price rises for gas, which is likely to render it economic to consider harvesting the gas supplies in the Gunnedah Basin. The feasibility of a gas pipeline through the Gunnedah Basin from Wallumbilla in Queensland to Newcastle, a distance of approximately 850 kilometres, is currently being assessed.

This demand forecast coincides with industry concerns about NSW's gas supply agreements. In recent years there have been a number of problems, including a temporary shutdown at Moomba, which has resulted in gas shortages along the East Coast. The 2004 shutdown impacted on 13,000 businesses and is estimated to have had an economic impact in the order of $1,300 million.

There is also increasing pressure from the Newcastle - Lower Hunter area for access to less costly gas supplies. The relatively high price of gas within the Hunter is emerging as a constraint to attracting major industrial investment in the area, with more competitive gas seen a key factor in stimulating and sustaining development in the Hunter Economic Zone.

Natural Gas reserves in the Cooper Basin fields in Queensland are also declining at a significantly faster rate than forecast. This problem is being further accelerated by the Queensland State Government's decision in January 2005 to increase the level of electricity generated by gas to 13%.

In NSW, the State Government has identified the need for another major power station. The State Government has introduced a Greenhouse Gas Abatement Scheme which penalises energy
companies for over-reliance on coal produced power. As such consideration is being given to both coal powered and alternative energy sources. According to the Australian Petroleum Production and Exploration Association (APPEA), by 2017 70% of all new electricity generating capacity is expected to be gas powered.

Energy companies in NSW are looking to purchase non-coal generated electricity, with gas being the preferred alternative. Within the Hunter, Macquarie Generation is developing a 500MW gas generated power station which will operate only during peak demand times when prices can be maximised. Delta Electricity also has plans for a gas-fired power plant, however has not proceeded due to the high cost of gas in the Hunter. The proposed Hunter-Queensland pipeline is expected to deliver gas around 20% below the existing gas supplier, rendering the development and full-time operation of gas generated power plants economically viable.

World-wide, the demand for natural gas is increasing. APPEA forecasts that over the next 10 years, Australia will quadruple its exports of natural gas from 12.5Mt per annum to 50MT per annum.

As a result of State Government incentives, the number of Petroleum Exploration Licences in NSW has risen sharply in recent years, to a total of 31 licences at the end of 2005. Of these, 16 are in the Gunnedah-Bowen-Surat Basin areas of northern NSW, with the leases concentrated in the Narrabri Area.

A report into the natural gas potential of the Gunnedah-Bowen-Surat Basin areas, prepared for the NSW Department of Mineral Resources in 2004, identified the region as having the ‘potential to be a major force in the supply of gas for the east coast markets, at the same time bringing competitive security of supply and economic benefits for the State’.

This report estimated that the gas reserves in the region have a potential value of $2 billion and are sufficient to supply current levels of NSW gas demand for in excess of 50 years. The report recommends proceeding with the planning and assessment of the Queensland to Newcastle gas pipeline, with the view to the Region becoming a major gas producer within the medium to longer term. In the short term it recommended the establishment of wells producing for the local market and for electricity production, an opportunity already being trialed by Eastern Star Gas on the edge of the Pilliga, just to the south-west of Narrabri.

6.3 The Gas Industry in the Gunnedah Basin

The Gunnedah Basin has been identified as the most ‘promising’ gas field in NSW. It has been estimated that gas-in-place within the field is in the order of 17,000PJ. Although exploration to date has been very limited, it appears to be more advanced than in other prospective gas fields in NSW.

Until recently, exploration and extraction of gas reserves in the Gunnedah Basin has been very limited. This was a result of a combination of factors including:

Market Constraints

- There is limited demand for gas from within the region, with the potential markets being too small to justify the installation of infrastructure to distribute gas. Population centres are relatively small, and there is considerable distance between the load centres. Large scale industrial development is needed to generate sufficient demand. The only proposed large-scale project in the region is an ethanol plant at Gunnedah. This could potentially be serviced from the Central Ranges gas pipeline, recently constructed between Dubbo and Tamworth.
- NSW is locked into long-term gas supply contracts with the Moomba gas field in South Australia. The demand for gas in NSW is however growing and the State is purchasing gas to meet the additional demand from other suppliers.
Infrastructure Constraints

- Absence of gas pipeline infrastructure to tap into that would provide access to major load centres (Sydney, Newcastle, Brisbane etc). This is being addressed by the proposed Queensland - Hunter gas pipeline.

- Low level of petroleum exploration in NSW, resulting in lack of drilling equipment and skilled operators being available within the State. Drilling rigs and personnel need to brought in which increases exploration costs. With the Australian-wide mining boom it is also difficult to secure services.

Exploration Constraints

- Most of the proven gas reserves in Gunnedah Basin are coal seam methane gas which requires more wells to harvest than conventional gas, resulting in increased production costs. Preliminary exploration drilling has indicated the presence of conventional gas reserves in the Pilliga Forest area that could be more cost effective to harvest.

- Lack of proven resources in the Gunnedah Basin. The resources proven to-date have not been sufficient to warrant the installation of the major infrastructure required to connect the region to the gas pipeline network or direct to major load centres outside of the region.

With the likelihood that the Hunter – Queensland gas pipeline will proceed, and the need to increase gas supply to the East Coast and to power stations in the Hunter Region, the gas industry in the Gunnedah Basin is ramping up. Within the Basin, Eastern Star Gas is spearheading the development of both conventional and coal seam methane gas. Eastern Star Gas (65%) and Gastar Exploration Limited (35%) have established the Gunnedah Basin Gas Project (Coal Seam Gas) Joint Venture.

The company has established a 9 well Gas Production Plant at Bibblewindi. The plant is expected to produce 50-100 PJ of gas by late 2007. The gas fired Wilga Power Generation Plant is also operational and likely to be progressively expanded to 40MW in the future. Eastern Star Gas is looking at the feasibility of establishing a pipeline to Narrabri. Basically it needs one large customer to anchor the service. Cargill, has been identified by Eastern Star Gas as this potential anchor, and discussions are underway. In other areas, fertiliser plants are major users of gas, and there maybe potential to attract development of a fertiliser plant, to Narrabri utilising agricultural waste in the area.

Eastern Star have indicated that it will be relatively easy to supply gas to the industrial area on the southern side of Narrabri, more so than to the industrial areas to the north of the town. The pipeline would take around 3 months to build.

Exploration is also proceeding in other areas within the Basin, in particular around Gunnedah which potentially has access to the Central Ranges gas pipeline and potentially a major customer for gas if the proposed ethanol plant proceeds.

6.4 Hunter Queensland Gas Pipeline

Hunter Energy is assessing the feasibility of developing a high pressure gas pipeline from Wallumbilla in South East Queensland to Hexham, just west of Newcastle. The pipeline will be approximately 850km in length and extend from the existing gas hub at Wallumbilla, south through Moree, Narrabri, Gunnedah and the Hunter Valley.

The pipeline will provide the missing link in the eastern state gas pipeline network. Currently NSW is linked by pipelines to South Australia and Victoria, with no link into Queensland. The proposed pipeline will link with the Central Ranges Pipeline (Dubbo to Tamworth) at Gunnedah, the Hunter pipeline (Seahampton to Rutherford) and the Sydney-Newcastle pipeline. The project is estimated
to cost in the order of $700 million and will employ 800 people during construction and 150 once operational.

The Queensland Government has approved the Queensland component of the pipeline. The NSW Minister for Planning has declared the pipeline a ‘Critical Infrastructure’ project, with the planning and assessment process now under-way.

The pipeline could be operational within 5 years.

### 6.5 Employment

Gas exploration and production is not labour intensive, and will not generate anywhere near the same level of employment as the coal sector. Once established, gas pipelines and production plants are monitored remotely, with a small a small crew based in the area to undertake visual inspections and routine maintenance as required. Other works are undertaken by specialised contract crews brought in from other areas (primarily interstate).

The construction of the Hunter to Queensland pipeline will employ 800 people during the construction phase, with works crews moving progressively along the route. This will create demand for temporary and rental accommodation in each of the towns along the route. The works program will be staged, so no town would be called upon to host the 800 construction workers concurrently. Where needed, the construction company may set up temporary camps along the route.

Once the pipeline becomes operational it is expected to employ around 150 people. Again these will be spread along the pipeline route and in head office, where most of the monitoring will be undertaken.

Eastern Star Gas is the only company currently undertaking exploration and extraction within the Basin. Eastern Star has established their Gunnedah Basin office in Narrabri and have also secured housing in the area for their main personnel. For their operations in the Narrabri area, Eastern Star Gas predict that they expect to employ about 30 people fulltime, with 5 of these being relocated to the area and the remainder being local ‘new starts’. The majority of ‘new starts’ are likely to be people with engineering-mechanical qualifications and experience such as fitters, mechanics etc. Eastern Star are also planning to have up to 2 drilling rigs working in the area until 2011, with these rigs and crews to be brought in from interstate. They estimate that the rig crews will average around 10 motel beds per night (7 days per week) in Narrabri.

Based on figures provided by Eastern Star Gas, the level of employment in the gas sector in the Narrabri area over the next 10 years is likely to be:

<table>
<thead>
<tr>
<th>Stage</th>
<th>Timing</th>
<th>Likely Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Star office in Narrabri</td>
<td>Ongoing</td>
<td>5 – could grow to 10</td>
</tr>
<tr>
<td>Operation of existing wells and power plant</td>
<td>Ongoing</td>
<td>Permanent 2-3 on site – could increase marginally. Inspection and maintenance 2-3 people for a few days every fortnight. Maintenance workers – contractors brought in (probably from interstate) on an as-needs</td>
</tr>
<tr>
<td>Exploration - drilling</td>
<td>2007-2011</td>
<td>1-2 rigs with 10 workers per rig.</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Fracking (fracturing the coal)</td>
<td>3 months per year</td>
<td>1-2 crews with 15 people per crew.</td>
</tr>
<tr>
<td>Pipeline construction (if line to Narrabri is constructed)</td>
<td>3 months</td>
<td>Crew of 20 total</td>
</tr>
</tbody>
</table>

If exploration in the area increases then other drilling crews will also need accommodation. This is likely to be spread throughout the region depending on the location of the exploration, with Narrabri and Gunnedah expected to be the main beneficiaries. The lack of availability of drilling rigs is a major constraint to ramping up the exploration process.

### 6.6 Implications for Narrabri Shire

At this stage Narrabri is emerging as the centre for gas exploration and extraction in the region. Eastern Star expects exploration to move south and east of Narrabri rather than to the north and west. Exploration has recently commenced in the Gunnedah area, which already has access to the Central Ranges Gas pipeline and could potentially have a major gas customer if the Ethanol Plan proceeds. If the Hunter-Queensland pipeline proceeds quickly, then Narrabri may remain the centre for gas as it is more accessible to Brisbane (concentration of gas companies) than Gunnedah. If the pipeline is delayed or does not proceed, then Gunnedah may move ahead by accessing the Central Ranges pipeline.

Eastern Star Gas has experienced a number of problems with operating out of Narrabri including:

- **Air Service** - Eastern Star Gas has advised that it sometimes has difficulty with booking seats on the flights to and from Narrabri, particularly getting seats at short notice. This has resulted in maintenance and crew members having to drive from interstate and has created some delays in the maintenance and drilling programs.

- **Training & Accreditation** - Eastern Star Gas is sending its employees for OH&S training and certification to Tamworth as courses are not available in Narrabri. The company would prefer these courses to be offered by Narrabri TAFE where possible. This may become more viable with the development of the Narrabri North Mine, which could also be looking for the same, or similar, OH&S training and certification programs.

- **Transport to Narrabri** – most parts and equipment for the gas industry need to come out of Brisbane, and to a lesser extent Melbourne. As volumes are low, freight costs are high. There are also considerable time delays as freight from interstate is generally flown to Sydney, then flown or trucked to Newcastle and then distributed, often to Tamworth first, before being distributed locally.

These factors are inconvenient rather than being major constraints that threaten production. They are not likely to be alleviated or improved by Eastern Star Gas relocating its regional operation to Gunnedah.

The number of people directly employed in the gas industry who are likely to relocate to Narrabri and purchase housing is expected to be negligible. There will however be demand for motel accommodation over the next 4 years, with this likely to average 10 beds per night, with a maximum of 35-40 nights at anyone time. There may also be demand for short-term rental accommodation, particularly during the construction of the Hunter-Queensland pipeline.

Although relatively close to the gas fields, Eastern Star Gas has not looked to Wee Waa to provide accommodation or services for its workers or contractors. Its preference is to place them in Narrabri which has air access and also provides a far more extensive range of facilities and services.
Gas exploration and production requires specialist equipment. Suppliers servicing Australia are based primarily in Queensland and Victoria and are not likely to relocate or establish branch offices in the Gunnedah Basin.

The availability of gas could however encourage businesses that need access to gas, to establish in Narrabri. Eastern Star Gas has suggested the possibility of a fertiliser plant. There is also the possibility of establishing additional Wilga-style power plants within the gas fields.
7. OPPORTUNITIES FOR NARRABRI SHIRE

7.1 Opportunities

Boggabri, Baan Baa and Narrabri are the urban centres within the Shire that have the potential to benefit from the development of the mining industry within the Gunnedah Basin. As discussed in the preceding chapters, the mining industry is already resulting in investment and growth in Gunnedah and, to a lesser extent in Boggabri. The development of the Narrabri North Mine is likely to result in population growth for Narrabri. Mining in the Maules Creek area could also have flow-on benefits for Narrabri. Narrabri will also benefit from the growth in gas exploration and production in the region.

The study has identified a range of opportunities for Narrabri Shire to capitalise on the development of the mining sector. These opportunities include:

**Boggabri**

- Housing - Need for additional dwellings for the short and long term rental markets and for purchase. The demand is expected to be for new housing rather than refurbishment of older style properties.
- Industrial development - attracting mine services companies that need a workshop close to the mines. Additional industrial land may need to be provided.
- Additional hotel and motel rooms - primarily budget to mid range in standard.
- Self contained short term accommodation including cabin accommodation in the caravan park.

**Baan Baa**

- General store - takeaway food outlet.
- Basic accommodation targeted to single men - This is in addition to the 6 room extension of the Baan Baa Hotel.
- Refurbishment and use of existing vacant housing for short term rental accommodation for contractors and mine workers.

**Narrabri**

- Housing - some growth in demand for housing. While the town has a good supply of residential and rural residential house land and houses, there appears to be a shortage of medium density (apartments, town houses) dwellings.
- Additional motel rooms, particularly 4-4.5 star standard rooms - additional rooms are needed to meet the expected needs of both the gas and coal sectors, as well as to build the conference, meetings and exhibitions market.
- Crossing Theatre - Targeting mining, energy and gas conferences, meetings and exhibitions.
- Work force training and employment.
- Diversification and expansion of existing businesses.
- Attracting footloose industries that need access to both rail transport and natural gas.
**Wee Waa**

- Diversification and expansion of existing businesses to provide mine related services.
- Overflow accommodation when motels in Narrabri are booked out.

Actions required to capitalise on these opportunities are outlined below.

### 7.2 Attracting New Residents & Investment

Narrabri and Boggabri are competing primarily with Gunnedah to attract new residents. Narrabri and Gunnedah are of a similar size and offer similar services. Gunnedah has a strong locational advantage in terms of accessibility to the mines and also in its accessibility from the Hunter Valley. Access is likely to be a main determining factor for the majority of businesses and people relocating to the area.

For people expecting to stay in the area for an extended period, particularly people with families, quality of life will be a major consideration. Factors that will be taken into consideration in the location decision include:

- The attractiveness and presentation of the area - the character, atmosphere and vibrancy of the area are important, with first impressions being a major influence.
- The facilities and services available - for women in particular, the quality, merchandise range and pricing of the supermarket will be a major consideration.
- The availability and quality of housing - with preference being for modern housing in attractive, safe locations.
- Price of housing and the general cost of living in the town.
- The availability and quality of the schools in the town.
- Recreational and sporting facilities and teams.
- Social problems / safety considerations.
- Employment and training opportunities for partners and other family members.

The actions required in each of the towns to attract and accommodate growth include are outlined below. In addition Council needs to prepare a promotional and information brochure and DVD on the Shire for distribution to potential mine workers, mine service companies, infrastructure suppliers and the gas companies. For example, these packs need to be available for the Narrabri North Mine to distribute as part of its recruitment packages. The promotional information should also be forwarded to all companies that are contracted to provide services to the mining and gas sectors.

**Boggabri**

**Presentation**

Presentation and atmosphere are critical in attracting development. Most areas of Boggabri present reasonably well, with some of the streets being very attractive. On first impressions, there appears to be ‘pride’ in the town and no visible social problems.

The historic buildings are a feature of the town and add to the character and atmosphere. Landscaping has been undertaken in the shopping centre. There has also been some corridor tree planting along the Kamilaroi Highway. War Memorial Park is being established and will provide an attractive centre-piece linking the Highway and shopping centre. Most of the buildings in the shopping centre present well, although some would benefit from a coat of paint and improvements in their window displays. The historic building on the corner of Brent and Wee Waa Street occupies a very prominent position. Currently it presents very poorly but, with refurbishment, has the potential to be a major asset for the town.
The town does not capitalise on the nearby Namoi River. Access to water is a major attraction for people relocating from the coast, and the river needs to be strongly linked to the town and prominently featured when promoting the area.

The zoned industrial areas in Boggabri are not well located in terms of visual amenity. The strip of land along the railway line lies within the visual catchment of the elevated land on the western side of railway. This elevated land is potentially prime residential land. The industrial land on the north-western edge of town (Boston Street west area) forms part of the northern entry corridor into Boggabri and lies within the Kamilaroi Highway visual corridor. Consideration needs to be given to the standard and location of industrial development as well as to landscaping to minimise visual impacts.

Suggested actions for further improving presentation include:

- Significantly improve the presentation and visual impact of the gateway entry points into Boggabri - signage and landscaping.
- Continue with the corridor and street tree planting, concentrating initially on the gateway corridor, Kamilaroi Highway corridor and the streets feeding into the shopping centre. A number of tree species have been used in the past. A more coordinated approach is required.
- Continue to improve the presentation of the shopping centre, concentrating on attractive landscaping and the presentation of the buildings and businesses.
- Encourage property owners, particularly in the shopping centre and the commercial and historic properties along the Kamilaroi Highway to upgrade and maintain the presentation of the buildings.
- Apply to the Department of State & Regional Development for grant funding to employ a retail consultant to assist the businesses in Boggabri to improve their shop front presentation and merchandise displays.
- Investigate the feasibility of establishing an attractive riverside picnic area close to town, possibly in the vicinity of the Boston Street Bridge, with this area signposted from the Kamilaroi Highway and War Memorial Park. Explore the feasibility of developing a riverside walk from Boston Street through to Grantham Street (Kamilaroi Highway).
- Continue to develop War Memorial Park as a feature for the town and as a strong visual and pedestrian link between the Kamilaroi Highway and the shopping centre.
Prepare a Development Control Plan (or other planning policy) for the industrial areas, concentrating on minimising the visual impact of development through landscaping, building setbacks and building design and colour. For the area to the north of Boston Street, the emphasis should be on maintaining the visual amenity of the Kamilaroi Highway corridor and gateway entry into Boggabri.

**Residential Development**

- Ensure that there is adequate zoned residential and rural-residential land available for development. The preference is likely to be for a new estate rather than infill housing. If possible, Council needs to encourage quality rather than low cost housing.
- Ensure that water and sewerage systems can accommodate residential growth and put in place plans to augment the systems if required.
- Monitor the housing and residential situation in Boggabri and continue to rezone land as needed.

**Industrial Development**

- Monitor the demand for industrial land in Boggabri and explore options for expanding the industrial area if required. Options should include the provision of an industrial area closer to the mines.

**Motel / Service Apartments / Lodge**

- Ensure that the LEP will permit the development of commercial accommodation (motel, apartments, lodge) within Boggabri.

**Caravan Park**

- Improve the presentation of the Boggabri Caravan Park, including introducing and enforcing regulations that require the vans and annexes to be in good condition.
- Upgrade and update the signage at the Park entrance.
- Explore the feasibility of re-configuring the Park to segregate long-term residents and touring vans.
- Explore the feasibility of expanding or relocating the Park to increase the number of powered sites and to provide some self-contained cabin accommodation. Alternatively, a riverside camping area with basic facilities could be provided close to town for touring vans and campers, and the Boggabri caravan park developed as a longer term residential park which includes cabins and/or a small lodge for people looking for semi-permanent accommodation in the area.

Boggabri Caravan Park presents poorly – the Park signage needs updating and controls placed on park residents.
Retailing

The quality of the supermarket, in particular the product range and pricing, will be a major factor taken into consideration by families looking to relocate to the area. At present, the supermarket in Boggabri is a weakness for the town. The supermarket recently ceased trading and is currently being sold. The new supermarket owner should be encouraged to look at other supermarket operations in similar size towns, for example Coolah and Dungog, which present well and have diversified their operation.

There may also be opportunity for other businesses to diversify their product range to ensure that convenience goods services are available in town to reduce the need to go into Gunnedah to shop for basic goods and services.

Footpath dining and trading should be encouraged as this adds to the vibrancy and atmosphere of the town. For footpath dining, Council needs to ensure that the dining area is delineated for insurance purposes. It also needs to encourage quality furniture, rather than plastic tables and chairs.

Baan Baa

- Support the development application to increase the number of hotel-motel rooms in the town.
- Encourage the development of a general store - takeaway food outlet, in the town, with the preference being for the store to be located close to the hotel to form a small village centre.
- Encourage the refurbishment of existing dwellings for use as short-term rental accommodation, possibly operated by the hotel.
- Monitor the demand for housing, facilities and services in the village and if needed rezone additional land.

Narrabri

Being a larger centre, Narrabri has the capacity to absorb growth more effectively than Boggabri. The North Narrabri Mine is likely to generate demand for housing for 50 to 100 workers, at least half of whom are likely to have families. There will also be some demand for housing from any mine service companies that establish in Narrabri. The development of the North Narrabri mine and construction of the Hunter-Narrabri gas pipeline are also likely to generate demand for rental housing during the construction phase.

- Narrabri Council needs to assess the availability of housing, vacant residential and rural residential land and proposed land releases to determine whether the town has the ability to accommodate the expected growth. (Note: in undertaking this assessment, Council should exclude houses and land in areas that are not likely to be attractive to people looking for medium to up-market accommodation). Consideration may need to be given to rezoning additional land.
- Encourage the development of medium density apartments and town houses.
- Encourage the development of additional motel rooms, particularly 4 star properties. Hybrid properties that incorporate both motel rooms and self contained apartments should also be encouraged.
- Monitor the demand for self-contained cabins in Council's caravan park and if required increase the supply.
- Ensure that there is a strong link between Narrabri and any mine development in the Maules Creek area, with Narrabri positioned to be the service centre for the mine. This may require upgrading the road between Narrabri and Maules Creek.
Meet with the proponents of the Hunter to Queensland gas pipeline and explore opportunities for Narrabri Shire to accommodate the construction crews. Council may need to make areas available for the erection of temporary construction camps. Council also needs to encourage the pipeline operators to locate their permanent works depot and regional maintenance staff in Narrabri, with Narrabri promoted as the service centre for the Natural Gas industry in the region.

Work with Eastern Star Gas to identify potential industries that could establish in Narrabri, capitalising on agricultural waste products, access to Natural Gas and the inland port status of the town. Industries could include a fertiliser plant and biodiesel plant. Seek funding from DSRD and/or the Regional Partnerships program to undertake a study of potential opportunities.

Explore with the coal mines in the Basin the possibility of transporting coal north to Queensland for export through the Queensland coal loaders. If a possibility, approach the Department of Transport and Regional Services to have the possibility assessed as an addendum to the North-South Rail Corridor Study that was completed in 2006. The addition of the coal freight may be sufficient to ensure that the route passes through Narrabri Shire.

Ensure that there is land available in the industrial areas on the southern side of Narrabri to accommodate mining services businesses. (Note: demand is not expected to be high).

Explore opportunities for increasing the frequency of air services into Narrabri.

7.3 Industrial & Business Development

While Gunnedah is likely to become the main service centre for mining in the Gunnedah Basin, there will be some opportunities for coal and gas related industrial and business development in Narrabri Shire, primarily focussed on Narrabri and Boggabri. Growth could potentially occur from:

- Local companies - which diversify into the mining sector and need to expand to meet their contract requirements.
- Mine service companies that need to be located close to the mines, possibly in order to meet their contract requirements.
- Companies attracted to the area due to the availability of natural gas.

To encourage and facilitate growth, Council needs to:

- Ensure that there is sufficient zoned industrial land available for development in Boggabri and Narrabri, particularly land on the southern side of Narrabri.
- Be flexible with requests to establish industrial areas or businesses in close proximity to the mines.
- Seek a list of likely service providers from the Narrabri North Mine and actively target these companies with the view to them establishing a presence in Narrabri Shire.
- Raise the profile of Narrabri Shire - Companies looking to establish a presence in the Basin will tend to think of Gunnedah first due to its name, location and links with the coal industry. Narrabri is known as a cotton town, and not perceived to be linked with the coal industry. Narrabri Council needs to change this perception through public relations marketing, which focuses on news stories and articles about the diversification of the Shire into the coal and gas sectors as well as the inland port status of Narrabri. Almost all articles appearing in the mainstream media on coal mining in the Gunnedah Basin have focused on growth and development in Gunnedah.
- Council / Chamber to organise a briefing seminar in which the mining and gas companies are invited to outline the services that they are seeking, their purchasing process and other requirements (eg Australian Standards, OH&S provisions etc).

- Council to establish (or support the establishment of) an e.newsletter that notifies all businesses in the Shire of tenders being called by the mine and gas companies. The mine and gas companies should also be requested to advertise their tenders in the regional press.

Given the relatively short life of a number of the smaller open cut mines in the area, Council should assess the rehabilitation requirements of the Mine Approval / Development Approval. With the agricultural and forestry expertise available in Narrabri Shire, there may be potential for Narrabri businesses to become specialists in the rehabilitation and revegetation of mine sites. Depending on what is required, nurseries may need to be planting now to have sufficient stock for rehabilitation works in 5-10 years time.

There is also considerable expertise in the Shire in water reticulation and irrigation systems, with the potential to diversify into the mining sector.

### 7.4 Employment & Training

Over the past 5 years the Australian Mining Industry has experienced substantial growth across all sectors. For the 18 months to April 2006, 62 major minerals and energy projects commenced production with a further 90 projects in the pipeline. This has resulted in a severe skills shortage across the mining sector. Flowing on from this has been strong upward pressure on salaries and wages resulting in the movement of workers into the mining sector from other sectors, rendering it difficult for other sectors to attract employees.

Within the Gunnedah Basin, there is the expectation that coal mining will employ between 500 to 800 staff directly (excluding the Caroona and Maules Creek Projects) and a further 2,400-3,000 indirectly. Around 30-40% of the direct mining workforce is now in place. To date, the first influx of workers has come primarily from people from the local region with mining experience. The introduction of the mining has coincided with the drought and the scaling back of the agricultural workforce. There has been some transfer of plant operators, truck drivers etc, from agriculture across into the mining sector. This is likely to create difficulties for the agricultural sector when the drought breaks.

The Mines in the Gunnedah Basin report that they have long waiting lists for people looking for work at the mines. Where possible, the mines have given preference to local people, with mining or related trade experience and with ‘life experience’. Very few school leavers and younger people have been taken on.

The Union (CFMEU) representing coal workers also maintains a register of workers. When mines shutdown or down size their workforce, unemployed union workers are placed on the CFMEU register, and the Union endeavours to place these workers at other mines, in preference to non-union workers. In the majority of mines, unemployed miners tend to be selected first, possibly due to their experience and the lower start-up cost compared to the recruitment and training of ‘new starts’.

In 2006, the employment firm, Downing Teal Pty Ltd, conduct a survey of coal mining operations along the East Coast of Australia. 53 coal mines responded, 40 from NSW and 13 from Queensland. The survey found that most mines were experiencing difficulties in recruiting staff, with the most difficult positions to fill being for qualified, experienced staff in the more senior mine operation positions. Mining engineers were the most difficult positions to fill, followed by statutory management positions such as deputy, undermanager, open-cut examiner, mine manager, mechanical engineers and tradesmen. The results of the Downing Teal survey are summarised in the following graph.
Organisational charts for 'typical' mining operations are included in Appendix 3. These charts illustrate the positions and skills set needed at the operational site level (Corporate Head Office positions not included).

Most of the mines in the Gunnedah Basin will be open cut, with only the North Narrabri Mine being underground. (Note: some of the open cut mines could move to underground mining to extract from the lower coal seams in the longer term). The skills needed for open cut operations are lower than for underground mining, and on-the-job training can be provided for many of the operator positions. The open cut mines are able to take on 'new starts' whereas the underground mine will be recruiting primarily skilled and experienced workers.

Once the operational workforce is in place to commence production, the mine companies will then be looking to future labour needs, with intakes of apprentices and trainees. To retain staff, the mines will also need to offer career opportunities, with staff having access to training programs and courses to improve their qualifications.

Narrabri TAFE is gearing up to meet the needs of the mining sector. The TAFE has introduced a Certificate Course in Resources and Infrastructure Operations. Certificate 1 provides entry level qualifications and concentrates on workplace safety, OH&S and work practices. Additional courses are also being considered. The most difficult issue is gaining the approval and funding from the TAFE administration to introduce new courses.

Both the mining and gas companies have indicated their preference for courses, particularly short certification courses, to be available locally rather than workers having to travel to Tamworth, Dubbo or Newcastle for training and certification.

According to the employment agencies in Narrabri and Gunnedah, there is strong demand from the local workforce for mining jobs. Much of the demand is coming from the agricultural sector, with workers attracted by the higher wages offered and the opportunity for full-time rather than seasonal employment. People with engineering, mechanical and electrical qualifications and experience are
relatively easy to place. In contrast, social security recipients, school leavers and young indigenous people are very difficult to place (not only in the mines, but across all sectors).

Within the Narrabri - Gunnedah area there is currently a shortage of:

- Diesel mechanics
- Hydraulic fitters
- Truck / road train drivers
- Plant and heavy machinery operators
- Chefs
- Experienced Farm Hands
- Experienced labourers
- Tradesmen - construction and metal fabrication trades
- Health care professionals and staff

One of the factors taken into consideration in the decision by mine workers to relocate is employment opportunities for partners. According to the local employment agencies there are positions available in the retail, health and services sectors. There is also a need for accounting staff, clerical workers, trained nurses and other health professionals. These positions are located in Narrabri and Gunnedah. Employment opportunities in Boggabri are very limited.

**Directions Forward**

Narrabri TAFE has been pro-active in endeavouring to diversify and modify its courses to meet the emerging needs of the coal and gas sectors. The TAFE is having on-going discussions with the Mining Companies to identify existing and likely future training needs. The key challenge will be for Narrabri TAFE to gain approval and funding from the TAFE Administration (Regional and Head Office) to introduce new courses. Narrabri TAFE may need the support of the Local Member of Parliament, Council, Mining Companies and other key stakeholders to lobby for the introduction of additional courses and programs.

There may also be opportunities for TAFE or other training providers to offer short certification courses that meet the needs of the coal and gas sectors. At present most of these courses are only available in the larger centres, primarily Tamworth, Dubbo and the Lower Hunter.

In both Singleton and Muswellbrook, the mining companies, as part of their development approval conditions are required to contribute to community funds, with money allocated from these funds for training programs and skills development. With the exception of the Caroona Project, all mines in the Gunnedah Basin have already received development approval and the opportunity to introduce these provisions into the Development Approval Conditions has passed. The contribution of the mines to training programs in the Gunnedah Basin will need to be undertaken on a voluntary basis.

### 7.5 Conferences, Meetings & Exhibitions

**Overview**

The mining industry generates a significant number of conferences and meetings as well as mining equipment, technology and software exhibitions. A list of organisations responsible for organising the majority of mining, coal, gas and energy conferences, meetings and exhibitions is provided in Appendix 2.

**Conferences & Meetings**

In the mining industry, there are in the order of 30-40 coal and gas related industry and association conferences each year, Australia-wide, as well as an extensive number of meetings, seminars and workshops. The key event organisers are:
Government Departments responsible for mining, energy, trade and greenhouse gas emissions at State and Federal level.

- Mining, Coal, Gas, Energy and Mine Service related associations.
- Coal, Mining and Gas Companies - organise meetings, training seminars etc for staff and also annual General Meetings and Shareholder / Industry briefings.
- Research organisations - Cooperative Research Centres, CSIRO, Australian Coal Association Research Program (ACARP)
- Universities
- Professional Conference Organisers
- Training Companies
- Unions (CFMEU)

Most Government Departments hold one major conference each year (2-4 days) as well as a number of seminars and workshops (generally 1 day). The Associations, generally have a national event, State conference and also have a number of seminars, workshops and committee meetings. The Research Organisations and Universities also hold conferences and workshops.

Most national coal conferences are held in capital cities or major regional centres such as the Gold Coast. In NSW, State and regional conferences are held primarily in Sydney, Blue Mountains, Wollongong and Newcastle - Hunter region. Most Gas and Petroleum conferences are held in capital cities, primarily Perth, Brisbane and Melbourne which have a concentration of Gas companies and suppliers, and occasionally in Sydney. The Gunnedah Coal Conference in 2006 was one of the few events held outside of a capital city or major regional centre.

The organisations that appear to organise the majority of coal and gas conferences in NSW are

- NSW Mineral Council
- Australian Coal Association (ACA) and the ACA Research Program (ACARP)
- Australian Petroleum Production and Exploration Association
- Australian Institute of Mining & Metallurgy (AusIMM)
- Institute for International Research (IIR) / Informa / IBC
- Coal 21
- Universities
- Department of Primary Industries (Mineral Resources)

The NSW Mineral Council is the industry association for coal producers in NSW. It has a Board, Executive Committee and a number of committees (currently 7 coal related), all of which hold quarterly meetings. These are day meetings only and are generally held in Sydney. The Council also organises 2 to 4 industry conferences each year with these events generally being 2-3 days in duration, with each attracting in the order of 250-450 delegates. The majority of delegates come from NSW. There is no fixed location for the conferences, with past locations including Wollongong, Blue Mountains, Sydney and the Hunter. The Mineral Council has a preference for the accommodation and conference to be held in the same venue. The Council prefers 4-4.5 star accommodation properties. The Mineral Council has indicated that it would consider holding a conference in Narrabri providing that there was adequate accommodation and ready access for delegates.

The national body, the Mineral Council of Australia holds an annual conference, with this generally held in Perth or Brisbane which are the main mining States. The conference often draws international delegates and speakers and as such the venue needs to have ready access to an international airport.

The Australian Coal Association (ACA) and ACA Research Program (ACARP) have a number of research committees and task forces in the areas of Coal Preparation, Underground, Greenhouse Gas Mitigation, Occupational Health & Safety, Environmental, Technical Market Support and Research. The committee and taskforce meetings are one day events that tend to occur on consecutive days in the same location. Most meetings are capital city based with attendees able to fly in and out on the same day. The committees also use teleconferencing.
Australian Petroleum Production and Exploration Association is the industry association for the petroleum and gas industry. The Association has three major conferences, the APPEA Conference & Exhibition (1500+ delegates and 130-150 exhibitors, 4 days, annual), National Oil & Gas Safety Conference (150-200 delegates, 2 days, annual) and the Taxation & Finance Conference (200 delegates, 2 days, biannual). The Association also hosts forums into health and safety issues (1 day seminars), a series of Introduction to the Petroleum Industry Seminars (1 day events held in most capital cities) and 'School of Petroleum' short courses (3-4 day events) held in the States that have significant petroleum sectors.

The Australian Institute of Mining & Metallurgy organises 6-8 conference events each year as well as meetings, seminars and workshops.

The Institute for International Research (IRR), IBC Conferences and Informa are branches of the same company. The company organises conferences on a commercial basis, with IIR responsible for organising the conference on the Gunnedah Basin in 2006. IIR, IBC and Informa Conferences generally attract around 100 to 200 delegates. Most conferences run 2-3 days and generally include a number of plenary sessions and then workshop groups of 20-30 people. In selecting locations, IIR, IBC and Informa take into account the quality and capacity of the venue, connection with the theme of the conference and the ease of access for the target market. Most of the conferences have a small exhibition incorporating 8 to 10 stands (3m x 3m), with the availability of exhibition space in a prominent location being an important consideration in venue selection. The organisers do not book accommodation, however they ensure that there is sufficient 4 – 4.5 star standard accommodation available in close proximity to the venue. The organisers also seek corporate sponsorship, and the sponsor may have input to where the conference is held. Both IIR and Informa have indicated that they would consider holding a conference in Narrabri if the location suited the conference theme.

Coal 21 is a joint Government - Industry research program responsible for investigating how greenhouse gas emissions can be minimised or eliminated from coal-based energy production. Coal 21 organises an annual conference which attracts around 300 delegates as well as briefing seminars and forums. The annual conference is always capital city based, with the preference being for the conference to be in the same complex as the accommodation. The Coal 21 Secretariat advised that it would not consider Narrabri as a potential location for its conferences and meetings.

The mining related departments at Universities throughout Australia sometimes organise research symposiums into specific aspects of the coal industry. These conferences are generally held on campus.

The main coal industry event, the Australian Coal Conference, is a 3 day event that attracts 300+ plus delegates, including international visitors. The conference is always held in a capital city, with preference given to Brisbane and Perth.

Mining, Coal, Gas & Energy Exhibitions

There are a number of mining and energy related exhibitions, that feature machinery, equipment, technology and software. The largest exhibitions are AIMEX (Asia-Pacific International Mining Exhibition) which is held at Olympic Park, Homebush and the M&E Expo (Mining & Energy Expo), which is held in Muswellbrook every 4 years. AIMEX attracts around 12,000 attendees and 450 exhibitors over a 3-4 day period, while M&E attracts around 3,500-4,000 attendees. Both events are organised by Reed Exhibitions which has a portfolio of mining and energy related exhibitions.

Other exhibition organisers involved with coal, mining, energy and gas related exhibitions include:

- Exhibitions and Trade Fairs (EFT). EFT is Sydney based, with its exhibitions and trade fairs including events related to construction and mining equipment, gas exploration and production and the irrigation sector.
Resourceful Events (RE) - RE is the events and conference division of Aspermont Ltd which is Australia's leading print and internet publisher to the mining, oil and gas sectors. RE organises the 'Excellence in Upstream Energy' and 'Excellence in Mining and Exploration' Exhibitions.

Swan Exhibitions - WA based company that organises the AustralAsian Oil and Gas Exhibition, the largest gas related exhibition in the southern hemisphere.

In addition, conference organisers sometimes contract exhibition companies to organise the exhibition component of a conference. The Exhibition & Event Association of Australia has a list of exhibition organisers in Australia.

With the exception of the M&E Exhibition, all major mining, coal, gas and energy exhibitions are held in major Convention and Exhibition Centre venues, in capital cities (primarily Sydney and Perth).

Opportunities for Narrabri Shire

Most mining, coal, gas and energy conferences are held in capital cities and major regional centres. This is due to a combination of factors including:

- Desire to be close to head offices of mining, coal and gas companies to maximise attendance.
- Accessibility (air access) - for intrastate, interstate and international speakers and attendees.
- Venue capacity - often need large venues (200+ delegates) with quality facilities and / or accommodation and venue combined.
- Need for quality venue and facilities - mining is a relatively 'rich' industry that is used to quality facilities and professional service. It is a 4.5-5 star market.
- Location's relationship with the industry sector - for example, Hunter and Newcastle destinations have strong connections with the coal industry.

Conference and Exhibition Organisers contacted for this study had not considered locations outside of capital cities and the major tourist destination areas (Gold Coast, Hunter, Blue Mountains, Wollongong), with the three destinations in NSW all having surrounding coalfields.

The NSW Mineral Council, Informa, IRR and Reed Exhibitions each indicated that they are interested in receiving information on conference and exhibition facilities available in Narrabri. While the town is unlikely to attract major national events, it could potentially attract range of smaller, meetings, seminars and workshops.

The Crossing Theatre at Narrabri is one of the best conference and exhibition venues in regional NSW. The complex incorporates a main auditorium which can seat 1,000 delegates theatre style, two theatres with tiered seating (80 and 160 seat capacities), an exhibition room (115 sqm) and a number of rooms and spaces suitable for smaller meetings and workshop groups. The Theatre is a modern, quality venue that is fully catered and provides state-of -the-art equipment. The Theatre has a park setting within the riverside recreation precinct. There is a large outdoor exhibition area with power available, as well as additional space along the foreshore and on nearby playing fields that could cater for very large outdoor exhibitions.

The Theatre can readily cater for small and medium sized conferences and exhibitions, and large meetings up to 1,000 delegates. Narrabri is best suited for smaller conferences of up to 200-300 delegates. The ability of the town to attract medium and larger conferences is constrained by the number of motel rooms and the limited air service. There is no accommodation attached to the Theatre, which is a prerequisite for some conferences. In addition, Narrabri only has 200 motel rooms (10 properties). Only one motel is of four star standard (30 units) with six properties being 3.5 star in standard (128 rooms). Development applications have been lodged with Council for two new motels, a 30 room property close to the Crossing Theatre and a 49 room property on the southern side of Narrabri. The 49 room property will be 4.5 star in standard, with the 30 room property expected to be 4 star.

In the past, Qantaslink has provided additional flights to accommodate large conferences and this is a possibility for future events.
Directions Forward

None of the conference or exhibition organisers interviewed for this study were aware of the conference and exhibition facilities available in Narrabri. Four organisations have expressed interest in the facilities in Narrabri and as the first step, the Theatre Manager needs to contact each of these organisations and forward through information on the Crossing Theatre and the township.

Using the information provided in Appendix 2 as a base, the Theatre Manager also needs to undertake more detailed research into coal, gas and energy related conferences, meetings and exhibitions to identify potential events that could be attracted to Narrabri, and then directly target the association and/or event organiser.
This study has identified a number of opportunities for Narrabri Shire to capitalise on the development of the coal mining and natural gas industries within the Gunnedah Basin. Growth will be concentrated in the corridor between Boggabri and Narrabri, with minimal flow-on benefits to Wee Waa or the villages to the north of Narrabri. The coal and gas sectors provide the opportunity to diversify and strengthen the economic base of the Shire. Neither coal or gas production is likely to become the dominant industry in the Shire.

The actions required to capitalise on the opportunities are discussed in Chapter 7 and summarised in the following Action Plan.

### Objectives

1. To raise the profile of Narrabri in the context of coal mining in the Gunnedah Basin. To date, the media attention has been on Gunnedah, with Narrabri barely mentioned in relation to coal mining in the Gunnedah Basin.
2. To consolidate Narrabri's emerging position as the centre for gas exploration and production in the Gunnedah Basin.
3. To encourage sustained population growth and investment in the Shire.
4. To position Narrabri as the centre for coal, gas and energy conferences and meetings within the Gunnedah Basin.
5. To ensure that the Shire has in place the support services and infrastructure to support the mining and gas industries.

### Actions

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<tbody>
<tr>
<td><strong>To raise the profile of Narrabri in the context of coal mining in the Gunnedah Basin</strong></td>
<td>Generate media coverage of the impacts of mining on Narrabri Shire</td>
<td>Economic Development Manager (EDM) to coordinate with Council’s publicity officer</td>
<td>High and on-going</td>
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<td></td>
<td>Use the development of the Narrabri North mine as the conduit for generating publicity about the mining in the area and establishing the link between coal mining and ‘Narrabri’. Focus on Narrabri gearing up for an influx in mining investment, and</td>
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what the Shire can offer (see articles generated on Gunnedah).

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<td><strong>To raise the profile of Narrabri in the context of coal mining in the Gunnedah Basin continued</strong></td>
<td></td>
<td>EDM to coordinate with Council's publicity officer</td>
<td>High and on-going</td>
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<td>Seek to link Narrabri North Mine and Maules Creek with Narrabri</td>
<td>Approach the mining companies with a request that where possible, Narrabri / Narrabri Shire be incorporated in press releases relating to these mines. Just reinforcing the location of the mines in relation to Narrabri will assist in raising the profile of the Shire.</td>
<td>EDM to coordinate with Council's publicity officer</td>
<td>High and on-going</td>
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<tr>
<td>Encourage local media coverage of 'good news stories' of mining related activities</td>
<td>Encourage the local press to feature local initiatives / activities aimed at the mining sector - for example, feature the new TAFE program, the success of local companies in securing tenders, apprenticeships offered to Shire residents etc.</td>
<td>EDM to coordinate with Council's publicity officer</td>
<td>Medium - ongoing</td>
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<td><strong>To encourage population growth / residential development in the Shire</strong></td>
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<td>EDM to coordinate with Council's publicity officer</td>
<td>High &amp; on-going</td>
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<tr>
<td>Ensure that there is a sufficient supply of zoned residential and rural residential land Narrabri, Boggabri and Baan Baa</td>
<td>Assess the existing and likely future availability of and demand for dwellings and zoned residential and rural residential land in the Shire. Where necessary rezone additional land - recognising that it could take up to 2 years to for the rezoning process. Assess likely future water and sewerage needs and plan and budget for augmentation if required.</td>
<td>EDM / Planning Staff Planning Staff Engineering Staff</td>
<td>High &amp; on-going</td>
</tr>
<tr>
<td>Provide comprehensive information on the Shire to prospective residents</td>
<td>Prepare a promotional and information pack for distribution to companies and people looking to relocate to the Shire, with the pack including a DVD about the area. Comprehensive information needs to be provided on the towns; proximity to the mines; shopping, education, sporting, health, cultural facilities and services; availability and prices of houses and land; accommodation, employment opportunities and business opportunities. The pack needs to be both motivational and informative.</td>
<td>EDM to coordinate with Council's publicity officer</td>
<td>High - immediate</td>
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<tr>
<td><strong>To encourage population growth / residential development in the Shire</strong> continued</td>
<td>Provide information on the Shire to prospective residents continued</td>
<td>Update Narrabri Council website to include a 'new residents' / 'interested in moving here?' section which provides similar information to the information pack, plus a quality image gallery. The image gallery should include photographs of the towns, countryside and the main tourist attractions including Mt Kaputar, Yarrie Lake and the Pilliga Forest. For Boggabri include images on the historic buildings and Namoi River. Ensure that the contact details for the EDM are included on the website. Endeavour to include the web address on all press releases.</td>
<td>EDM to coordinate</td>
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<td></td>
<td>Provide the Narrabri North Mine operators with the information pack for distribution as part of any recruitment material. Provide Eastern Star Gas with copies of the pack for distribution to prospective employees and contractors. Ensure that the information pack is available at strategic locations in the Shire and surrounding region - Visitor Information Centres, Real Estate Agents, Employment Agencies. Monitor press announcements about businesses looking to relocate to the area, make contact and invite them to Narrabri to inspect the area. Also provide copies of the information pack to prospective businesses. Seek to have the mining companies in the area include a small section on Narrabri Shire on their websites, with a link to Council's website.</td>
<td>EDM</td>
<td>High</td>
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<td>EDM to coordinate</td>
</tr>
<tr>
<td>Continue to improve the presentation of Boggabri.</td>
<td>To compete effectively with Gunnedah and Narrabri, Boggabri needs to concentrate on positioning itself as a very attractive lifestyle centre with a friendly, caring community. Presentation will be one of the key selling points, with tree lined streets, attractive historic buildings, well presented parks and playgrounds and the proximity to the Namoi River contributing to the appeal of the area. Areas to be addressed include: ▪ Gateway entry points and entry corridors - need attractive entry statement with appropriate signage and landscaping. ▪ Continuing with the corridor tree planting, focusing initially on the Kamilaroi Highway and the routes into the shopping centre. A number of tree species have been used in the past, and these need to be integrated with the new plantings.</td>
<td>Council in conjunction with the Boggabri community</td>
<td>High &amp; ongoing</td>
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| Boggabri continued | ▪ Improve the landscaping in the shopping centre.  
▪ Improve the presentation of the buildings in the shopping centre. Funding should be sought from DSRD for assistance with merchandise and window displays.  
▪ Encourage footpath dining and trading to increase the vibrancy of the centre. Dining furniture should be of a high standard.  
▪ Encourage shop keepers / businesses to update and expand their merchandise range. The supermarket in particular needs to become an effective anchor for the shopping centre.  
▪ Continue to develop War Memorial Park as a centre-piece for the town, consolidating the link between the Kamilaroi Highway and the shopping centre.  
▪ Explore options for capitalising on the river, including the provision of a riverside picnic area, camping ground and walking / cycling trail.  
▪ Encourage owners of historic buildings to improve their presentation. Council may need to assist owners to access heritage funding for capital works.  
▪ Ensure that industrial development does not impact negatively on the presentation of the town. If necessary adopt a Development Control Plan to set standards for design and landscaping. | Council in conjunction with the Boggabri community | High & ongoing |
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<tr>
<td><strong>Forge link with Maules Creek Mine</strong></td>
<td>Develop strong link between the Maules Creek area and Narrabri</td>
<td>If the Maules Creek mine proceeds, endeavour to ensure that the mine is readily accessible from Narrabri, with Narrabri and Boggabri positioned as the service centres for the mine.</td>
<td>Council</td>
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</tbody>
</table>
| **Encourage the development of additional commercial accommodation in the Shire** | Encourage the development of additional commercial accommodation within the Boggabri - Narrabri corridor | Additional accommodation is needed in the Boggabri - Narrabri corridor.  
- Ensure that the LEP and other planning instruments will permit the development of commercial accommodation in Boggabri, Narrabri and Baan Baa.  
- Support the development applications for the provision of motel rooms attached to the Commercial Hotel in Boggabri and the Baan Baa Hotel and for new motel development in Narrabri.  
- Improve the presentation of the Boggabri Caravan Park, and explore options for separating long term occupants from short-term occupants, increasing the number of powered sites available and providing some self-contained cabin accommodation.  
- Encourage the refurbishment and use of vacant housing in Baan Baa for low cost accommodation for mine workers and contractors.  
- Adopt a flexible approach to the establishment of temporary accommodation for workers associated with the development of the mines, gas exploration, the development of the Hunter-Queensland gas pipeline and other major infrastructure projects. | Planning Staff | Council | EDM | Council / Planning Staff | High - on-going |
<table>
<thead>
<tr>
<th>Action</th>
<th>Approach / Task</th>
<th>Responsibility</th>
<th>Priority / Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Encourage industrial development within the Shire</strong></td>
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</tbody>
</table>
| Ensure that there is sufficient zoned industrial land within the Boggabri - Narrabri corridor | ▪ Monitor the demand for and take-up rate of industrial land in Boggabri and Narrabri.  
▪ Rezone land if needed.  
▪ Adopt flexible approach to location of industrial development close to the mines, rather than requiring it to be located in the town centre.  
▪ Recognise that mining services businesses may need to operate 24 hours per day, 7 days a week and ensure appropriate separation from residential development | EDM / Planning Staff  
Planning Staff  
Council / Planning Staff | Ongoing |
| Encourage local businesses to provide services to the coal and gas industries | ▪ Council / Chamber to organise a briefing and networking seminar in which the mining and gas companies are invited to outline to local businesses the services that they are seeking, their purchasing process and other requirements (eg Australian Standards, OH&S provisions etc).  
▪ Council to establish (or support the establishment of) an e.newsletter that notifies all businesses in the Shire of tenders being called by the mine and gas companies. The mine and gas companies should also be requested to advertise their tenders in the local press.  
▪ Explore the likely future need for mine rehabilitation and revegetation services and the feasibility of Shire firms ramping up to provide these services.  
▪ Encourage local businesses to sub-contract their services to the mine services supply companies, particularly the companies that are servicing the Gunnedah Basin from the Hunter. | EDM to coordinate |
<table>
<thead>
<tr>
<th>Action</th>
<th>Approach / Task</th>
<th>Responsibility</th>
<th>Priority / Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Encourage industrial development within the Shire continued</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Target mine service companies to establish a presence in the Shire</td>
<td>▪ Approach the North Narrabri Mine for a list of likely contractors and suppliers and direct market the Shire to these businesses</td>
<td>EDM to coordinate - Mayor and Councillors to play an active promotional role</td>
<td>High - ongoing with timing determined by the mine development program</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>Encourage companies to establish in Narrabri to take advantage of the availability of natural gas and the inland port facilities of the town.</td>
<td>▪ Work with Eastern Star Gas to identify potential businesses that could be established in the area.</td>
<td>EDM to coordinate</td>
<td>High - preferably before Gunnedah commits to the development of the Ethanol Plant</td>
</tr>
<tr>
<td></td>
<td>▪ Seek funding from DSRD and/or the Regional Partnership program (or other programs) to identify and assess potential development opportunities.</td>
<td></td>
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<tr>
<td></td>
<td>▪ Develop and implement strategy to target potential businesses / investors.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>EDM to coordinate</td>
<td></td>
</tr>
<tr>
<td><strong>Consolidate Narrabri’s position as the focal point for gas exploration and production in the Gunnedah Basin</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raise the profile of Narrabri as the service centre for gas in the Region</td>
<td>▪ Seek increased media coverage of gas exploration and production activities in the Narrabri area.</td>
<td>EDM to coordinate</td>
<td>High - needs to occur now as gas exploration is expected to ramp up in the area.</td>
</tr>
<tr>
<td></td>
<td>▪ Explore the possibility of holding a ‘Gas’ conference in Narrabri, similar to the Coal Conference held in Gunnedah.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Encourage the holders of other Petroleum Exploration Leases in the Basin to base their regional operations in Narrabri.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Encourage Eastern Star Gas to establish a gas pipeline into Narrabri.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Action</td>
<td>Approach / Task</td>
<td>Responsibility</td>
<td>Priority / Timing</td>
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</tr>
<tr>
<td><strong>Consolidate Narrabri’s position as the focal point for gas exploration and production in the Gunnedah Basin continued</strong></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
| Raise the profile of Narrabri as the service centre for gas in the Region continued | ▪ Actively support the construction of the Hunter-Queensland Gas pipeline.  
▪ Encourage the proponents of the Hunter-Gas Pipeline to establish their project office in Narrabri for the Gunnedah Basin - Queensland component of the construction and an operational base and depot in Narrabri, one the pipeline becomes operational. | EDM to coordinate | |
| **Endeavour to Improve Air Services into Narrabri** | | | |
| Increase the frequency of flights into Narrabri and seat capacity | Explore options for increasing the frequency of flights into Narrabri, with options to include:  
▪ Additional flights on the Narrabri-Moree route  
▪ Triangular mid-day flight in conjunction with Tamworth  
▪ Introduction of a second carrier, REX airlines | EDM to explore options | High |
<p>| Link rental car services with airport | Encourage all local rental car companies to have airport pick-up locations on their websites and booking options. | EDM to discuss with rental car companies | Medium - High |</p>
<table>
<thead>
<tr>
<th>Action</th>
<th>Approach / Task</th>
<th>Responsibility</th>
<th>Priority / Timing</th>
</tr>
</thead>
</table>
| **Position Narrabri as the training and certification centre for the resources sector** | ▪ Establish an education and training committee to explore training and certification needs in the region, across both the resources and agricultural sectors.  
▪ Investigate training and certification programs offered by the Secondary Schools, TAFE and private companies in Singleton and Muswellbrook.  
▪ Support Narrabri TAFE’s endeavours to introduce resource-based training courses. | EDM to coordinate Committee  
Council to support applications and lobby when needed | Ongoing                      |
| **Target Mining, Gas & Energy Related Conferences & Exhibitions for Narrabri** | ▪ Building on the information provided in this report, identify mining, gas and energy organisations and associations, and conference and exhibition organisers that could potentially hold conferences and exhibitions in Narrabri.  
▪ Develop promotional DVD on the Crossing Theatre, Narrabri and the industrial and mining base of the area, to compliment the Crossing Theatre Promotional Folder.  
▪ Undertake sales calls to potential conference and exhibition organisers.  
▪ Bid for potential conferences and exhibitions. | EDM in conjunction with Crossing Theatre Manager                           |                                                                  |
<table>
<thead>
<tr>
<th>Action</th>
<th>Approach / Task</th>
<th>Responsibility</th>
<th>Priority / Timing</th>
</tr>
</thead>
</table>
| **Transport of Coal - Inland Rail Corridor** | ▪ Discuss with the mining companies and Queensland Rail, the possibility of transporting coal north into Queensland as an alternative to the Newcastle coal loader.  
▪ If a possibility, approach the Inland Rail Corridor Committee and the Department of Transport and Regional Services to have the possibility assessed as an extension of the 2006 North-South Rail Corridor Study. | Council / EDM | High - before decisions are made on the rail route. |
# APPENDIX 1

## COMPANIES LOCATED IN THE INDUSTRIAL AREAS – MUSWELLBROOK & SINGLETON

### MUSWELLBROOK

**Common Road Industrial Estate**

General Light Industrial Area with small allotments. Small industrial / business park units & warehousing.

**Tenants:**

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Industry</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Koori</td>
<td>Timber Supplier</td>
<td>Local</td>
</tr>
<tr>
<td>Mechanic</td>
<td>Automotive</td>
<td>Local</td>
</tr>
<tr>
<td>Smash Repairs (x 2)</td>
<td>Automotive</td>
<td>Local</td>
</tr>
<tr>
<td>Wrecker</td>
<td>Automotive</td>
<td>Local</td>
</tr>
<tr>
<td>Executive landscape Supplies</td>
<td>Landscape</td>
<td>Mining</td>
</tr>
<tr>
<td>RANBUILD</td>
<td>Pre-fab buildings</td>
<td>Both</td>
</tr>
<tr>
<td>Mining &amp; Earth Moving Services</td>
<td>Earth Moving</td>
<td>Both</td>
</tr>
<tr>
<td>Upper Hunter Electrical</td>
<td>Electrical</td>
<td>Both</td>
</tr>
<tr>
<td>Valley Leadlights</td>
<td>Home Improvement</td>
<td>Local</td>
</tr>
<tr>
<td>Multiskilled Employment Services</td>
<td>Employment</td>
<td>Both</td>
</tr>
<tr>
<td>Valley excavations</td>
<td>Earth Moving</td>
<td>Both</td>
</tr>
<tr>
<td>Valley Plastic Welding</td>
<td>Repairs</td>
<td>Both</td>
</tr>
<tr>
<td>Hunter Valley Fencing</td>
<td>Landscape</td>
<td>Both</td>
</tr>
<tr>
<td>RMS Services</td>
<td>Dairy Industry</td>
<td>Local</td>
</tr>
<tr>
<td>McQuay Air Conditioners</td>
<td>Air Condition / Refrigeration</td>
<td>Both</td>
</tr>
<tr>
<td>Civil Engineering Testing Service</td>
<td>Geotech Laboratory</td>
<td>Mining</td>
</tr>
<tr>
<td>Hunter Valley Filter Sales</td>
<td>Filters</td>
<td>Mining</td>
</tr>
<tr>
<td>Locksmith</td>
<td>Locksmith</td>
<td>Local</td>
</tr>
<tr>
<td>Tidy Trim Auto detailers</td>
<td>Automotive</td>
<td>Local</td>
</tr>
<tr>
<td>Rainbow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mini Storage</td>
<td>Storage</td>
<td>Local</td>
</tr>
</tbody>
</table>

### Thomas Mitchell Drive Industrial Estate

- Large lots 2000+ sq m
- Mainly single tenants
- Large sheds - very few industrial units / warehouse operations
- Some businesses work 24 hour per day

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Industry</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muswellbrook Cranes</td>
<td>Cranes</td>
<td>Mining</td>
</tr>
<tr>
<td>Monadelphous Engineering</td>
<td>Engineering</td>
<td>Mining</td>
</tr>
<tr>
<td>Enerserv Distribution Centre</td>
<td>Energy Distribution</td>
<td>Power</td>
</tr>
<tr>
<td>Thomas &amp; Coffey</td>
<td>Engineering</td>
<td>Mining</td>
</tr>
<tr>
<td>SCS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rimex</td>
<td>Wheel builder</td>
<td>Mining</td>
</tr>
<tr>
<td>Hitachi Construction Machinery</td>
<td>Machinery</td>
<td>Mining</td>
</tr>
<tr>
<td>Valley Longwall Drilling</td>
<td>Machinery</td>
<td>Mining</td>
</tr>
<tr>
<td>Barclay Mowlem</td>
<td>Engineering / Machinery</td>
<td>Mining</td>
</tr>
<tr>
<td>Atlas Copco Seceroc</td>
<td>Construction / Field Services</td>
<td>Mining</td>
</tr>
<tr>
<td>Boral Asphalt / Bitupave</td>
<td>Road materials</td>
<td>Both</td>
</tr>
<tr>
<td>Power &amp; Mining Industrial Supplies</td>
<td>Machinery &amp; Equipment</td>
<td>Mining</td>
</tr>
<tr>
<td>TeamPoly</td>
<td>Rain Water Tanks</td>
<td>Local</td>
</tr>
<tr>
<td>Bell Scaffolding</td>
<td>Construction</td>
<td>Both</td>
</tr>
<tr>
<td>Mitchell Drilling Contractors</td>
<td>Drilling</td>
<td>Mining</td>
</tr>
</tbody>
</table>
Reliable Conveyor Belt | Machinery | Mining
---|---|---
Mini Storage | Storage | Local
Cummins engineering | Engineering | Mining
Full James Lubrication Services | Equipment servicing | Mining
Hunter Tilt Trays | Towing & storage | Local
Bro Built Engineering | Engineering | Mining
Muswellbrook Self Storage | Storage | Local
Allweld | Welding / Metal fabrication | Both
Bowers Cranes & Heavy Equip Hire | Machinery | Both (mainly mining)
Ellavale Engineering | Engineering | Mining
Bucyrus | Goodyear Earth Moving Tyres | Machinery | Both (mainly mining)
Kelmec Engineering | Engineering | Mining
Trucking & Container Depot | Transport | Both
Bradken Marler | Machinery & Equipment | Mining
Council Works Depot | Council | Local
Titan Wheels | Wheel Manufacturer | Mining
Subzero Automotive Gas & Coal | Machinery | Mining
Keever & Sons | Earth Moving | Both (mainly mining)
Phillips Engineering | Engineering | Mining
Vehicle & Plant Services | Machinery | Mining
Hanson Concrete Batching | Concrete | Both
Teterine Merchandise Supplies | Distributor | Both
H+M Engineering & Construction | Engineering | Mining
A&D Lifting Service | Machinery | Mining
ENZED Hose Fittings | Equipment | Mining
Muswellbrook Bearing Centre | Equipment | Mining
Convatech Conveyancing Technology | Machinery | Mining
Wear Parts Services | Equipment & Machinery parts | Mining
LeTorneau International | Machinery Service | Mining
NBM Sheet Metal | Engineering | Mining
RADAR Auto Electricians | Automotive | Both
Takeaway Food | Transport / Couriers | Both
Bowditch & Partners / Star Track | Concrete | Both
Concrete Batching Plant | Concrete | Both
John Holland Engineering | Engineering | Mining
Coates hire | Machinery | Both
AHD Engineering | Engineering | Mining
Robinson Engineering | Engineering | Mining
Muswellbrook Signs | Signage | Both (mainly mining)
Muswellbrook Steel Supplies | Metal supplies | Mining

**SINGLETON**

**Mt Thorley Industrial Area**

Roche Mining | Mining Service | Mining
---|---|---
Bradken | Machinery parts | Mining
HVE Thiess | Mining Services | Mining
Cooks | Construction Services | Mining
Liebherr | Heavy Equipment | Mining
Dyno Nobel | Explosives | Mining
HF Hand | Engineering Services | Mining
Ellavale | Engineering Services | Mining
RB Lindsay | Plant Hire | Mining
Orica | Explosives | Mining
Bosden | Engineering | Mining
Mallably Sheet Metal | Metal Fabrication | Mining
Myne Signs | Safety Signs | Mining
Convatech | Conveyor Belts | Mining
<table>
<thead>
<tr>
<th>Company Name</th>
<th>Services Provided</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boom Logistics</td>
<td>Crane &amp; Lifting Services</td>
<td>Mining</td>
</tr>
<tr>
<td>National Wireless</td>
<td>Communications</td>
<td>Mining</td>
</tr>
<tr>
<td>Marathon Tyres</td>
<td>Industrial Tyres</td>
<td>Mining</td>
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<tr>
<td>Total Fire Solutions</td>
<td>Fire Management</td>
<td>Both</td>
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<tr>
<td>Whalan Engineering</td>
<td>Specialist Pipe Systems</td>
<td>Mining</td>
</tr>
<tr>
<td>Pirtek</td>
<td>Hydraulic Hoses</td>
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<td>Bridgestone</td>
<td>Industrial Tyres</td>
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<td>Frame &amp; Trusses</td>
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</tr>
<tr>
<td>Nationwide Tyres</td>
<td>Industrial Tyres</td>
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</tr>
<tr>
<td>Lenmac</td>
<td>Welding</td>
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</tr>
<tr>
<td>Roche Mining</td>
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<td>Mining</td>
</tr>
<tr>
<td>Best Tractor Parts</td>
<td>Heavy machinery</td>
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<tr>
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<td>Express Spares</td>
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<td>BP</td>
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<td>Industrial Estate</td>
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<td>Daracon</td>
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</tr>
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<td>Food services</td>
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<td>Mining</td>
</tr>
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<td>WesTrac</td>
<td>Heavy Equipment</td>
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</tr>
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<td>Engineering / Fabrication</td>
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<tr>
<td>Welsches Water</td>
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<td>Singleton Electec</td>
<td>Electrical</td>
<td>Both</td>
</tr>
<tr>
<td>Mt Thorley Repairs</td>
<td>Smash Repairs</td>
<td>Both</td>
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<tr>
<td>Firefly</td>
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<tr>
<td>Komatsu</td>
<td>Heavy machinery</td>
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<td><strong>Maison Dieu Estate</strong></td>
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<td>Hunter Valley Steel</td>
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<td>Polyurethane products</td>
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<td>Polymer Innovations</td>
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<td>Car parts</td>
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<td>Chemical Supplies</td>
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<td>Coal Sampling</td>
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<td>Outbye</td>
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<td>Local</td>
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<td>Adamwaithes</td>
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<td>Hunter Valley Sweepers</td>
<td>Water Cartage</td>
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</tr>
<tr>
<td>Company Name</td>
<td>Service/Industry</td>
<td>Location</td>
</tr>
<tr>
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<td>Air Filter Cleaning Services</td>
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<td>Plazenweld</td>
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<td>Pipe maintenance</td>
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<td>Hunter Valley Vehicles</td>
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<td>Techenomics</td>
<td>Oil Analysis</td>
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<tr>
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<td>Mineral Sizing</td>
<td>Mining</td>
</tr>
<tr>
<td>General Communications</td>
<td>Communications</td>
<td>Both</td>
</tr>
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### Singleton Business Park

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APPENDIX 2

ORGANISATIONS THAT ARE ASSOCIATED WITH MINING, COAL & GAS CONFERENCES, MEETINGS & EXHIBITIONS

List compiled from internet searches and includes the main associations and organisations.

Federal Government

Department of Industry, Tourism & Resources
Australian Greenhouse Office

NSW Government

Department of Primary Industries - Mineral Resources (NSW)

Coal & Mining Industry Associations

NSW Mineral Council
www.nswmin.com.au
events@nswmin.com.au  Contact Celia Riordan
PO Box A244 Sydney South NSW 1235
T 8202 7200   F 8208 7255

Australian Coal Association / Australian Coal Association Research Program

Australian Institute of Mining & Metallurgy (AusIMM)
www.ausmin.com
miriamw@ausmin.com.au
events@ausmin.com.au
PO Box 669
Carlton South, Victoria 3053
T (03) 9662 3166   F (03) 9662 3662

Gas / Petroleum Associations

Australian Petroleum Production & Exploration Association (APPEA)
www.appea.com.au

Australian Gas Association (AGA)
www.aga.asn.au

Other Associations / Organisations

Energy Supply Association of Australia
www.esaa.com.au
info@esaa.com.au
GPO Box 1823
Melbourne, Victoria 3001
T (03) 9670 0188   F (03) 9670 1069

Construction, Forestry, Mining and Energy Union

Conference Organisers
Research Organisations

Coal 21
CSIRO
Centre for Low Emission Technology
CRC for Clean Power from Lignite
CRC for Coal in Sustainable Development (CCSD)
CRC for Greenhouse Gas Technologies
UCC Energy

Contact details for the above research organisations are available from the Coal 21 website

info@coal21.com.au
PO Box 9155
Deakin, ACT, 2600
T 6273 6044    F 6273 6060

EXHIBITION ORGANISERS

Exhibition & Event Association of Australia - has contact details for all exhibition & event organisers

<table>
<thead>
<tr>
<th>Contact</th>
<th>Web / Email</th>
<th>Address</th>
<th>Telephone / Fax</th>
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<tr>
<td>Exhibition &amp; Event Association of Australia</td>
<td><a href="http://www.eeaa.com.au">www.eeaa.com.au</a></td>
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<tr>
<td>Exhibitions &amp; Trade Fairs (ETF)</td>
<td><a href="http://www.etf.com.au">www.etf.com.au</a>, <a href="mailto:info@etf.com.au">info@etf.com.au</a></td>
<td>Unit 7, 68-72 Lilyfield Rd Rozelle NSW</td>
<td>T 8268 4444, F 8267 4445</td>
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<tr>
<td>Reed Exhibitions</td>
<td><a href="http://www.reedexhibitions.com.au">www.reedexhibitions.com.au</a>, <a href="mailto:john.gorton@reedexhibitions.com.au">john.gorton@reedexhibitions.com.au</a></td>
<td>Locked Bag 7888 Chatswood 2067</td>
<td>T 9993 2067, F 9993 8342</td>
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<tr>
<td>Resourceful Events</td>
<td><a href="http://www.resourcefulevents.com.au">www.resourcefulevents.com.au</a>, <a href="mailto:info@resourcefulevents.com.au">info@resourcefulevents.com.au</a></td>
<td>Suite 2, level 2 36 Carrington St Sydney 2000</td>
<td>T 9279 2222, F 9279 9006</td>
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<tr>
<td>Swan Exhibitions</td>
<td></td>
<td>103 Scarborough beach Rd Mt Hawthorn, Perth, WA 6016</td>
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<td>Australian - Japan Coal Conference</td>
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SPECIMEN ORGANISATION CHART (Coal) - MINING OPERATIONS (Finance & Accounting)

Head of Mine Site [101]

Head of Administration & Accounting [001]

Senior Accountant (Operations) [611]

Experienced Accountants (Operations) [652] Y

Accounting Supervisor / Officer (Operations) [641]

Graduate Accountant (Operations) [613] Y

Accounts Clerk (Operations) [652]

Head of Information Technology (Operations) [608] R

Computer Technical Support Officer (Operations) [646]

Purchasing Officer [661]

Supervisor [612]

Storesperson (Days) [684]

Contracts Officer [624]

SEE FOLLOWING PAGE FOR OTHER MINE-SITE DEPARTMENTS

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Other site-based positions such as supervisors, engineers, surveyors, tradespersons & equipment operators are shown in the main diagrams for the mining operations.